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Workforce Investment Act services: Effect on Dislocated Worker Reemployment

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WORKFORCE INVESTMENT ACT SERVICES:

EFFECT ON DISLOCATED WORKER REEMPLOYMENT

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ABSTRACT

WORKFORCE INVESTMENT ACT SERVICES: EFFECT ON DISLOCATED WORKER REEMPLOYMENT

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The effect of WIA services on the gainful reemployment of Virginia's dislocated workers was explored using a mixed method, non-experimental, *ex post facto* research design. Analysis of variance with follow-up post hoc tests probed for statistically significant differences in hourly reemployed wage and weeks dislocated determined by (a) WIA service level, (b) impact of training, (c) characteristics of training completers and non-completers, and (d) impact of dislocated worker characteristics. Qualitative methods were used to search for trends and patterns defined by the perceptions of both dislocated workers and employers.

Between 2000 and 2004, Virginia's dislocated workers averaged 1.5 years of unemployment. However, reemployment was significantly affected by short-term training resulting not only in fewer weeks without a job but also in slightly higher hourly wages. In most ethnic groups, males earned higher wages than females and obtained reemployment in fewer weeks. Dislocated workers perceived WIA service and training programs to be beneficial. Employers appreciated the benefits of WIA partnerships and utilized WIA services in identifying potential workers, testing, and funding training activities. Overall, WIA services to both dislocated workers and employers were valued.

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After four years, the journey has reached a destination. From the first class in January 2003, unique individuals coalesced into a true team who cared about each other, understood when frustrations became too real, laughed about everything and nothing, and provided an unbreakable network of support that will never be duplicated. On my desk is a picture of these wonderful people taken during our first summer session. It reminds me how we have stood shoulder to shoulder and conquered our "near death" experiences. It is with a sincere heart that I thank this energized group of friends and admit publicly that I would not have enjoyed this adventure without them. Thank you Pat, Kellie, Ruth, Jay, Dick, Bill, Helen, Betty, and Joe – What a team! It is because of your friendship that great memories were created and great ideas developed.

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The journey may have reached a destination, but it is not the final stop. There is another adventure just waiting to begin, and I am ready! With a strong faith, a focused mind, and the loving support of family and friends, there are no limits and no barriers.

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CHAPTER 1

INTRODUCTION

For decades, factories have closed, industries have relocated, or economic conditions have created an environment where companies were not profitable. Regardless of the reason, workers found themselves without work, often navigating a confusing maze searching for financial and employment services from federal, state, and local workforce systems. To this end, the U.S. Department of Labor (U.S. DOL), Employment and Training Administration was charged with redesigning the employment services maze and creating an efficient and effective system for America's workforce. The U.S. DOL's latest proposal became the 1998 Workforce Investment Act (WIA), which was fully implemented in 2000. America's unemployed adults, incumbent workers, and dislocated workers, along with youth, were welcomed into One-Stop Centers to begin their journey to employment (WIA, 1998).

WIA legislation set forth an organizational structure, partnership requirements, and accountability measures. A workforce council was established in each state, and Workforce Investment Boards (WIB) were created within each workforce district to manage the district's one-stop system. Each WIB was required to include representatives from local businesses, educational entities, labor organizations, community-based groups, economic development agencies, and other representatives as determined by the chief local elected officials (WIA, 1998, §117). Also, the 1998 legislation mandated that eligible training service providers be identified and include postsecondary educational institutions, entities that carry out programs under the "National Apprenticeship Act," and other public or private providers of a program or training service (WIA, 1998, §122).

The journey toward employment begins at the local One-Stop Centers with individual assessment as the first step. Once the assessment is completed, dislocated workers who are referenced as "customers" are provided appropriate services from among the three service levels: (a) core, (b) intensive, and (c) training. Additionally, customers eligible for training services may select training from a listing of eligible providers with the goal to acquire a training credential.

Dislocated worker support services provided through the Workforce Investment Act are complex and require a multi-faceted approach to address the core issues of reemployment. The purpose of this research was to examine the effect each level of WIA service had on gainful reemployment (as defined by hourly reemployed wage and time dislocated). The study also analyzed the effect of a training credential, received following participation in WIA training services, on the displaced worker's gainful reemployment. In addition, the study searched for differences in gainful reemployment based on gender, ethnicity, age, and prior educational attainment. Customer and employer perceptions of the quality of WIA services and customer experiences within WIA training programs were also studied.

Background

Over the last 60 years, working Americans have been displaced from their jobs because of war, automation, economic recession, and foreign competition (Fancher, 1942; Kossoris, 1963; Byrne, 1985). Amid the disruptions of war in 1942, the United States Employment Service completed a study on "job families" and discovered that workers skilled in one job could be retrained to use those skills in another job (Fancher, 1942). The plan targeted specific displaced workers who were encouraged to be retrained

for existing wartime jobs with compositors becoming typists, marble workers becoming shipbuilders, and salesmen becoming production workers (Francher). When industrial automation became a driving force in dislocating workers during the 1960s, Kennedy's study supported retraining as a required element for reemployment and criticized all levels of government for not providing this support for the dislocated worker (as cited in Kossoris, 1963).

For three decades, the Federal government designed systems to support the unemployed, economically disadvantaged, and youth. Manpower Development and Training Act enacted in 1962 initially provided services to these groups but was expanded with the passage of the Economic Opportunity Act of 1964 that established Job Corps (Guttman, 1983; U.S. Department of Labor, n.d.). In 1973, the Comprehensive Employment and Training Act (CETA) replaced Manpower, combined several federal employment programs, and allocated funding to state and local governments for employment services (Schwenk, 2003). As increased imports jeopardized the employment of the American worker, the United States Congress passed the Trade Act of 1974, as amended, and again included training as one of the reemployment services offered to displaced workers (U.S. Department of Labor, n.d.a). CETA was repealed with the enactment of the Job Training Partnership Act (JTPA) of 1982 (Guttman, 1983) and expanded with the Economic Dislocated Worker Adjustment Assistance Act (EDWAA) of 1988. In 1988 Congress passed the Worker Adjustment Retraining Notification Act (WARN) with the intent to reduce the joblessness by notifying workers prior to the actual closing of the plant (Addison & Blackburn, 1994).

Signed into law by President Clinton on August 7, 1998, the Workforce Investment Act (WIA) of 1998 (Public Law 105-220) repealed JTPA and was placed under the authority of the U.S. Department of Labor (WIA, 1998). Billions of federal WIA dollars have been invested into three funding streams to the states and local areas for (a) adults, (b) dislocated workers, and (c) youth with each program designed to increase the skilled workforce and to support individuals who require training, education, and employment service. Serving the dislocated workers as WIA "customers," individual assessments are completed with customers initially assigned to the first service level referred to as core service. If employment goals are not met, further assessment is conducted and the next service levels, intensive and training, are implemented as required by the analysis. The workers choose and "purchase" training that they determined best for their own career development through Individual Training Accounts (WIA, 1998; D'amico, Martinez, Salzman, & Wagner, 2001; O'Brien, 2005; WIB Presentation, 2005).

The WIA legislation established the One-Stop system as a single location "career center" offering universal access to an array of support services for the dislocated workers with a center located in every community throughout the nation. Customers may receive counseling, training, education, information, and employment services along with vouchers for employment and training services. One-Stop counselors and staff track four core indicators of performance: (a) rate of entry into unsubsidized employment, (b) job retention, (c) post-placement earnings, and (d) acquired education and skill standards for those who obtain employment. All training providers are held accountable for completion rates, the percentage of participants who obtain unsubsidized jobs, their

wages at placement, cost of their programs, and customer satisfaction of both participants and employers (WIA, 1998,§122).

The Committee on Education and the Workforce, chaired by U.S. House of Representatives member John A. Boehner, and the 21st Century Competitiveness Subcommittee, chaired by Rep. Howard P. "Buck" McKeon (R-CA), defined the Workforce Investment Act and the One-Stop delivery system as the "nation's primary investment in workforce development" (U.S. House, 2003, ¶ 1; Remarks by President Bush, 2004). Recognizing that the WIA has achieved the creation of a "seamless workforce development system for workers and employers" (U.S. House, 2003, ¶ 1), the Committee members are keenly aware of inefficiencies and duplicative systems that hamper the dislocated worker's progress in becoming reemployed and are striving to address these issues through the next reauthorization of the WIA (U.S. House).

Across the nation, numerous educational institutions are approved as eligible WIA training providers. However, community colleges have been recruited by many communities to work with the multiple partners in creating the support systems as defined by the WIA legislation. For the first time, the work of the community college was identified as the primary component required for successful implementation of a federal initiative (Jacobs, 2001) and recognized as playing an important role in building and sustaining the U.S. workforce (U.S. General Accountability Office, 2004). As a democratizing force in American society (Cohen & Brawer, 2003), the community college was designed with the mission to provide educational access to every individual who can benefit. Researchers have painted a portrait of the community college student population as more diverse than four-year institutions. These students bring to the

learning environment a broader range of socioeconomic backgrounds, ages, academic preparation, family educational background, educational aspirations, work and family obligations, levels of English fluency, and learning styles (Nora, 2000; Williams, 2002; Phillippe and Valiga, 2000). Because of the diversity of the community college student population, the dislocated workers, regardless of age or background, would find acceptance at a community college as they work to realign their skills, complete training credentials, and reestablish careers.

WIA designated other public and private institutions as eligible training providers. These institutions include four-year colleges and universities as well as public and private vocational and technical schools. Also, training may include on-the-job, job readiness, and other customized skills training. All eligible training providers offer one or more training credentials including certificates, diplomas, Associate degrees, Bachelor's degrees, and/or skill certifications in specialized fields. Each credential should better prepare the dislocated worker to obtain gainful employment in a timely manner.

Scope of WIA Services

The Workforce Investment Act of 1998 (WIA, 1998, § 121) established local One-Stop Centers to serve adult workers ages 22 to 72, dislocated workers, and youth (WIA, 1998, § 132). "An individual that has been terminated or laid off, or who has received a notice of termination or layoff, from employment . . .and is unlikely to return to a previous industry or occupation" (WIA, 1998, § 101) is the federal government's complex definition of a dislocated worker. Each dislocated worker along with any other One-Stop customer is assessed and matched to the appropriate level of WIA service--

core, intensive, and/or training--with the final level determined by the individual's skills/needs assessments (WIA, 1998, § 134b).

Core Services

One-Stop customers seeking services such as employment, skill/employment upgrades, and/or educational information is initially provided WIA core services. Within the core services framework, customers' needs are assessed and individuals are screened for their eligibility for various services including WIA and other non-WIA programs. Also an initial assessment is conducted and includes a review of the customer's basic literacy, occupational skill levels, and a discussion of career planning based on regional labor market data. In Virginia, labor market data were gathered from Industry and Occupational Employment Projects, America's Labor Market Information System (ALMIS), Virginia's Electronic Labor Market Access System (VELMA), Automated Labor Information and Commonwealth's Economy (ALICE), Occupational Information Network (O*NET), and the U.S. Department of Labor's Occupational Outlook (O'Brien, 2005). Each One-Stop center maintains statistical reports on most occupations for use by the customer in career planning.

Customers may also receive job search/placement assistance along with the option to participate in related workshops and discussions. If customers have an interest in training, One-Stop centers post, as part of core services, a listing of eligible training providers (WIA, 1998, § 122) allowing for a comparison of training costs, program options, and participants' performance outcomes. Most of the core services are provided as self-directed activities utilizing the Internet, specialized software, postings, employment resources, and equipment access (O'Brien, 2005).

Intensive Services

Should a customer be unable to secure employment through core services, the individual is offered access to intensive services. Intensive services provide comprehensive career assessments, individual and group counseling, case management, short-term pre-vocational services, career planning, support services (child care, mileage reimbursement, training allowance, and other needs-based payments) as well as the development of an Individual Employment Plan (IEP). The IEP is a key factor in determining whether or not a customer should be provided with additional WIA services (O'Brien, 2005).

Training Services

If the IEP indicates an eligible customer is unable to secure self-sufficient employment, a third level of service, training services, may be provided. The customer is awarded an Individual Training Account (ITA) based on the customer's choice of training provider selected from the approved State training providers' list and available funds. Training and educational options include community colleges, four-year colleges and universities, and public and private vocational and technical sites. The U.S. Government Accountability Office (GAO) reported that the majority of America's dislocated workers have participated in training at community colleges (U.S. General Accounting Office, 2004). Other eligible training includes (a) on-the-job training, (b) customized employer training, (c) occupational skills, (d) skill upgrading and retraining, and (e) job readiness training (WIB Presentation, 2005). All training must be completed in two years and must be in career fields that indicate employment growth (WIB Presentation, 2005; WIA, 1998). Dislocated workers completing the training

receive an appropriate educational credential such as a certificate, diploma, Associate degree, Bachelor's degree, or a skill certification.

Training in Virginia

The Commonwealth of Virginia embraced the Workforce Investment Act and organized 17 workforce districts with managing Workforce Investment Boards. The Commonwealth also designated its centralized community college system, composed of 23 colleges located throughout Virginia and classified as a WIA eligible training providers, as the state's workforce trainer (Code of Virginia, 2004, § 23-215). Each of the 23 comprehensive community colleges serves specific counties and cities designated by the enabling legislation passed in 1966 (Vaughan, 1987; Godwin, 1966). Community colleges offer vocational/technical, liberal arts, science, workforce training, and transfer curricula resulting in training credentials approved by the WIA legislation. Virginia's dislocated workers also utilized other public, private, and proprietary institutions for training credentials.

Training Credentials

Although the community college is only one of the required partners in the One-Stop Center and training credentials are obtained from other public and private institutions, only a few statewide studies (none in Virginia) have been conducted on the effectiveness of dislocated worker training with most studies focusing on two-year institutions. Because Virginia does not collect data on the type of training institution but records the type of training credential, the research will examine the educational credential and make associations between the credential received after training and the type of institution. A review of the literature has not yet identified a study conducted in

Virginia or in any other state on the effect training credentials (received after participating in WIA training service) have on the gainful reemployment of dislocated workers. It was the intent of this research study to expand the literature and address not only this effect but the difference each WIA service level has on gainful reemployment, the differences in gainful reemployment based on demographic data, and the customers' perception of WIA service quality and training program experiences along with the employers' perceptions of WIA services and the dislocated worker as a potential employee.

Purpose of the Study

With billions of federal dollars expended on dislocated workers and economies striving to retool and halt the spiraling descent of the workforce into unemployment, limited research is available on the effectiveness of Workforce Investment Act (WIA) services. Dislocated workers are guided through an array of services including core information, intensive counseling, and/or training for in-demand jobs. Massive funds have been expended to support the dislocated worker, data have been collected, but no research study has been completed in the Commonwealth of Virginia on the difference WIA One Stop services create in displaced workers' gainful reemployment.

The purpose of this research was to examine the effect each level of WIA service had on gainful reemployment (as defined by hourly reemployed wage and time dislocated). In addition, the study analyzed the effect a training credential, received following participation in WIA training services, had on the displaced worker's gainful reemployment and the characteristics of training completers and noncompleters. Data were tested for differences in gainful reemployment based on gender, ethnicity, age, and

prior educational attainment. Customer perceptions of the quality of WIA services and experiences within WIA training programs along with the employers' perceptions of WIA services and the dislocated worker as a potential employee were assessed.

Research Questions and Hypotheses

The current study is one of the few studies assessing the effect of WIA One Stop services on dislocated workers' reemployment. More specifically, this study answered the following questions:

1. How does type or intensity of WIA service (core, intensive, and training) affect weeks dislocated and hourly reemployed wage?
2. How does the training credential received after WIA training services effect weeks dislocated and reemployed wage?
3. How do the characteristics of training completers and training non-completers differ?
4. Does hourly reemployed wage and weeks dislocated differ by prior educational attainment, age, ethnicity, or gender?
5. How do customers describe their experiences with WIA and training services?
6. How do employers describe their experiences with WIA One Stop Centers and perceptions of training on dislocated worker reemployment?

The results from this study provides the U. S. Department of Labor, the Virginia Employment Commission, Virginia Workforce Investment Boards, and One Stop Centers with evidence related to the impact of WIA services on reemployment as well as the effect of a training credential on reemployment. Furthermore, WIA eligible training providers such as Virginia's community colleges, proprietary schools, and four-year

universities, along with dislocated workers, have research findings related to the type of training credential and the difference it has on hourly reemployed wage and weeks dislocated.

An extensive literature review provided direction for the study's hypotheses. It is hypothesized that:

1. Type of WIA service (core, intensive, and training) will have a significant affect on weeks dislocated and hourly reemployed wage.
2. Type of training credential received at the completion of training will not have a significant effect on hourly reemployed wage but will have a significant effect on time dislocated when controlling for time invested in training.
3. Characteristics of training completers and training non-completers will significantly differ by prior educational attainment.
4. Reemployed hourly wage and weeks dislocated will differ by groups segmented by prior educational attainment but will not differ by ethnicity, age, or gender groups.
5. Customer perceptions of quality of WIA services and WIA training experience will differ between those who completed training and those who did not complete training.
6. Employer perceptions of WIA services and the dislocated worker as an employee will reflect the employers' utilization of available services.

Overview of Methodology

This study employed a mixed-methods design that relied on both quantitative and qualitative data. A nonexperimental, *ex post facto* research design structure guided the

study of dislocated worker data collected between 2000 and 2004 by Virginia's Workforce Investment Board One Stop Centers. The research population was 11,731 dislocated workers served by the 17 Virginia Workforce Investment Boards One Stop Centers between January 2000 and December 2004. Data were retrieved from the official Virginia Employment Commission dislocated worker database, Workforce Investment Act Title 1B Standardized Record Data (WIASRD). Ultimately, the study explored factors affecting gainful reemployment as defined by hourly reemployed wage and weeks dislocated.

Realizing many dislocated workers begin training but do not complete training, qualitative data supplemented the quantitative data thereby providing a more in-depth understanding of the workers' perceptions of quality of services provided by WIA and their experiences in WIA training programs. Patterns and themes were identified and clarified through follow-up interviews conducted on a purposive, stratified sampling of 19 dislocated workers. In-depth telephone interviews explored the workers' perceptions of the quality of WIA services and experiences in the WIA training programs. In addition, telephone interviews were conducted with 3 employers located in different WIA districts that utilized One Stop services.

Quantitative

The Workforce Investment Act Title IB Standardized Record Data (WIASRD) was the data source. Established by the U.S. Department of Labor, Employment and Training Administration in March 2001 (U.S. Department of Labor, 2001), the Virginia database is managed by the Virginia Employment Commission (VEC). As a supporting partner in this research study, VEC assured internal reliability and validity of its database

through detailed protocol for record verification. Annually, the Virginia Employment Commission WIA Division's Senior Planner, following specified protocol, submits the WIASRD file to the U.S. Department of Labor Office of Employment and Training Administration (ETA). The WIASRD file includes demographic, programmatic, and performance data on the four groups served within WIA: (a) Adults, (b) Dislocated Workers, (c) Older Youth, and (d) Younger Youth (U.S. Department of Labor, n.d.b).

The WIA Division (Virginia Employment Commission) imports the WIASRD file into Data Reporting and Validation software to conduct the annual data validation review. The data validation software was developed under a U.S. Department of Labor contract with Mathematica/Wolfram Research, a worldwide technology company. The software meets the U.S. DOL data validation requirements and is provided to all of the states to assist in the completion of the annual data validation review. Designed to meet Federal government standards, the software also produces a random sample of records requiring individual review by the VEC.

Of the 24,000 records submitted in October 2005, 1,090 records were identified for manual review and verification by Joe Holicky, VEC Senior Planner (Joe Holicky, personal communication, November 2, 2005). The VEC Senior Planner (a) reviews each record, (b) secures the source documentation, and (c) verifies the accuracy of data related to specific fields such as wage, program outcomes, services provided, dates of service, and demographic data as required by the specific program and services utilized by the customer. All research findings and corrections on the records identified for individual review must be reported to the U.S. Department of Labor.

Data validation is the fourth part of the WIA annual data submission process: (a) the WIA Annual Report (narrative and statistical data), (b) the WIASRD, (c) Report Validation (validation of the statistical data used to create the Annual Report data tables, comparison of WIASRD file to data tables in the Annual Report), and (d) Data Validation summary (Joe Holicky, personal communication, November 2, 2005).

Analysis

An analysis of variance (ANOVA) determined whether gainful employment differed by type of WIA service and by training credential. Because potential differences in hourly reemployed wage and weeks dislocated could be attributed to factors other than type of service and training, matched groups were used to control for differences based on gender, ethnicity, age, and previous educational attainment. ANOVA models were also used to address the fourth research question of whether hourly reemployed wage and weeks dislocated differed by demographic characteristics.

Qualitative

Telephone interviews were conducted with 19 dislocated workers selected through purposeful stratified sampling based on the discrete categories of (a) WIA region and (b) training credential outcome (completers/non-completers). Open-ended interview questions along with an interview format was developed and approved by Region 17 One-Stop director and members of the dissertation committee as well as tested on a convenient sample of two dislocated workers served by Virginia's WIA Region 17 composed of the cities of Danville and Martinsville and the counties of Henry, Patrick and Pittsylvania.

Telephone interview responses were returned to each participant for review in order to enhance coding reliability. A content analysis identified topics, categories, and patterns in the data. The interviewer maintained field notes that captured perceptions of the interviewer, such as tone of voice and willingness to participate. Overall, responses were analyzed for differences between comments from completers and non-completers.

By establishing rapport prior to the actual telephone interview, participants appeared to be comfortable engaging in a natural conversation (Schloss & Smith, 1999) and provided responses which accurately reflected the participants' opinions, thereby enhancing the study's validity. In addition, an external evaluator reviewed the recorded responses and assessed the analysis for appropriate interpretation thereby enhancing reliability.

Limitations

Internal validity is dependent upon data accuracy and completeness. The *Virginia Workforce Center Post-Exit Survey*, administered to dislocated workers at three-month intervals following completion of a training program, was one source of data for the Virginia Employment Commission's database. All information collected from the dislocated workers was self-reported to staff members in a designated One Stop Center. The accuracy of the data was dependent upon the competency of the staff in entering results from the quarterly questionnaires.

Furthermore, internal validity may be questioned since no procedures are available to ensure that forthright and honest responses are given by the participants under self-reporting conditions. In measuring perceptions of service and experiences, developing rapport with those being interviewed prior to the scheduled telephone

conversation encouraged participant candor. However, participants may have delivered comments that were assumed to match the researcher's ideal response. It was the intuitive task of the researcher to limit this type of response through the survey design of non-directional questions. However, the interviewer's perceptions of the participants' comments may also have affected the findings and jeopardized internal validity.

External validity may be affected because of high unemployment rates within several Virginia regions. Virginia has experienced unemployment rates ranging from 1.9% in December 2000 to 4.5% January 2002 (Virginia, 2005). However, among Virginia's 17 Workforce Centers included in this study, unemployment rates ranged from 0.9% in Region 11 during December 2000 to 12.4% in Region 17 during July 2002 (Virginia, 2005). Actually, Region 17 has always experienced higher unemployment rates than any other region in Virginia and has averaged double-digit unemployment since December 2001. The reemployment limitations of the dislocated workers because of regional unemployment were not part of this study but do affect the study's external validity. In addition, the study included only the dislocated workers served by the 17 Virginia Workforce Investment Board One Stop Centers. Therefore, the ability to generalize to dislocated workers in other states is limited.

Summary

For decades, the United States has supported millions of unemployed workers with support services through the authorization of federal legislation. Within most federal initiatives, a training component was used as a key strategy for reemployment. The Workforce Investment Act (WIA) of 1998 is the latest federal workforce support program and requires all workforce support partners to provide services through an

organized system called One Stop Centers. Referred to as customers, dislocated workers, adults, and youth are served under WIA. The Workforce Investment Act supports dislocated workers with three levels of service: (a) core, (b) intensive, and (c) training. Individuals move through the levels only if they are unable to obtain new employment and their assessments indicate a need for expanded support services. Should a dislocated worker be eligible for training services, the individual has a choice on whether or not to accept training as well as a choice of the skill area. The WIA requires that training may only be funded for in-demand occupations. One outcome of training should be an awarded training credential from an eligible training provider.

Using both quantitative and qualitative research methods, this study focused on the effect WIA service level and training credentials have on Virginia displaced workers' gainful reemployment as defined by hourly reemployed wage and weeks dislocated. In addition, the study searched for differences in hourly reemployed wage and weeks dislocated based on prior educational attainment, age, ethnicity, and gender. Customer perceptions of the quality of WIA services and experiences within WIA training programs along with the employers' perceptions of WIA services and the dislocated worker as a potential employee were assessed. Research findings offer various agencies as well as dislocated workers and employers evidence on the effectiveness of WIA services and training credentials and establish direction for future workforce support programs.

CHAPTER 2

LITERATURE REVIEW

Assisting the dislocated workforce has been a priority for America. For more than seventy years, the United States Congress has continued to provide relief support to unemployed adults in preparation for reemployment. Workforce programs authorized by Congress were first implemented in the 1930s and have transitioned to the most recent legislation–the Workforce Investment Act (WIA) of 1998. The literature contains findings on the effectiveness of several pre-WIA federal programs assisting dislocated workers and the relationship between workforce/relief services and reemployment. Although all unemployed adults require services that will positively impact their future, this research study is focused on the worker who has been dislocated from previous employment and not on the adult who is moving from no job to searching for a new position in the workforce. Chapter 2 presents the literature relevant to the effect employment services have on the dislocated workers' reemployment.

According to an industrial leader, job loss improves America because it redistributes human capital (Butcher & Hallock, 2004). Whether or not America improves through worker dislocation is not the immediate concern of those individuals who have lost their jobs and their means of financial support. Past experience has dictated that most of these workers (a) may be unable to secure jobs in the same or related fields when more favorable economic shifts occur, (b) will experience an average 25% reduction in future earnings compared to pre-dislocation earnings, and, (c) for those workers over 50 years old, will suffer longer rates of unemployment and greater earnings loss than younger workers (Butcher & Hallock, 2004; Fallick, 1996).

Federal Workforce Legislation

The United States faced its first devastating blow to economic prosperity with the 1930 Depression which accelerated unemployment to over 10 million by 1932 and over 15 million by 1933. In response, the U.S. Congress created the first set of federal relief systems to address rising unemployment and to stabilize at-risk banking and manufacturing industries. President Herbert Hoover authorized the President's Organization on Unemployment Relief, August 1931; the Reconstruction Finance Corporation, January 1932; and the Emergency Relief and Construction Act, July 1932 (U.S. National Archives & Records Administration, n.d.; U.S. History, n.d.; U.S. Department of Housing and Urban Development, n.d.). Following these initiatives and within months of President Franklin D. Roosevelt's March 1933 inauguration, Congress passed an array of relief legislation: (a) the Agricultural Adjustment Act, May 1933; (b) the Federal Emergency Relief Act of 1933, May 1933; (c) Senate Bill 5.598 authorizing the Civilian Conservation Corps; (d) the National Industrial Recovery Act, June 1933; and (e) the Farm Credit Act, June 1933 (Chronology, n.d; CCC, n.d.).

The Federal Emergency Relief Administration, authorized under the Federal Emergency Relief Act, immediately began efforts in 1933 to collaborate with state governments in (a) providing federal grants for relief initiatives, (b) establishing local relief organizations, and (c) developing work relief projects (University of Washington Libraries, n.d.). Interestingly, among the multiple work relief projects, training emerged as a key factor when more than 44,000 unemployed teachers were hired to teach over 1.7 million unemployed workers who sought instruction (University of Washington Libraries, n.d.). In addition, Congress passed The Servicemen's Readjustment Act of

1944, widely known as the GI Bill of Rights, increasing the federal government's support for retraining the workforce through participation in higher education (Schugurensky, n.d.). With these established models for serving dislocated workers, the stage was set for expanding federal and state initiatives.

Pre-WIA Authorized Workforce Programs

Changes in federal government trade policy or declining product demand within industries create economic shifts and affect employment demands placing workers in jeopardy of becoming dislocated through layoffs or termination. Dislocated workers were defined by federal criteria which required the worker to (a) have an established work history with the company/industry, (b) be involuntarily separated from the job by a mass layoff or plant closure, and (c) have little chance of being recalled (Kletzer, 1998; Gardner, 1995). For three decades, the Federal government designed systems to support the unemployed, economically disadvantaged, and youth. The Manpower Development and Training Act of 1962 initially provided services to those unemployed because of automation and technology changes, and The Economic Opportunity Act of 1964 established Job Corps (Garson, n.d.; Guttman, 1983; U.S. Department of Labor, n.d.a). In 1973, the Comprehensive Employment and Training Act (CETA) replaced Manpower, combined several federal employment programs, and allocated funding to state and local governments for employment services (Schwenk, 2003).

As increased imports jeopardized the employment of the American worker, the United States Congress authorized several pieces of legislation to neutralize the economic threat. Beginning with the Trade Expansion Act of 1962, provisions were made to assist workers displaced because of foreign trade and were expanded with the Trade Act of

1974 and the North American Free Trade Agreement Implementation Act of 1993 (U.S. General Accounting Office, 2000; U.S. Department of Labor, n.d.a). Once again training was included as one of the reemployment services offered to displaced workers.

Congress continued to modify dislocated worker programs and repealed the Comprehensive Employment and Training Act of 1973 with the enactment of the Job Training Partnership Act (JTPA) of 1982 (Guttman, 1983) that offered job training and expanded employment services. JTPA services were later expanded with the Economic Dislocated Worker Adjustment Assistance Act (EDWAA) of 1988 in response to major layoffs and plant closings providing on-site job search assistance and retraining programs. In 1988 Congress also authorized the Worker Adjustment Retraining Notification Act (WARN) Public Law 100-379 with the intent to reduce the joblessness by notifying workers prior to the actual closing of the plant (Addison & Blackburn, 1994).

Workforce Investment Act

Signed by President Clinton into law on August 7, 1998, the Workforce Investment Act (WIA) of 1998 (Public Law 105-220) was designed to (a) meet the needs of the nation's businesses for skilled workers; (b) provide individuals with training, education, and employment; (c) streamline services through the creation of a One Stop delivery system; (d) increase accountability for results, and (e) strengthen youth programs (U.S. Department of Labor, 2000). Between 1998 and 2000, the U. S. Department of Labor began transitioning the nation from JTPA to WIA policy. Superseding the Job Training Partnership Act, repealed effective July 1, 2000, the WIA legislation contained five Titles that (a) authorized the WIA System, (b) reauthorized Adult Education and

Literacy Programs, (c) amended the Wagner-Peyser Act, (d) authorized the establishment of the Twenty-First Century Workforce Commission, (e) amended the Rehabilitation Act, and (f) provided for General Provisions relating to the Act (U.S. Department of Labor, 1998a).

The WIA specified three funding streams to the states and local areas: (a) adults, (b) dislocated workers, and (c) youth. It authorized three levels of services for the unemployed: (a) core, (b) intensive, and (c) training. The unemployed/dislocated workers were identified as the "customer" and given individual, personal decision-making responsibility. The most needy customers were empowered through their Individual Training Accounts to make a choice and to "purchase" the training they determined best for their career development in order to expedite reemployment (WIA, §134, 1998).

WIA sought to ensure that businesses were fully engaged in program leadership and in verifying that workforce systems prepare people for current and future jobs. State workforce investment boards were created and charged with developing five-year strategic plans. Governors designated "workforce investment areas" to oversee local workforce investment boards. Workforce Investment Boards (WIB), composed of area residents who understood the culture and the goals of the community, along with local elected officials developed and entered into memoranda of understanding with One Stop partners. Parallel with the focus on adults and dislocated workers, youth councils were organized to develop and operate improved programs for youth (WIA, §117, 1998).

One Stop Delivery

Striving to streamline services through better integration, the One Stop delivery system, a single location "career center" within the neighborhood, was developed to serve the customers with universal access to a wide array of training, education, information, and employment services. Statewide and local performance measurements were established to optimize the return on investment of federal taxpayer dollars and increase employment, sustain economic growth, enhance productivity and competitiveness, and reduce welfare dependency.

Accountability

Accountability for performance and customer satisfaction were set as top priorities. Four core indicators of performance were established and included (a) rates of entry into unsubsidized employment, (b) job retention, (c) post-placement earnings (6 months after entry), and (d) acquired education and skill standards for those who obtain employment (WIA, §136, 1998). All training providers were held accountable for (a) completion rates, (b) the percentage of participants who obtain unsubsidized jobs, (c) their wages at placement, (d) cost of their programs, and (e) customer satisfaction of both participants and employers. The Secretary of Labor negotiated with each state's governor the expected level of performance for each core indicator along with the customer satisfaction indicator for the first three years of the state plan. State quarterly spending reports (U.S. Department of Labor, n.d.c) as well as annual plans and reports (U.S. Department of Labor, n.d.b; 2005-2007 WIA, 2005) were published. Each governor then negotiated the plan with each state's local area (WIA, §136, 1998). In its first strategic plan presented to Congress, the U.S. Department of Labor proposed that

effective training strategies be identified, reflect new technologies, and be closely linked with employers' requirements (U.S. Department of Labor, 2001).

WIA in Virginia

On March 19, 2003, Governor of Virginia, Mark Warner, signed new workforce development legislation heralded as a reform bringing a twenty-first century approach to workforce development in Virginia. The legislation, designed to assist Virginia workers in gaining access to training for Virginia created jobs, amended and reenacted previous legislation related to the Virginia Workforce Council. The Council was charged to provide (a) policy advice to the Governor; (b) policy direction to local workforce investment boards; and (c) the creation of procedures, guidelines, and directives applicable to local workforce investment boards. Virginia *House Bill 2075* specifically directs local Workforce Investment Boards to conduct a needs assessment that identifies the jobs and job skills that are currently or potentially needed by employers in their service regions and submit an annual workforce demand plan to the Virginia Workforce Council (Virginia General Assembly, 2003).

WIA Services

As discussed in Chapter 1, the Workforce Investment Act of 1998 provided for three levels of service – core, intensive, and training. Since each service level was discussed in detail in Chapter 1, only a summary is provided in Chapter 2.

Core services. WIA core services are provided as the first step to any One Stop customer seeking employment, skill/employment upgrades, and/or educational information. Needs are assessed, individuals are screened for various WIA services and other non-WIA program eligibility, basic literacy and occupational skill level are

reviewed, and career planning based on regional labor market data is discussed. Customers may also receive job search/placement assistance along with the option to participate in related workshops and discussions. If customers have an interest in training, One Stop Centers post, as part of core services, a listing of eligible training providers (WIA, § 122, 1998) allowing for a comparison of training costs, program options, and participants' performance outcomes. Most of the core services are provided as self-directed activities utilizing the Internet, specialized software, postings, employment resources, and equipment access (O'Brien, 2005).

Intensive Services. If employment is not secured during participation in core services, intensive services are provided and include comprehensive career assessments, individual and group counseling, case management, short-term prevocational services, career planning, support services (child care, mileage reimbursement, training allowance, and other needs-based payments) as well as the development of an Individual Employment Plan (IEP). The IEP is a key factor in determining whether or not a customer should be provided with additional WIA services (O'Brien, 2005).

Training Services. Should an eligible customer be unable to secure self-sufficient employment, a third level of service referred to as training may be provided. The U.S. Department of Labor defined training as a strategy to "improve employment prospects" with all programs focused on "boosting workers' employability and earnings" (U.S. Department of Labor, n.d.d, p.1). Authorized training includes (a) on-the-job training (OJT), (b) customized employer training, (c) occupational skills, (d) skill upgrading and retraining, and (e) job readiness training (WIB Presentation, 2005; WIA, 1998b). All training must be completed in two years, must be in career fields that

indicate employment growth, and must be provided by an eligible training provider (WIB Presentation, 2005). Dislocated workers completing the training should receive an appropriate educational credential such as a certificate, diploma, Associate degree, Bachelor's degree, or a skill certification.

Studies Related to Dislocated Workers and Reemployment

National Data Sources

The federal government conducts numerous surveys of the American workforce. Many researchers consider the Displaced Workers Survey (DWS), conducted every two years as a supplement to the Current Population Survey (CPS), a vital source for job loss data in the United States (Farber, 2005). A joint effort of the Bureau of Labor Statistics and the U.S. Census Bureau, the DWS captures job loss resulting from plant closings, a layoff, or the deletion of a job but does not include dismissals for cause (Farber, 2005; U.S. Census, 1997). Comprehensive data from the Current Populations Survey conducted by the U.S. Census Bureau also provides a wealth of information on the nation's labor force and is heavily utilized by researchers. The Panel Study of Income Dynamics (PSID), a longitudinal study begun in 1968, provides economic and demographic data and has been used by scholars and policy makers to guide state and national policy decisions related to economic, health, and social issues (PSID, n.d; Polsky, 1999).

Education/Training and Reemployment

Generally, the literature indicates that training has been a key tool offered to dislocated workers equipping them for reemployment. Recognizing this trend in workforce relief services, Lucas (1994) analyzed training systems implemented

throughout the world and argued that the unemployed worker should receive a more general training program thereby creating expanded options for reemployment. Lucas was concerned that training providers would overstate the potential returns to individuals who selected training. However, his findings presented a vague argument that training was beneficial for keeping the dislocated worker "occupied" while looking for another job (Lucas, 1994).

Kodrzycki (1997) found that training was the choice of workers with higher academic ability and, coupled with the workers' previous work history, enabled them to make substantial changes in their careers. Based on research and the phenomenon that was evident between training and wages, Kodrzycki (1997) recommended that displaced workers be given a choice regarding their training.

Simmons (1995) studied 633 adult timber workers who completed retraining in Washington state community colleges between 1991 and 1993. Using a discriminant analysis to investigate the contribution of multiple variables between dropouts and persisters, Simmons examined progress, attendance status, potential earnings of new occupation, grade point average, goal commitment, course levels, and prior education. Findings indicated training with practical value proved to be a primary motivation for attending and completing the program. Lower skilled workers realized that they must persist and complete training in order to obtain employment. Based on her findings, Simmons recommended the implementation of career counseling, entry assessment, basic skills training with multiple entry and exit points, and rapid progress in completing retraining.

Benedict and Vanderhart (1997) studied data retrieved from the *Panel Study of Income Dynamics*, an ongoing survey since 1968 of 30,000 individuals administered by the University of Michigan. Using a multi-sector empirical approach, heads of household were selected from the Panel Study for the years of 1981-1986 and were grouped into four categories: (a) dislocated due to plant closing, (b) dislocated due to job termination, (c) quits, and (d) entrants. Findings indicated that more highly educated groups were more likely to be reemployed regardless of the type of industry; whites had higher rates of reemployment than minorities; those dislocated from declining industries tend to select reemployment in another declining industry; and quits and entrants were rehired in either stable or growth industries. Benedict and Vanderhart reported that factors such as the lack of industry-required skills and low educational attainment are more forceful detriments to reemployment and are more closely aligned with dislocation.

Demographic, Wage, and Time Dislocated

Not only does the worker's educational level affect dislocation, it affects reemployment rates. Between January 2001 and December 2003, more than 11 million workers were dislocated (U.S. Department of Labor, 2004). Among these workers, those with a college degree were 10 to 20% more likely to be reemployed than those with a high school diploma (Butcher & Hallock, 2004). Furthermore, 1995-2005 data compiled as part of the Current Population Survey clearly indicates that those with less than a high school diploma have experienced higher unemployment rates (U.S. Department of Labor, n.d.e; Fallick, 1996).

Research conducted by Farber, Haltiwanger, and Abraham (1997) on 1981-1995 dislocated workers and by Hipple (1999) on the 1995-96 period indicated that

displacement rates decreased for workers with more education and workers with a college degree were reemployed at higher rates than those who held only a high school diploma. Farber et al. (1997) used the Displaced Workers Surveys from 1984 to 1996 studying job loss between 1981 and 1995 and searching for the economic impact of job loss. Conducting a multivariate analysis on a pooled sample of 425,816 workers, data revealed that college-educated workers had a 4.7% lower displacement rate than those with a high school education. Findings also indicated a 9% average decline in weekly earnings for reemployed full-time workers.

Research conducted by Hipple (1999) and Keltzer (1998) supported the findings of Farber, Haltiwanger, and Abraham (1997) and reported dislocated workers between 1989 and 1996 experienced earnings loss between 4% and 17% for those reemployed in full-time positions. Keltzer (1998) and Stevens (1997) also reported other findings from the Panel Study on Income Dynamics of earnings loss ranging between 6% to 12% even seven to ten years after displacement. Farber, et al. (1997) concluded that earnings loss could be circumvented with education.

Polsky (1999) studied job loss occurring between 1976-1981 and 1986-1991 finding that reemployment rates of those involuntarily dislocated from their jobs decreased from 67% in 1976-1981 to 62% in 1986-1991. Using data from the Panel Study of Income Dynamics, a study that has surveyed the same 5,000 families every year since 1968, Polsky found that the probability of receiving a lower wage following dislocation increased from 9% to 17% for the current study. Although his findings were more conservative, the results also supported past studies indicating the lower wage would persist for four to five years after reemployment.

Helwig's (2001) research on 1997-98 dislocated workers reinforced previous research correlating higher educational attainment to reemployment even though this timeframe was considered high economic growth years. Workers dislocated during 1997-98 were surveyed in February 2000 as part of the Current Population Survey. By this date, 82% of men and 73% of women were reemployed with approximately 50% locating work in new industries. Of those locating jobs, 84% were between 25 and 54 years in age. Approximately 77% of the White/Hispanic group and 86% of the African-American group were reemployed. Data indicated that 9% relocated with 91% of those moving obtaining new jobs. Overall, the 1997-98 displaced workers were without jobs a median of 5.6 weeks compared to 7.6 weeks in 1995-96 and 8.3 weeks in 1993-94 (Helwig, 2001). Women experienced a median 6.4 weeks of unemployment compared to 4.2 weeks for men. However, the occupations of operators, fabricators, and laborers experienced 7.8 median weeks of unemployment ranking highest among all occupations. The full-time reemployed 1997-98 dislocated workers reported almost no loss in median weekly earnings with 61% reporting earnings equal to or greater than their previous job. However, 24% earned at least 20% less than in their previous position with individuals ages 45-64 the only group experiencing earnings loss (Helwig, 2001). Hipple (1999) had a similar finding for the 1995-1996 displaced workers with 25% incurring an earnings loss of 20% or greater.

Farber (2005) analyzed Dislocated Worker Survey data on 839,434 individuals dislocated between 1984 and 2004. Findings indicated that less educated workers experienced dramatically higher job loss rates. In 1997-1999, workers with at least 12 years of education had 8.9% job loss compared with 6.7% for those with at least 16 years

of education. Overall, Farber found that workers between the ages of 20 and 29 had the highest job loss. Of those reemployed, full-time workers earned approximately 13% less than in their pre-dislocated position. Farber also reported that workers ages 55-64 were more likely than younger workers to leave the labor force thereby proposing that lower wages would influence their decision to retire and remove themselves from the workforce.

The *Monthly Labor Review* continuously features research on the nation's labor force. Helwig (2004) studied workers dislocated in 1999-2000 as reported in the January 2002 supplement to the Current Population Survey. With a strong labor market, the median time between jobs was 5.5 weeks. However, workers age 55 and older experienced 7.7 weeks, college graduates were out of work 5.6 weeks, and high school dropouts struggled for 10.5 weeks without work. Women averaged 7.7 weeks unemployed while men only averaged 4.1 weeks without a job.

Federal Workforce Programs

JTPA Training

Over the last two decades, a small body of research, mostly doctoral dissertation studies, has been completed on dislocated workers who participated in the Job Training Partnership Act (JTPA) programs. Vanderheuvel (1989) studied the reemployment rates, earnings, and perceptions of dislocated workers in Muskegan, Michigan. Of the 127 survey respondents, 51% had participated in a JTPA program that included education and training. Among this group 56% did not obtain jobs in a field related to the training and 68% had wages less than their wages before being dislocated (Vanderheuvel, 1989). In other research, Nauth (1996) studied the effectiveness of educational services provided to

dislocated workers by technical colleges and other institutions in Minnesota. Results of the study indicated that technical college participants initially had significantly lower wages and were in the support program longer than those who entered other colleges or other training programs. It was important to note that "other training" included activities related to job search and strategies for accessing the job market. With further analysis, Nauth found that the pre-dislocation wage, length of time dislocated, and prior educational attainment had a greater impact on reemployment than education/training.

Analyzing data on dislocated workers in Massachusetts who participated in a Job Training Partnership Act (JTPA) program between 1991 and 1994, Kodrzycki (1997) sought to determine if training had a positive impact on the displaced workers' opportunity to locate a job as compared to the displaced worker that did not complete training. Training was identified as skill development, and general education referred to basic instruction. Displaced workers who selected training were those who had worked in low-level positions (minimum skill and prestige) with the lowest wage earners completing general education programs. The workers who selected to forego training tended to be reemployed in less prestigious positions with little need for general education and specific skills. However, job training was associated with a higher percentage of occupational changes (48%) with the new job being more "complex" (Kodrzycki, 1997). The median pay for workers who chose training was less than in their previous jobs and was also less than those displaced workers who chose not to retrain. Although trained workers experienced an increase in prestige, the move to work outside the manufacturing field resulted in a 15% decline in wages. Workers who were

reemployed in manufacturing positions had a median wage decrease of only 9% (Kodrzycki, 1997).

Participants' perceptions of JTPA. Koppel and Hoffman (1996) conducted 25- to 40-minute telephone interviews with 500 dislocated workers asking 7 questions related to the effect or "worth" of JTPA training services on reemployment. Participants were dislocated workers randomly selected from two companies: (a) 174 selected from the 2500 workers at a steel mill and (b) 128 drawn from 700 dislocated from an Air Force base. These two companies were selected because of the extensive support services provided to the workers. Workers were provided funding, extensive counseling, and training support. However, the findings indicated that training did not improve a worker's chance of finding reemployment and no difference in reemployment wage was found between those who participated in training and those who did not. When participants were asked how helpful training was in securing employment, only 30% of the steel workers and 57% of the Air Force base workers reported that it was helpful in securing employment. The study concluded that training had value only if it was related to in-demand skills, comprehensive, and designed to expand the dislocated workers' previous work experiences/skills.

WIA Services

Educational access and low-income workers were studied by the John J. Heldrich Center for Workforce Development at Rutgers and the Center for Survey Research and Analysis at the University of Connecticut (1999). Researchers conducted 500 telephone interviews with adult members of the workforce with 292 of the interviews conducted from a lower-income sample (John J. Heldrich, 1999). The 1999 Heldrich research

concluded that the poor or unemployed have limited access to training, higher education, and support services. However, the study acknowledged the potential of the Workforce Investment Act as a federal policy to positively impact this sector of the population (John J. Heldrich, 1999).

In 2001, Mathematica Policy Research, Inc. and Social Policy Research Associates (SPRA), under contract with the U.S. Department of Labor, completed an empirical study of 13 WIA demonstration grantees regarding their implementation of the Individual Training Accounts (ITA). The research evaluated the 13 state and local programs that received a grant in March 2000 from the U.S. DOL to establish a national group of One Stop Centers committed to developing ITAs and to creating a list of eligible training providers. Designed as a process study composed of two multi-day site visits to the 13 grantees, the first round of visits discovered that One Stop Center personnel would only authorize training when it was "absolutely necessary" (D'Amico, Martinez, Salzman, Wagner, Decker, 2001). Gathered through multiple interviews at both state and local levels, results indicated the centers were committed to WIA's "work first" emphasis. However, SPRA found that the centers understood that services should be customer driven. The customers were assessed regarding the job skills, training needs, and general educational requirements and were asked to make informed choices regarding the training vendors (D'Amico, et al.). WIA regulations require that training only be funded if it is for an in-demand occupation with exceptions made when the prospective trainee could present evidence that a job would be available once training was completed. Dollar caps on training funded by ITAs ranges between $1,700 and $10,000. Tuition and fees, as well as books, uniforms, and equipment are normal

expenses funded by the ITAs with all customers participating in training required to apply for a Pell grant. Limits for the duration of training were set at two years (D'Amico, et al.; WIA, 1998). The SPRA study predicted that the nation's strong economic conditions would cause a decrease in the number of individuals seeking training (D'Amico, et al.). This prediction was not a reality and, within two years, was in contradiction to Bernstein's (2003) *Economic Policy Report* projecting an increasing rate of unemployment.

WIA training strategies. Every two years, the WIA reviews its five-year strategic plan and reports to Congress on its progress. The 2001 Research Plan addressed FY2000-2005 issues and clearly recommended that the U.S. Department of Labor define training strategies to provide dislocated workers with the needed skills for reemployment. The training must consider how adults acquire knowledge and the potential employer's need for specific technology skills (U.S. Department of Labor, 2001).

The U.S. General Accounting Office (GAO) has completed several recent studies on the WIA of 1998 including a comprehensive study on One Stop centers. In a report submitted to Congress, One Stop performance measurement system was classified as flawed with "the need to meet certain performance measures may be causing One Stops to deny services to some clients who may most need them" (U.S. General Accounting Office, 2003, ¶ 2).

Training Providers and Credentials

Training Providers

The Career One Stop Training and Education Center website offers a listing of 334 eligible training providers for Virginia. The listing includes each of the 23 Virginia

community colleges along with the associated campus sites and four-year institutions. In addition, One Stop customers may access training from multiple training centers to obtain skills in numerous fields including nursing, aviation, barbering/cosmetology, dental assisting, computer skills and certification, heavy equipment and tractor trailer operation, massage therapy, security officers/handgun, horseshoeing/farrier blacksmith, hair braiding, and adult education (Career, n.d.).

Community Colleges and Technical Schools

The work of the National Dissemination Centers for Career and Technical Education at Ohio State University and the University of Minnesota concluded that community colleges and technical institutions are and have been heavily involved in workforce training, are central to workforce development in most states, and in some regions may be the only training institution. (Grubb, 2001; Katsinas, 1995; Lewis, 2002). The U.S. Government Accountability Office (GAO) surveyed 1070 public community colleges and technical schools with 758 (71%) responding and, in October 2004, released its report, *Public Community Colleges and Technical Schools: Most Schools Use both Credit and Noncredit Programs for Workforce Development.* Findings indicated that during 2003 61% of the reporting community colleges and technical schools received approximately $78 million of the $569 million allocated for the WIA Title II Program (Adult Education & Family Literacy Act). In addition, between 59% and 61% of the institutions responding to the GAO (2004) survey received $54 million of the $1.8 billion allocated for WIA Title I (Youth & Adult Activities). These institutions use credit and noncredit courses to meet the training demands of the local workforce. It was noted that noncredit courses and contract training allowed the institutions to more rapidly respond to

the short-term training needs of business and industry. The GAO (2004) concluded that public community colleges and technical schools are vital to building and sustaining the U.S. workforce.

Although the literature has not yielded consistent findings that training provided to dislocated workers has been financially beneficial, post secondary education has been found to increase earnings. In a 1993 study, Grubb examined the benefits of postsecondary education to nondislocated workers using the National Longitudinal Study of the Class of 1972 (NLS72). The findings clearly present a relationship between earnings and a baccalaureate degree with earnings decreasing significantly for an Associate's degree and even more with just a vocational certificate. Aligned with these findings, the earnings of the subjects who possessed "some college" showed an increase over those with no additional education after high school (Grubb, 1993).

The National Center for Research in Vocational Education, the League for Innovation in the Community College, and the National Council on Occupational Education examined the nontraditional work of seven community colleges that were engaged in programs outside of the usual credit-course agenda (Grubb, Badway, Bell, Bragg, & Russman, 1997). The researchers examined workforce development, economic development, and community development activities within each of the colleges and were found to be competitive in price and quality. However, the research could not confirm how the workforce development component was assessed or the validity of the quality claims. Also, the nontraditional community college student was found to be unprepared for college-level work (Grubb, et al., 1997). However, other researchers found that these students can be successfully transitioned to employment or advanced

degrees when the remedial work related to the academic deficiency is completed (Eller, Martinez, Pace, Pavel, Garza, & Barnet, 1998). Community college graduates have reported a high percentage of approval with the training they have received in preparing them for employment (VanDerLinden, 2003). However, students and instructors struggle to determine the exact skill sets required for the productive worker as defined by the U.S. Department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS). Therefore, required skill sets are usually resolved by the course instructor (Grubb, et al.).

Jacobson, LaLonde, and Sullivan (2005), in a study funded under a U.S. Department of Labor ETA contract, examined the impact of community college training on 21,000 dislocated workers from Washington State along with a 3,200 sample from Allegheny County, Pennsylvania, who enrolled in at least one community college course. Findings indicated coursework in technical, mathematics, or science subjects provided positive increases in reemployment wage, but wage gains for the entire sample resulted in only a modest 2% increase in hourly wage. Overall, retraining was found not to offset long-term wage losses created by displacement with previous studies estimating to average between 15 and 25%. In a follow-up review of the 2002 report, Jacobson, et al, (2005) estimated an earnings increase of 14% for men and 29% for women when completing courses in technical, mathematics, or science.

Employer perception of two- and four-year graduates. John J. Heldrich Center for Workforce Development (2005b) conducted a telephone survey of 400 New Jersey employers in fall 2004 that had employed one or more graduates from either two- or four-year institutions. Findings indicated that 31% of the employers found two-year graduates very prepared with 55% indicated the graduates to be "somewhat prepared." More than

36% of the employers ranked graduates from four-year institutions as being very prepared for employment with 53% ranking the graduates as "somewhat prepared." Specifically, graduates possessed skills in communication and exhibited soft skills such as teamwork, integrity, honesty, and an ability to learn. Only 36% of the New Jersey employers indicated that two-year institutions should prepare students for specific careers whereas over 52% indicated this function as the top priority for four-year institutions.

Training Credentials

Credentials received at the completion of the training vary by the type of institution providing the training. A proprietary school would offer credentials such as skills certifications, certificates, and diplomas. Community colleges and technical schools not only offer skills certifications, certificates, and diplomas, but also award various levels of Associate degrees. Four-year institutions award baccalaureate degrees and/or master's degrees. Although eligible training providers include an array of institutions, research on the effectiveness of the training has been focused on community colleges and technical schools.

One-year and two-year credentials. Data collected from the 2000 follow up study of the National Education Longitudinal Survey of 1988 indicated that community college graduates earning an associate degree enjoyed higher wages than those who held only a high school diploma (Marcotte, Bailey, Borkoski & Kienzl, 2005). Originally the survey represented a national sample of nearly 25,000 students who were enrolled in the eighth grade in 1988, the current study collected data through interviews from 7,021 members of the original sample ranging between 25 and 27 years of age. Among the sample, females earned 5 to 10% more for each year completed at the community college. However,

males did not experience the same benefit. Overall, females earning an associate degree resulted in annual earnings increases of 40.4% with males realizing a 17.1% increase.

Training credential effect on wage. The Community College Research Center (Bailey, Kienzl, & Marcotte, 2004) investigated the economic benefits of post-secondary education on post-college earnings by analyzing the (a) programs of study, (b) amount of schooling with and without attaining a degree, and (c) type of credential earned. Individual annual income data were collected from the Postsecondary Students Longitudinal Study 1989-94, High School and Beyond 1980-92, and National Education Longitudinal Study of 1988. Findings indicated the completion of a one-year certificate increased a female's earnings by 16% over a high school graduate, but had no economic effect for a male. The associate degree proved to be more beneficial to males and females with greater return for occupational students. Females received 39% more and men received 16% more than their counterparts with no postsecondary education. However, the bachelor's degree increased individual earnings by 56% and 66% more than high school graduates for both men and women.

Four-year credentials. Using 2,515 alumni surveys collected in 2001 from 30 private and public colleges in the Appalachian Region, Wolniak and Pascarella (2003) analyzed the effects of a bachelor's degree on job satisfaction. Only alumni who received bachelor's degrees were included in the study and were categorized into three groups: 1974-76, 1984-86, and 1994-96. Acknowledging study limitations of causal relationships, observed findings appeared to confirm that bachelor's degrees obtained in quantitative and scientific fields result in an increase in earnings that may influence job

satisfaction. However, degrees in Arts and Humanities may limit income earnings but may also provide inherently rewarding work experience.

Summary and Hypotheses

Never is an individual more in need of support than when that person is dislocated from a job and all access to financial resources has been removed. Dislocated workers have remained a priority for U.S. lawmakers for more than 75 years. Whether it was the Federal Emergency Relief Act, Manpower, CEDAR, JTPA, or the latest federal initiative—WIA, the federal government provided support services for workers displaced from jobs with the intent of reemployment.

Numerous research studies have analyzed the effect of programs and services on dislocated workers' reemployment. The majority of the research findings indicated that lower-skilled workers along with low educational attainment correlated with high rates of dislocation. Findings also indicated dislocated workers would experience a decrease in earnings between the pre-dislocated wage and the new wage. Although training offered by an eligible training provider has been a key component in most federal workforce initiatives, research does not support the concept that training results in increased reemployment earnings or, in some cases, is actually beneficial in reemployment.

Obtaining a training credential such as a certificate, associate degree, or bachelor's degree has been found to increase an individual's earnings when compared to individuals who hold only a high school diploma. As one would expect, the bachelor's degree enables the individual to earn a higher wage than other credentials and appears to be a deterrent to dislocation. The associate degree is correlated with higher earnings than those who possess only a high school diploma. Also, the program of study in which the

training credential is obtained influences one's earning power with technical, mathematics, and science providing the highest increases in reemployment wage. Overall, employers perceive two- and four-year graduates to be prepared for work, and community college graduates have reported high rates of approval for the training received. However, research findings have not indicated that training credentials received after dislocation resulted in higher reemployment wages.

CHAPTER 3

METHODOLOGY

A non-experimental, *ex post facto* research design guided both quantitative and qualitative measures to study the effect WIA services and training credentials have on Virginia's displaced workers' hourly reemployed wage and weeks dislocated. In addition, the study assessed differences in gainful reemployment based on prior educational attainment, age, ethnicity, and gender. Customer and employer perceptions of the quality of WIA services and customer experiences within WIA training programs were also studied. More specifically, this study addressed the following research questions:

1. How does type or intensity of WIA service (core, intensive, and training) affect weeks dislocated and hourly reemployed wage?
2. How does the training credential received after WIA training services effect weeks dislocated and hourly reemployed wage?
3. How do the characteristics of training completers and training non-completers differ?
4. Does hourly reemployed wage and weeks dislocated differ by prior educational attainment, age, ethnicity, or gender?
5. How do customers describe their experiences with WIA and training services?
6. How do employers describe their experiences with WIA One Stop Centers and perceptions of training on dislocated worker reemployment?

The study's independent variables were (a) WIA service level—core, intensive, and training; (b) educational credential after training—high school diploma/GED, short-term training credential, Associate or Bachelor's degree; (c) prior educational attainment,

and (d) demographic data—age, gender, ethnicity. The dependent variables were (a) time dislocated measured in weeks and (b) reemployed wage measured by hourly pay.

Under the direction of Commissioner Dee Esser, the Virginia Employment Commission (VEC) became a partner in this research study in March 2005 and authorized the use of the VEC Workforce Investment Act Title IB Standardized Record Data (WIASRD) as the study's primary data source for the quantitative study. The WIASRD was established by the U.S. Department of Labor, Employment and Training Administration in March 2001 (U.S. Department of Labor, 2001) and, in Virginia, is managed by the Virginia Employment Commission. Phase I of the study will include the retrieval, categorization, and analysis of WIASRD data.

Although WIASRD data was the foundation for the quantitative phase of the study, qualitative methods expanded the research discovering trends not readily apparent from the WIASRD analysis. Therefore, Phase II utilized a telephone interview questionnaire conducted on a purposeful sampling of dislocated workers from Virginia's WIA districts who either completed or did not complete training. The information-rich telephone interviews provided an insight into the dislocated workers' satisfaction level related to WIA services and training experiences as well as the workers' opinions on how effective the services were in gaining reemployment. In addition to the workers' interviews, telephone interviews were held with employers who had utilized WIA services to gain an understanding of their perceptions of WIA services and the effectiveness of training on dislocated worker reemployment.

Participants

Quantitative

Phase I research population contained 11,731 dislocated workers served by the 17 Virginia Workforce Investment Boards' One Stop Centers between January 2000 and December 2004. The demographic characteristics of the research population were described as part of the study. Authorized by VEC Commissioner Dee Esser in March 2005 and provided by the VEC Senior Planner Joe Holicky, data were retrieved from the official Virginia Employment Commission dislocated worker database, Workforce Investment Act Title 1B Standardized Record Data (WIASRD). However, the VEC reported that some records would have empty data fields. All records were examined for missing data and, fortunately, no record jeopardized the study's validity.

Qualitative

Customer interviews. Phase II utilized qualitative methods to enrich the study and provide an expanded understanding of the customers' perceptions of the quality of WIA services and experiences in WIA training programs. Telephone interviews were conducted with 19 dislocated workers selected through purposive stratified sampling of the WIASRD file provided by the Virginia Employment Commission. In order to secure the 19 participants, 269 letters were mailed to individuals listed in the VEC file. Four training completers and four non-completers from each One Stop region were selected through purposive sampling stratified by: (a) WIA region, (b) completion/non-completion, and (c) training credential. Strata was defined by the discrete categories of (a) WIA region and (b) training credential outcome (completers/non-completers) with four females or four males selected from each strata in order to explore potential

differences based on the variables (Table 1). Substitutions were made among WIA regions when the region did not list individuals matching identified strata.

On May 31, 2006, letters inviting 135 dislocated workers to participate in a telephone interview were mailed. Of the 135 selected participants, 10 agreed to be interviewed with 2 declining when contacted by telephone, 4 returned the confirmation form requesting not to be interviewed, 42 letters were returned as undeliverable, and 79 never responded. Therefore, a mailing to a second set of 134 selected dislocated workers was completed on June 24, 2006. From this mailing, 13 agreed to the interview with 2 later declining, 5 declined, 25 letters were undeliverable, and 91 did not respond.

Table 1

Telephone Interview Sample Selection

Group	WIA Region (1^{st} / 2^{nd} Mailing)	Completers Gender	Credential	Non-Completers Gender
1	1, 7, 13	Male	Short-Term	Male
2	2, 14, 16/8	Male	Diploma, Certificate	Male
3	3, 9, 8/15	Male	Associate, Bachelor, Graduate	Male
4	4, 10, 15/-	Female	Short-Term	Female
5	5, 11, -/12	Female	Diploma, Certificate	Female
6	6, 12/-, 17	Female	Associate, Bachelor	Female

In addition, 3 employers were interviewed by telephone. Each of the 17 Regional Workforce Investment Act executive directors were asked to provide a listing of the top five (5) employers in their region who have utilized WIA services and/or employed WIA customers. Five directors responded. Telephone and e-mail contacts were made with each company suggested by the directors. Only 3 employers agreed to be interviewed.

Measures

Quantitative

WIA Dislocated Worker Database

Data on Virginia's dislocated workers served by One-Stop Centers between January 1, 2000, and December 31, 2004, were retrieved from the Workforce Investment Act Title IB Standardized Record Data (WIASRD). Delivered electronically as an Microsoft Excel spreadsheet, the file contained (a) demographic information, (b) WIA region, (c) WIA service type, (d) educational credential attained (e) prior educational attainment, (f) dislocation date, (g) reemployment status, (h) employment wage, (i) beginning/ending date of training, and (j) hourly wages at dislocation. Twenty-six individuals were continued in the WIA database from previous JTPA services begun during the 1990s. Data fields for these individuals were considered as missing data.

In June 2005, the U.S. Government Accountability Office (GAO) reported "weaknesses in the WIASRD database" (U.S. General Accountability Office, 2005, p.4) because of a lack of confidence in the accuracy or completeness of data collection and management. However, the U.S. Department of Labor had implemented data validation procedures to address these concerns (U.S. General Accountability Office, 2005). Although no study has been completed on the effectiveness of the validation procedures, the WIASRD database is the only complete collection of data on Virginia's dislocated workers and was used as the primary data source for this study.

The Virginia Employment Commission (VEC) assures internal reliability and validity through detailed protocol for record verification. Annually, the Virginia Employment Commission WIA Division's Senior Planner following specified protocol

submits the WIASRD file to the U.S. Department of Labor Office of Employment and Training Administration. The WIASRD file includes demographic, programmatic and performance data on the four groups served within WIA: (a) Adults, (b) Dislocated Workers, (c) Older Youth, and (d) Younger Youth (U.S. Department of Labor, n.d.b, *Performance & Results*).

The WIA Division (Virginia Employment Commission) imports the WIASRD file into Data Reporting and Validation software to conduct the annual data validation review. The data validation software was developed under a U.S. Department of Labor contract with Mathematica/Wolfram Research, a worldwide technology company, to meet the USDOL data validation requirements. The software is provided to all of the states to assist in completing the annual data validation review. Designed to meet federal government standards, the software also produces a random sample of records requiring individual review by the VEC.

Of the 24,000 records submitted in October 2005, 1,090 records were identified for individual review and verification by the VEC Senior Planner. VEC Senior Planner (a) reviews each record, (b) secures the source documentation, and (c) verifies the accuracy of data related to specific fields such as wage, program outcomes, services provided, dates of service, and demographic data as required by the specific program and services utilized by the customer. All research findings and corrections on the records identified for individual review must be reported to the U.S. Department of Labor. For example, a record that has wages reported during the first, second or third quarter after exit would be compared to Unemployment Insurance (UI) wage records maintained by the Virginia Employment Commission. If the wages were not in the Virginia wage

records, then a search of the Wage Record Interchange System (WRIS) would be conducted. The WRIS file contains unemployment wages from all of the states where there was a Social Security Number match for the appropriate quarter(s). If there is a discrepancy in the wages reported, the amount of difference would be taken into consideration. If the amount reported in the WIASRD file were less than the UI wage record, this would be acceptable as adjustments to the wage records may occur. If the reported amount were greater than the wage record amount, the Virginia wage would be compared to any WRIS wages to identify the source of the difference. If the difference cannot be resolved, this element for the record in question would be marked as an error. The errors for each element are summed and presented as an error rate for each of the elements being reviewed (U.S. Department of Labor, n.d.b; Joseph Holicky, personal communication, November 2, 2005).

Data validation is the fourth part of the WIA annual data submission process: (a) the WIA Annual Report (narrative and statistical data), (b) the WIASRD, (c) Report Validation (validation of the statistical data used to create the Annual Report data tables, comparison of WIASRD file to data tables in the Annual Report), and (d) Data Validation summary. The entire process was accomplished within five months (Joseph Holicky, personal communication, November 2, 2005). Table 2 provides the 2005-2006 timetable for submission. All procedures adopted by the Virginia Employment Commission meet federal standards and are consistent with data collection and validation procedures followed throughout the United States.

Table 2

2005-2006 Timetable for WIASRD Submission

Date	Submission Activity
10/1/2005	Annual Report – Narrative and Tables
10/1/2005	Report Validation
10/15/2005	WIASRD
2/1/2006	Data Validation Summary

Note. Joseph Holicky, personal communication, November 2, 2005.

Qualitative

Telephone Interviews

Open-ended telephone interview questions focused on customers' and employers' perceptions of the (a) WIA services, (b) training providers, and (c) overall effectiveness of training services in reemployment. The interview data addressed research questions 5 and 6: Research Question 5–How do customers describe their experiences with WIA and training services? and Research Question 6–How do employers describe their experiences with WIA One Stop Centers and perceptions of training on dislocated worker reemployment?

Content validity was enhanced by identifying each question's relationship to the research questions as defined by the blueprints (Appendix A and B). For each customer, demographic data including gender, ethnicity, and age was obtained from the WIASRD and confirmed during the interview. Interview questions addressed: (a) Pre-dislocation employment history: type of industry/business, type of position and length of time employed; (b) Current employment: employment status, date reemployed, total time dislocated; and (c) WIA Services: types of WIA services received (core, intensive, and/or training), reason for selecting training or for not selecting training, time between dislocation and beginning training, institution where training was completed, and type of

training program, and type of credential received; and (d) Perceptions: relationship of services to reemployment, quality of WIA services, experiences in WIA training programs, and relationship of training program to reemployment.

For employers, open-ended interview questions addressed the employers' experiences with WIA services, their perceptions of WIA customers as employees, and their perceptions of training and its effect on the dislocated worker's reemployment. A description of the industry/business was captured.

Validity and reliability. Validity was addressed in two ways. First a blueprint was developed for both the customer and the employer interviews and reviewed by the dissertation committee. Second, the interview questionnaire for both the customer and employer were reviewed by a One Stop Center manager and the manager of a Virginia Employment Commission office. Both reviewers suggested minor changes in three questions and the deletion of three questions. All suggestions were implemented. The employer questionnaire was piloted on and assessed by one employer representative who confirmed the appropriateness of the questions and the procedure. The customer interview was piloted on and assessed by two (2) dislocated workers who also confirmed content validity by approving the: (a) sequencing of questions and language was meaningful to the participant, (b) intent of the question was adequately worded, (c) instrument established rapport and cooperation, and (d) instructions and length of the instrument were reasonable for the research sample (Fitzpatrick, Sanders & Worthen, 2004). In addition, pilot testing confirmed that all necessary items required to answer the research questions were included in the interview. Reactions and recommendations for

changes in the telephone interview questionnaires were gathered from the participants through an interview using the *Pilot Response Interview* (Appendix C).

Interview procedures augmented the quality and consistency of data collection. In addition, procedures implemented prior to the actual telephone interview established rapport thereby encouraging participants to be more comfortable in engaging in a natural conversation (Schloss & Smith, 1999) and provided responses that accurately reflected their perceptions. Participants were interviewed by telephone with each person interviewed receiving a copy of the interview either by electronic mail or by postal service. Only three customers made minor changes with the remaining customers and employers approving the transcript as presented. An external evaluator reviewed a sample of the responses from both groups, assessed the analysis for coding reliability, and approved the summation with no changes.

Procedure

Quantitative Phase I – Dislocated Worker Database

Through discussions with the Virginia Employment Commission WIA Senior Planner in December 2005, research questions were matched to WIASRD data and plans were defined for the extraction of the data set from WIASRD. The WIASRD dislocated workers database for July 1, 2000, through December 31, 2004, was delivered to the researcher in January 2006 as an electronic Microsoft Excel file. Data were reviewed for missing variables, weeks dislocated and hourly reemployed wage were calculated, and data were transferred to the statistical software program, SPSS, for analysis.

Qualitative Phase II – Telephone Interviews

All data for the qualitative phase of the study were collected through telephone interviews. Open-ended interview questions (Appendix D and E) along with interview protocol, defined in Table 3, were reviewed and approved by a One Stop Center director and members of the research dissertation committee. The interview questionnaire was pilot tested on a convenience sample of two (2) dislocated workers served by a One Stop Center and one employer.

Telephone interview procedures and protocol. A letter (Appendix F) describing the study and inviting participation in the customer telephone interview was mailed to each member of the customer interview sample during the summer of 2006 with a request that an interview confirmation form (Appendix G) be returned to the researcher. The confirmation form confirmed the participant's willingness to be interviewed, identified the correct telephone number, and set the preferred time schedule for the interview. Each customer participant was contacted by telephone to confirm the interview time.

To secure employer participants, an electronic communication was sent to each of the 17 Workforce Investment Board executive directors requesting a listing of at least 5 employers who utilized WIA services and/or employed a dislocated worker. From the responses submitted by 5 executive directors, the human resources director of each employer was contacted either by electronic communication or by telephone and asked to participate in the telephone interview.

Following accepted telephone interview protocol (Dillman, 1978), the same script (Appendix D and E) for each customer and employer interview was followed thereby providing for consistency in data collection. Detailed notes were transcribed and

delivered to the participants by electronic or postal mail for review and revision. Interview data was coded and analyzed searching for topics, categories, and patterns. The approved telephone interview protocol followed the steps listed in Table 3.

Table 3

Interview Protocol

1. Call participant at the scheduled interview time.
2. Establish rapport by greeting the participant, introducing oneself as the researcher, reminding the individual that participation is voluntary, and thanking the participant for being willing to engage in the conversation.
3. Define the purpose of the study, how the responses will be used, and emphasize that strict confidentiality of all responses will be maintained.
4. Identify the time required to complete the interview.
5. Encourage the participant to review the response summary. Define the timetable for summary completion and identify delivery method.
6. Set the stage for the interview by asking if the participant has any questions and if the person is ready to begin.
7. Complete the interview, read each question/statement, record copious notes for each response, repeat the response summary to the participant and ask for confirmation, and permit the participant to clarify or elaborate on any response allowing the conversation to evolve to a deeper level if appropriate.
8. Conclude the interview by asking if the participant has any questions, confirm contact information for participant's review of the responses, thank the participant, and provide contact information should the participant have any questions after the conclusion of the interview.

Data Analysis

Analyses of variance (ANOVA) was used in this study because the test provides a "comparison of subgroups that vary on more than one factor" (Borg & Gall, 1983, p. 551) and looks for differences between compared independent variable groups and the dependent variables. When significant differences within the comparisons were

identified, a post hoc multiple comparison using Bonferroni procedures was conducted to isolate differences by group and help control for Type I error (Green & Salkind, 2003). In addition, post hoc pairwise comparisons were also conducted to compare means among the independent variables of gender, ethnicity, age, and prior educational attainment on outcome variables. Descriptive statistics were also presented for all variables.

Categorized by training credential received after WIA training services, data were examined for a relationship between training credential and (a) hourly reemployed wage and (b) weeks dislocated as well as for differences between training completers and noncompleters. Data were also reviewed for an effect of the intensity/level of WIA service (core, intensive, and training) on (a) hourly reemployed wage and (b) weeks dislocated. Searching for further differences, hourly reemployed wage and weeks dislocated were assessed for differences related to prior educational attainment, age, ethnicity, and gender. In addition, qualitative methods were applied to examine perceptions of services and training.

Analysis by Research Question

Question 1. In order to determine how WIA service level affected weeks dislocated and hourly reemployed wage, the independent variable (WIA service level) was grouped by (a) core/intensive, (b) training, core/training, intensive/training, and all levels and (c) no service. A one-way analysis of variance and post hoc pairwise comparisons were conducted to determine whether there were significant differences between the groups.

Question 2. A similar analysis (ANOVA) assessed how a training credential received after WIA training services affected weeks dislocated and hourly reemployed wage; the independent variable (training credential) was categorized into four levels: (a) high school/GED; (b) short-term training; (c) Associate/Bachelor's degree; and (d) no credential. Follow-up pairwise comparisons were used to pinpoint significant differences between groups.

Question 3. The third research question addressed whether the demographic characteristics of completers significantly differ from non-completers. A crosstabulation allowed the independent variable, training outcome defined by completers and non-completers, to be crossed by gender, age, ethnicity, and prior educational attainment. A chi-square test of independence was run to determine any discrepancy between the observed values and the expected values.

Question 4. One-way analysis of variance tests determined if hourly reemployed wage and weeks dislocated differed by (a) gender, (b) age, (c) ethnicity, and (d) prior educational attainment. Follow-up analysis using post hoc multiple comparison were also conducted. In addition, all two-way, three-way, and four-way interactions were examined. Each independent variable was grouped into defined categories. Gender was grouped by (a) female and (b) male. Age had four categories: (a) less than 25 years, (b) 26-40 years, (c) 41-55, (d) older than 55. Ethnicity was organized into four groups: (a) Asian & Pacific Island, (b) Black/African-American, (c) White and (d) Hispanic, American Indian, Other Race. Prior educational attainment was categorized into four groups: (a) Grades K-11 representing less than a high school diploma; (b) Grade 12 representing a high school diploma or GED; (c) Years 13-15 representing the first two

years of post-secondary education; (d) Years 16-18 representing an Associate, Bachelor's, or graduate degree.

Questions 5 and 6. A content analysis analyzed telephone interview responses. Topics, categories, and patterns that emerge from the data were presented. A simple tally of response frequency and percentage of responses within category reflected the importance of patterns that emerge. Interview field notes also included the interviewer's perception of the interview. Overall, customer responses were assessed for differences between comments from completers and non-completers.

Telephone interviews conducted on a purposive sample captured how customers describe their experiences in WIA services and training programs and whether or not perceptions differ between those who completed training and those who did not. The qualitative study described participants' responses identifying themes and patterns. An external evaluator assessed the response summary for coding reliability.

Employer interviews captured the perceptions of WIA services and the work readiness of individuals who had been previously dislocated. Responses were analyzed for themes and patterns. An external evaluator also reviewed the employer responses and assessed the analysis for coding reliability

CHAPTER 4

RESULTS AND DISCUSSION

This mixed methods study examined the effect each level of Workforce Investment Act (WIA) services provided through Virginia's One Stop Centers had on gainful reemployment of workers dislocated between January 2000 and December 2004. In addition, the study analyzed the effect a training credential, received following participation in WIA training services, had on the dislocated worker's gainful reemployment and investigated the effect prior educational attainment, age, ethnicity, and gender had on dislocated workers' gainful reemployment. Customer and employer perceptions of the quality of WIA services along with the customer perceptions of experiences within WIA training programs were also studied.

Findings

Quantitative

Sample Characteristics

The Virginia Employment Commission provided data on 11,731 individuals dislocated between January 2000 and December 2004. Table 1 shows the distribution of the participants by age, prior educational attainment (before dislocation), WIA service level (both duplicative and nonduplicative), and employment status at WIA exit. The majority (60.1%) of the participants were female (n = 7,049) with 39.9% male (n = 4,682). Sixty-one percent were White (n = 7,153) and 33.7% were Black/African American (n = 3,953) with the remaining participants distributed across Hispanic/Latino (n = 175, 2.4%), American Indian (n = 23, .4%), Asian (n = 226, 1.9%), and Pacific Islander (n = 39, .3%). Approximately 2% (n = 278) were missing ethnicity data or listed

as other race. The participants' age ranged between 18 and 74 years old with 41 as the mean age.

Dislocated workers served by WIA One Stop Centers had access to at least one service level or a combination of all three levels of service: (a) core, (b) intensive, and (c) training. Data on each participant, as presented in Table 1, indicated that many received more than one service (duplicative) with 2.8% (n = 328) participating in core services, 86.7% (n = 10,169) receiving intensive services, and 71.4% (n = 8,378) utilizing training services. Further examination of nonduplicative service revealed that 35.7% (n = 4,192) participated in either core and/or intensive services; 59.6% (n = 6,989) received core and training, intensive and training, training alone, or all three levels of service; and 4.7% (n = 550) had no service or no data entry for this variable in the VEC database (Table 4). Even though approximately 95% of the dislocated workers received some type of WIA service, only 33.8% (n = 3064) were identified as reemployed at the completion of WIA service.

Table 4

Demographic Characteristics of Participants

Characteristics	N (n = 11,731)	%
Age at WIA registration		
Less than 25	718	6.1
25-40	4864	41.5
41-55	5049	43.0
Older than 55	1100	9.4
Highest educational level completed (before dislocation)		
Grades 0 – 11	1708	14.6
Diploma/GED	6560	55.9
Post Secondary Years 13-15	2467	21.0
Post Secondary Years 16-18	993	8.5
Missing data	3	
WIA service level (Duplicative services)		
Core	328	2.8
Intensive	10169	86.7
Training	8378	71.4
WIA service level (Nonduplicative services)		
Core and/or Intensive	4192	35.7
Training (in combination with Core and Intensive) and All Levels	6989	59.6
No service or missing data	550	4.7
Employment status at WIA exit		
Employed	3964	33.8
Unemployed or missing data	7767	66.2

Dislocated workers were served by One Stop Centers in each of Virginia's 17 Local Workforce Investment Act (LWIA) regions. LWIA regions 2, 8, and 17 served over 41% of the total dislocated workers between 2000 and 2004 (Table 5). LWIA Region 7 and Region 15 provided support to only 1.4% and 1.7% respectively of the customers participating in One Stop services.

Table 5

Participation by Local Workforce Investment Act Region

LWIA region	Core and/or Intensive (n = 4192)	Training[a] and All Levels (n = 6989)	No Service/ Missing (n = 550)	Total N (n = 11731)	%
1	288	612	7	907	7.7
2	468	615	3	1086	9.3
3	176	194	0	370	3.2
4	317	386	38	741	6.3
5	170	149	14	333	2.8
6	340	425	39	804	6.9
7	50	95	14	159	1.4
8	506	892	26	1424	12.1
9	156	119	41	316	2.7
10	102	148	97	347	3.0
11	321	340	32	693	5.9
12	131	161	93	385	3.3
13	145	298	1	444	3.8
14	391	330	45	766	6.5
15	72	120	8	200	1.7
16	27	400	33	460	3.9
17	532	1705	59	2296	19.6

[a]Includes training, core/training, and intensive/training service levels

Research Question 1: WIA Service Level Effect on Weeks Dislocated and Hourly Reemployed Wage

The first research question asked how type or intensity of WIA service level (core, intensive, and training) affected weeks dislocated and hourly reemployed wage. Although 33.8% (n = 3,964) were identified as employed at exit of WIA services, total weeks dislocated data were recorded for only 25.84% (n = 3,031) with hourly reemployed wage recorded for 26.51% (n = 3,110) of the 11,731 participants. In addition, an initial analysis of the data revealed that five of the eight service level groups (core, intensive, training, core/intensive, core/training, intensive/training, all three levels, and No Service) listed fewer than 100 cases within each group. Actually, when examined by service level, core service had only one (1) case with weeks dislocated reported and

only two (2) cases with hourly reemployed wage reported (Appendix H). Therefore, WIA service level was categorized into three groups with all cases receiving core and/or intensive services placed into group 1. Group 2 included all those who received training, core/training, and intensive/training as well as participants who received all levels of service. The third group represented only those who had no entry in the service variable indicating that either they received no service or an error was made resulting in missing data.

Using the regrouped WIA service level, ANOVA tests were conducted to examine the effect of WIA service level on weeks dislocated and hourly reemployed wage. For total weeks dislocated, the ANOVA test reported F (2, 3028) = 9.021, $p < .001$, and partial $\eta^2 = .006$. However, when testing hourly reemployed wage, the ANOVA reported F (2, 3107) = 2.086, $p = .124$, partial $\eta^2 = .001$.

Because the overall F test for weeks dislocated was significant, follow-up tests evaluated pair-wise differences among the means using Bonferroni post hoc procedure. As reported in Table 6, participants ($n = 71$) receiving No Service experienced fewer weeks dislocated than those receiving core/intensive ($M = -20.48$) and those receiving training in combination with core and intensive and all levels ($M = -23.60$). Neither the ANOVA nor the post hoc test indicated statistically significant differences between any category of WIA service and hourly reemployed wage (Table 6).

Table 6

Service Level Bonferroni Post Hoc Test

Service Level	No Service Weeks dislocated (n = 3031)			No Service Hourly reemployed wage (n = 3110)		
	Mean Difference	Std. Error	p	Mean Difference	Std. Error	p
Core/Intensive	-20.48	5.940	.002	1.21	.798	.384
Training[a] and All Levels	-23.60	5.795	< .001	1.47	.777	.174

[a] Includes training, core/training, and intensive/training service levels

Although inferential statistics did not reveal a significant effect of WIA service level on hourly reemployed wage, participants receiving No Service experienced a slightly higher hourly reemployed wage (M = $13.35, SD = $7.87; see Table 7) than individuals receiving core/intensive services (M = $12.14, SD = $6.96; see Table 7). Interestingly, participants who received the highest level of service experienced the lowest hourly wage at reemployment (M = $11.90, SD = $6.63; see Table 7) and were dislocated the highest number of weeks (M = 75.81, SD = 46.126; see Table 7).

Table 7

WIA Service Level Descriptive Statistics for Weeks Dislocated and Hourly Reemployed Wage

WIA service level	***Weeks dislocated*** N = 3031			***Hourly reemployed wage*** N = 3110		
	N	M	SD	*N*	M	SD
Core/Intensive (27.28%)	827	72.69	52.782	841	12.14	6.958
Training[a] and All Levels (70.38%)	2133	75.81	46.126	2191	11.88	6.611
No service (2.34%)	71	52.21	46.165	78	13.35	7.869

[a] Includes training, core/training, and intensive/training service levels

Based on these findings, hypothesis one, type of WIA service (core, intensive, and training) will have a significant effect on time dislocated and reemployed wage, cannot be supported. The direction of the findings was contrary to original expectations. It was expected that participants who received training service might be dislocated longer than others who received core and/or intensive services. However, there was also an expectation that workers participating in training would receive higher reemployed wages when compared to workers who received other services. Instead results showed participants receiving No Service achieved a somewhat higher wage and returned to work between 20 to 24 weeks earlier than those who received any other WIA service level. With these results, one might expect the No Service group to have achieved a higher level of educational attainment prior to dislocation. Interestingly, an examination of the VEC data file discovered 85.6% (n = 470) listed prior educational attainment of Grade 12 or above which reflects similar demographic trends as the entire research population (Table 4).

Research Question Two: Training Credential Effect on Weeks Dislocated and Hourly Reemployed Wage

Research question two expanded the analysis to study how a training credential received after WIA training services affected weeks dislocated and hourly reemployed wage. Consistent with research question one, only 25.23% (n = 2,960) of the 11,731 participants had data recorded for weeks dislocated and 25.85% (n = 3,032) had a recorded hourly reemployed wage. Data collected by the One Stop Centers categorized training participants into eight (8) credential categories: (a) other credential, (b) occupational skills license, (c) occupational skills certificate (d) local board approved

credential, (e) high school diploma or GED, (f) Bachelor's of Arts/Science, (g) Associate of Arts/Science, or (h) no credential. Examined for the number of participants in each group (Appendix I), the analysis discovered three of the eight categories had extremely small samples: (a) 51 completed a local board approved credential, (b) 3 obtained a high school diploma/GED, and (c) 20 received a Bachelor's of Arts/Science.

Additional time is required for participants to complete some training credentials. Therefore, organizing groups according to the time required for credential completion resulted in regrouping the training credential variable into four groups. All Occupational, Other, Board approved, and high school/GED credentials were grouped as short-term training, and all Associate and Bachelor's of Arts and Sciences degrees were grouped together. The third group consisted of those who participated in training services but received no credential.

Weeks dislocated. The ANOVA for weeks dislocated reported $F(2, 2957) = 156.015, p < .001$, partial $\eta^2 = .095$. The strength of the relationship between training credential and weeks dislocated was fairly moderate as assessed by η^2. Recognizing time committed to any training program might affect the number of weeks dislocated, a second ANOVA was run controlling for total weeks in training. Establishing the total weeks in training variable as a covariate, the test of between-subjects effects reported $F(2, 1771) = 7.044, p < .001$, partial $\eta^2 = .008$ suggesting that type of credential still had a significant effect on total weeks dislocated.

Because the weeks dislocated overall F test was significant with a moderate η^2, follow-up tests were conducted to evaluate pair-wise differences among the means using Bonferroni post hoc procedure. Based on Bonferroni's test (Table 8), there is a

significant difference between Associate/Bachelor's grouping and the short-term training group showing a mean difference of 52.58 weeks, $p < .001$. In addition, a significant difference between Associate/Bachelor's grouping and the No Credential group showing a mean difference of 54.64 weeks, $p < .001$.

Table 8

Weeks Dislocated Bonferroni Post Hoc Test

Credential	Associate/Bachelor's – Weeks Dislocated ($n = 244$)		
	Mean Difference	Std. Error	*p*
Short-term Training	52.58	3.275	< .001
No Credential	54.64	3.128	< .001

Hourly reemployed wage. The ANOVA for hourly reemployed wage reported $F(2, 3029) = 11.210, p < .001$, and partial $\eta^2 = .007$. Although the F statistic was somewhat small, the post hoc test (Table 9) reported a significant difference between the short-term training group and Associate/Bachelor's group showing a mean difference of 1.70, $p = .001$. In addition, a significant difference was found between short-term training and no credential showing a mean difference of 1.10, $p < .001$. No other statistically significant differences were found for hourly reemployed wage.

Table 9

Hourly Reemployed Wage Bonferroni Post Hoc Test

Credential	Short-term Training – Hourly Reemployed Wage ($n = 994$)		
	Mean Difference	Std. Error	*p*
Associate/Bachelor's ($n = 248$)	1.699	.474	.001
No Credential ($n = 1787$)	1.103	.264	<. 001

The hypothesis, type of training credential received at the completion of training will not have a significant effect on reemployed wage but will have a significant effect on time dislocated when controlling for time invested in training, was partially supported. Type of credential had a significant impact on both time dislocated and reemployed wage. As expected, there appears to be a negative association between the Associate/Bachelor's training credential and weeks dislocated with participants obtaining a post secondary degree unemployed 124.40 weeks while the short-term training group averaged only 71.82 weeks. Overall, the post secondary degree group experienced unemployment approximately 42% longer than individuals obtaining any other training credential (Table 10). Those completing a short-term training credential would not only be unemployed fewer weeks, but would also receive a slightly higher hourly reemployed wage compared with those who completed Associate or Bachelor's degrees.

Table 10

Training Credential Descriptive Statistics for Weeks Dislocated and Hourly Reemployed Wage

Training credential	***Weeks dislocated*** *(n = 3032)*			***Hourly reemployed wage*** *(n = 3110)*		
	N	M	SD	*N*	M	SD
Short-term Training[a]	975	71.82	48.38	997	12.74	7.19
Associate/Bachelor's	244	124.40	37.79	248	11.04	5.78
No credential	1741	69.76	45.25	1787	11.64	6.51

[a]Occupational Skills License/Certificate, Other Credential, Local Board Approved

Research Question Three: Demographic Characteristics of Training Completers and Non-Completers

Research question three analyzed whether the demographic characteristics of training credential completers significantly differ from non-completers by gender, age, ethnicity, and prior educational attainment. Only those who received training or training in combination with another service level were included in this sample. A contingency table analysis was run for each of the four independent variables.

Grouping for each independent variable was based on (a) previous research studies as used for age and prior educational attainment or (b) sample size to ensure a sufficient number in categories as with ethnicity. Gender consisted of two levels: (a) male and (b) female. Age was grouped into four levels: (a) less than 25, (b) 25-40, (c) 41-55, and (d) older than 55. Ethnicity was categorized into four groups: (a) Asian and Pacific Islander; (b) Black/African American; (c) White; and (d) Hispanic, American Indian, Other Race. Prior educational attainment was organized into four groups: (a) Grades K-11–no high school diploma or GED, (b) Diploma/GED–high school graduate or GED completer, (c) Post Secondary/Associate–one or two years of post secondary education or an Associate's degree, and (d) Bachelor's/Master's–Bachelor's or other advanced degree.

Findings for the independent variables relationship to training completers and non-completers were statistically significant (Table 11). Prior educational attainment had a large chi-square, $\chi^2 (9, N = 7071) = 226.25$, indicating that prior educational attainment and training completion are unlikely to be independent of each other. Gender, age, and

ethnicity also reported statistically significant findings but the strength of the relationship appeared to be moderate as indicated by the relatively small chi square results (Table 11).

Table 11

Independent Variables Relationship to Training Completers and Non-Completers

Independent Variable/ Contingency Table	Pearson χ^2	*p*	Cramer's *V*	*Phi*
Gender / 4 x 2	(3, *N* = 7072) = 47.29	< *.001*	.082	.082
Age / 4 x 4	(9, *N* = 7072) = 28.78	*.001*	.037	.064
Ethnicity / 4 x 4	(9, *N* = 6814) = 46.72	< *.001*	.048	.083
Prior Edu. Attainment / 4 x 4	(9, *N* = 7071) = 226.25	< *.001*	.103	.179

Gender. Total training participants included 39.4% males (*n* = 2,789) and 60.6% females (*n* = 4,283). Those completing a training credential (*n* = 2,688) were represented by 59.7% females (*n* = 1,605) and 40.3% males (*n* = 1,083). Total non-completers (*n* = 4,384) included 61.1% females (*n* = 2,678) and 38.9% males (*n* = 1,706).

Short-term training credentials were completed by 32.9% (*n* = 2,327) of the total training population with 31.1% females (*n* = 1,332) and 35.7% males (*n* = 995) selecting the short-term training option. Only 31 workers completed a high school diploma or GED representing .5% females (*n* = 20) and .4% males (*n* = 11). Interestingly, of those completing either an Associate or Bachelor's degree (*n* = 330), females totaled approximately 76% (*n* = 253) of this group.

Age. Between 30 and 33% of each age category selected short-term training. Every age category reported at least 60% non-completers (Table 12). The highest rate of non-completion was held by the older than age 55 group (67.5%, *n* = 420).

Ethnicity. Between 31% and 49% of each ethnicity group completed short-term training. However, between 50 - 63% in each ethnicity group did not complete training with the Black/African American group reporting the highest rate of non-completion

(63.6%, n = 1,486) and the White group ranking second among non-completers (59.6%, n = 2,522).

Prior education. Dislocated workers who had previously completed a high school diploma or GED (Diploma/GED) represented 58% of the total training participants. Over 32% of the Diploma/GED group completed short-term training, but 62.6% (n =2,567) did not complete training. A short-term credential was the choice of 46.3% (n = 241) of those who held a Bachelor's or advanced degree. Furthermore, 32.5% of the Grades K-11 (n = 327) and 30.5% of the Post Secondary/Associate group (n = 440) also selected short-term training. Perhaps the result of a data entry error, it was interesting that a few participants (n = 5) who were identified as holding at least a high school diploma were also listed as completing a high school diploma/GED.

The chi-square test of the relationship between variables suggested a strong relationship between prior educational attainment and the completion of a credential. Therefore, it is unlikely that prior educational attainment and training completion are independent of each other. The hypothesis, characteristics of training completers and training non-completers will significantly differ by prior educational attainment, was supported by these findings. Analysis of the prior educational attainment variable indicated that individuals who had acquired more education were more likely to complete the training they had selected. For example, 64.1% of workers with less than a high school diploma did not complete the training option. The percentage of non-completers decreased for each level of educational attainment with the most educated group (Bachelor's/Master's) reporting only 52.3% non-completers (Table 12). These results encouraged a follow-up analysis on the employment status of the non-completers. A

cursory review of the data revealed 30.6% of non-completers (n = 1,340) were listed as employed and/or posted a reemployed wage in the Virginia Employment Commission data file. The percentage of completers who obtained a credential after completing WIA training service level and the non-completers are listed in Table 12 by gender, age, ethnicity, and prior educational attainment.

Table 12

Credential Completers and Non-Completers by Group

Group & % Within Group	Completers (n = 2688, 38%)						Non-Completers (n = 4384, 62%)	
	High School/GED		Short-term Training[a]		Associate/ Bachelor's			
	N	%[b]	N	%[b]	N	%[b]	N	%[b]
Gender								
Male (39.4%, n = 2789)	11	.4	995	35.7	77	2.8	1706	61.2
Female (60.6%, n = 4283)	20	.5	1332	31.1	253	5.9	2678	62.5
Age								
Less than 25 (5.9%)	1	.2	132	31.4	27	6.4	260	61.9
25 – 40 (42.3%)	14	.5	995	33.3	164	5.5	1815	60.7
41 – 55 (43.0%)	15	.5	1008	33.1	130	4.3	1889	62.1
Older than 55 (8.8%)	1	.2	192	30.9	9	1.4	420	67.5
Ethnicity								
Asian & Pacific Islander (1.9%)	0	.0	65	49.2	0	.0	67	50.8
Black/African American (34.3%)	3	.1	736	31.5	112	4.8	1486	63.6
White (62.1%)	28	.7	1464	34.6	215	5.1	2522	59.6
Hispanic, American Indian, Other Race (1.7%)	0	.0	54	46.6	2	1.7	60	51.7
Prior Educational Attainment								
Grades K–11 (14.2%)	26	2.6	327	32.5	9	.9	645	64.1
Diploma/GED (58.0%)	3	.1	1318	32.1	213	5.2	2567	62.6
Post Secondary/ Associate (20.4%)	2	.1	440	30.5	101	7.0	900	62.4
Bachelor's/Master's (7.4%)	0	.0	241	46.3	7	1.3	272	52.3

[a] Occupational Skills License/Certificate, Other Credential, Local Board Approved.
[b] Percentage represents the category (row) total within each independent variable group.

Research Question Four: Weeks Dislocated and Hourly Reemployed Wage Difference Based on Independent Variables

Research question four examined differences in weeks dislocated and hourly reemployed wage based on the independent variables of gender, age, ethnicity, and prior educational attainment. Gender consisted of two levels (male and female); age was grouped into four levels (less than 25, 25-40, 41-55, and older than 55); ethnicity had four levels (Asian & Pacific Islander, Black/African American, White, and Hispanic, American Indian, Other Race); and prior educational attainment was categorized into four groups (Grades K-11, Diploma/GED, Post Secondary/Associate, and Bachelor's/Master's).

Weeks dislocated. An ANOVA was conducted on the effect demographic variables of gender, age, ethnicity, and prior educational attainment had on weeks dislocated. Analyzing all four variables and all possible interactions, no statistically significant effects on weeks dislocated were found (presented in Table 13).

Table 13

ANOVA for Main Effect and Interaction Effects of Demographic Variables Effect on Weeks Dislocated

Source	*df*	*MS*	*F*	*p*	η^2
Main effect					
Gender (G)	1	21.359	.009	.924	.000
Ethnicity (E)	3	3047.419	1.315	.268	.001
Age (A)	3	1035.919	.447	.719	.000
Prior Educational Attainment (PEA)	3	2755.313	1.189	.312	.001
Two-way interaction					
G X E	3	3201.563	1.382	.246	.001
G X A	3	1335.731	.577	.630	.001
G X PEA	3	1643.200	.709	.546	.001
E X A	9	1504.515	.649	.755	.002
E X PEA	9	1221.013	.527	.856	.002
A X PEA	9	798.391	.345	.960	.001
Three-way interaction					
G X E X A	6	1994.426	.861	.523	.002
G X E X PEA	9	612.574	.264	.984	.001
G X A X PEA	9	2490.141	1.075	.378	.003
E X A X PEA	21	1660.218	.717	.820	.005
Four-way interaction					
G X E X A X PEA	10	1252.159	.540	.862	.002

Hourly reemployed wage. An ANOVA was conducted on the effect demographic variables of gender, age, ethnicity, and prior educational attainment had on hourly reemployed wage. The test of between-subjects effects for hourly reemployed wage (Table 14) indicated that the main effect demographic variables of gender, ethnicity, and prior educational attainment were statistically significant. Although age did not pass the .05 significance level test, age was considered in all interactions. A significant two-way interaction was found between gender and age ($p = .012$). Also, a three-way interaction was found to be significant ($p = .038$) between gender, ethnicity, and age along with a significant ($p = .034$) four-way interaction (Table 14).

Table 14

ANOVA for Main Effect and Interaction Effects of Demographic Variables Effect on Hourly Reemployed Wage

Source	*df*	*MS*	*F*	*p*	η^2
Main effect					
Gender (G)	1	229.908	6.405	.011	.002
Ethnicity (E)	3	178.936	4.985	.002	.005
Age (A)	3	91.847	2.559	.053	.003
Prior Educational Attainment (PEA)	3	412.279	11.485	<.001	.012
Two-way interaction					
G X E	3	11.236	.313	.816	.000
G X A	3	130.788	3.643	.012	.004
G X PEA	3	22.048	.614	.606	.001
E X A	9	28.862	.804	.613	.003
E X PEA	9	27.996	.780	.635	.002
A X PEA	9	30.863	.860	.561	.003
Three-way interaction					
G X E X A	6	79.987	2.228	.038	.005
G X E X PEA	9	52.653	1.467	.154	.005
G X A X PEA	9	54.832	1.527	.132	.005
E X A X PEA	21	32.283	.899	.592	.007
Four-way interaction					
G X E X A X PEA	10	70.191	1.955	.034	.007

Gender. The mean hourly reemployed wage for all males was higher in every ethnic group than the reemployed wage for all females (Table 15). Appendix J provides means for each gender by ethnicity, grade level, and age.

Table 15

Ethnic Group/Gender Means for Hourly Reemployed Wage

	Males *(n = 1094)*			***Females*** *(n = 1878)*		
Ethnic Group	N	M	SD	*N*	M	SD
Asian & Pacific Islander	40	18.12	8.36	46	16.07	9.44
Black/African American	323	12.29	5.86	770	10.06	4.50
White	711	14.94	8.73	1018	11.04	5.81
Hispanic, American Indian, Other Race	20	15.15	7.61	44	11.29	3.98

Ethnicity. Follow-up tests were conducted to evaluate pair-wise difference among the means using Bonferroni post hoc procedure (Table 16). Significant differences are reported between Asian & Pacific Islander group and all other groups, $p < .001$. The mean difference in hourly reemployed wage indicated that reemployed Asian & Pacific Islander group earned $6.30 more per hour than African-American group, $4.38 more than White, and $4.52 more than Hispanic, American Indian, Other Race. In addition, Bonferroni post hoc test also reported that African American reemployed workers earned $1.92 less than White participants, and $1.78 less than Hispanic, American Indian, Other Race participants.

Table 16

Hourly Reemployed Wage Bonferroni Post Hoc Test for Ethnicity

Ethnicity Group (n = 2971)	Ethnicity Paired Group[a]	Mean Difference	Std. Error	p
Asian	Black	6.2987	.67101	<.001
	White	4.3765	.66195	<.001
	Other Race	4.5215	.98909	<.001
Black	Asian	-6.2987	.67101	<.001
	White	-1.9222	.23153	<.001
	Other Race	-1.7772	.77054	.127
White	Asian	-4.3765	.66195	<.001
	Black	1.9222	.23153	<.001
	Other Race	.1451	.76266	1.000
Other Race	Asian	-4.5215	.98909	<.001
	Black	1.7772	.77054	.127
	White	-.1451	.76266	1.000

[a]Labels are abbreviated

Age. Among the multiple comparisons for the age variable, only interactions with the less than 25 group were statistically significant. As reported in Table 17, mean differences indicated that the less than 25 group averaged earning less than any other age

group: (a) $2.24 less ($p < .001$) than the 25-40 group; $2.39 less ($p < .001$) than the 41-55 group; and (c) $2.06 less ($p = .003$) than the older than 55 group.

Table 17

Hourly Reemployed Wage Bonferroni Post Hoc Test for Age

Age Group ($n = 2971$)	Age Paired Group	Mean Difference	Std. Error	p
Less than 25	25-40 years	-2.2424	.46841	<.001
	41-55 years	-2.3916	.46547	<.001
	Older than 55	-2.0590	.59299	.003
25-40 years	Less than 25 years	2.2424	.46841	<.001
	41-55 years	-.1492	.23707	1.000
	Older than 55	.1834	.43723	1.000
41-55 years	Less than 25 years	2.3916	.46547	<.001
	25-40 years	.1492	.23707	1.000
	Older than 55	.3326	.43408	1.000
Older than 55	Less than 25 years	2.0590	.59299	.003
	25-40 years	-.1834	.43723	1.000
	41-55 years	-.3326	.43408	1.000

Prior educational attainment. Table 18 presents findings of the Bonferroni post hoc test for prior educational attainment and hourly reemployed wage. All interactions were significant with the exception of K-11 group with Post Secondary/Associate group ($p = .093$). Interestingly, the K-11 group reported a mean difference of $1.08 more than Diploma/GED group ($p = .012$). Diploma/GED group reported a mean difference less than all other groups. Post Secondary/Associate group earned $2.03 more than Diploma/GED group ($p < .001$). As expected, the Bachelor's/Master's group had a higher mean difference than each of the other three groups: (a) $7.19 higher than K-11, $p < .001$; (b) $8.28 increase over Diploma/GED group, $p < .001$; and (c) $6.24 more than Post Secondary/Associate group, $p < .001$.

Table 18

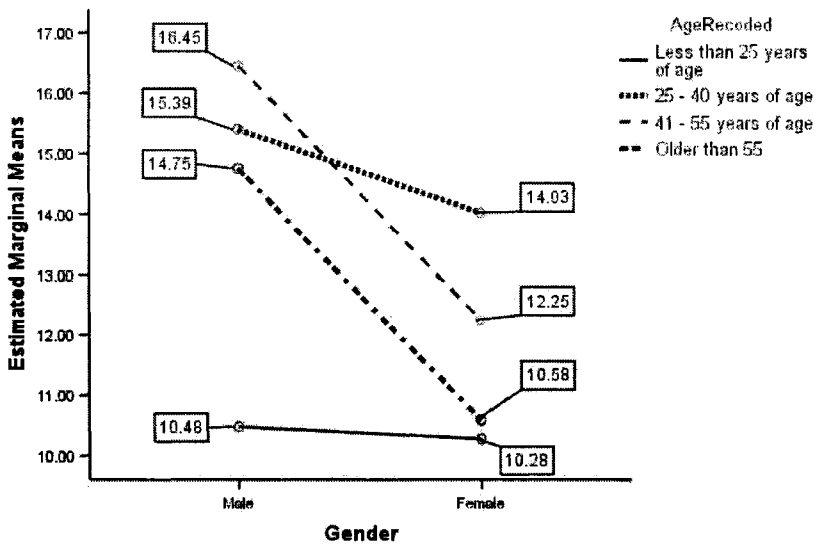
Hourly Reemployed Wage Bonferroni Post Hoc Test for Prior Educational Attainment

PEA Group (n = 2971)	Prior Educational Attainment Paired Group	Mean Difference	Std. Error	p
Grades K-11	Diploma/GED	1.0816	.35002	.012
	Post Secondary/Associate	-.9527	.39275	.092
	Bachelor's/Master's	-7.1944	.47485	<.001
Diploma/GED	Grades K-11	-1.0816	.35002	.012
	Post Secondary/Associate	-2.0343	.27404	<.001
	Bachelor's/Master's	-8.2760	.38252	<.001
Post Secondary/ Associate	Grades K-11	.9527	.39275	.092
	Diploma/GED	2.0343	.27404	<.001
	Bachelor's/Master's	-6.2417	.42197	<.001
Bachelor's/Master's	Grades K-11	7.1944	.47485	<.001
	Diploma/GED	8.2760	.38252	<.001
	Post Secondary/Associate	6.2417	.42197	<.001

Interactions. Figure 1 displays the significant two-way interactions between gender and age. Results indicated males outperformed females in three age groups with hourly reemployed wage appearing to be similar in the less than 25 group (Figure 1).

Figure 1

Estimated Marginal Means of Hourly Reemployed Wage for Gender and Age



Among the three-way interactions, only the results for gender, ethnicity, and age were statistically significant (p = .038). Displayed in Figure 2, the less than 25 group findings suggested both Black/African-American and white males earned approximately the same hourly reemployed wage. However, white females showed a much higher mean hourly wage ($11.63) than all males with Black/African-American females earning the least of all groups (Figure 2). Means were not plotted for Asian & Pacific Islander or Hispanic, American Indian, Other Race groups because only one case was identified in each group.

Figure 2

Estimated Marginal Means of Hourly Reemployed Wage for Gender, Age, Ethnicity: Less than 25 Group

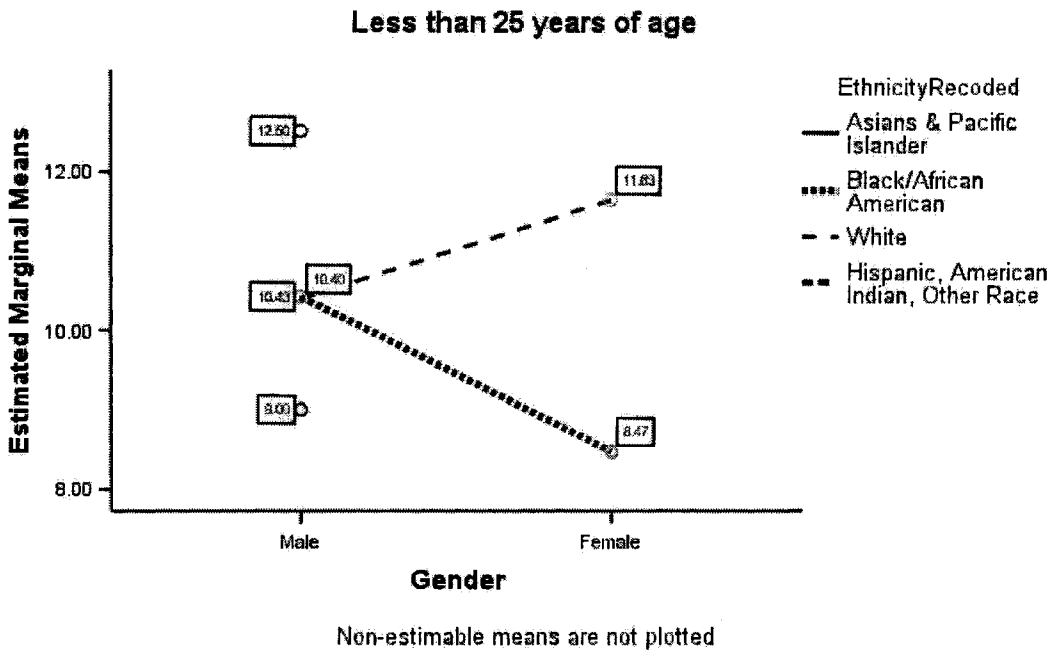
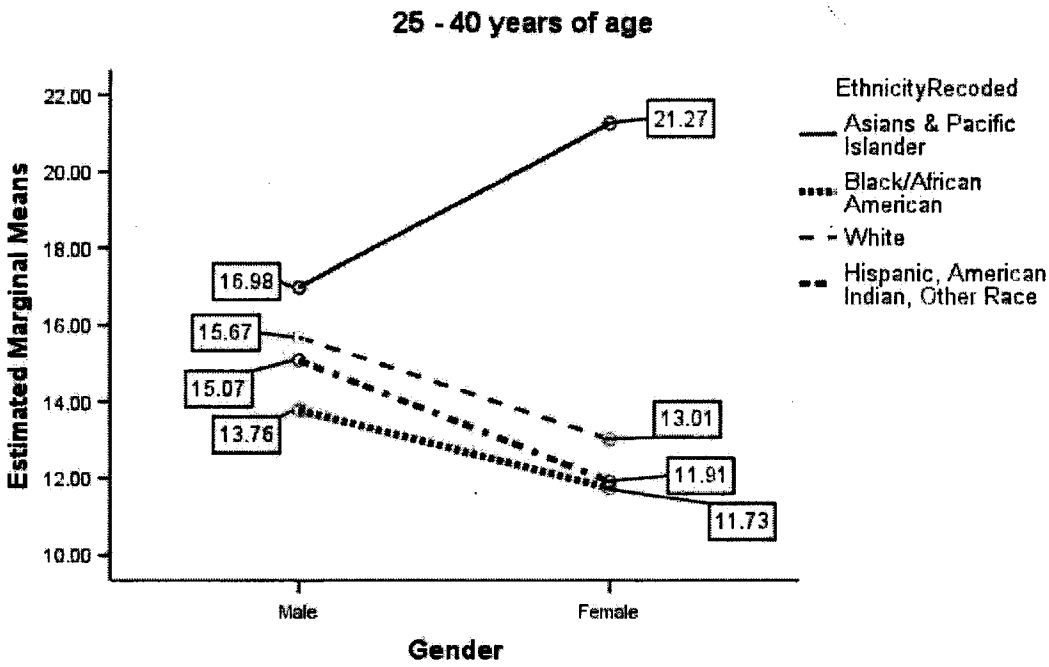


Figure 3 displays the three-way interaction for gender, ethnicity, and age for the 25-40 group. Within three of the ethnicity groups, males averaged earning at least 14% to 16% more than female groups. Only Asian females out performed all male groups.

Figure 3

Estimated Marginal Means of Hourly Reemployed Wage for Gender, Age, Ethnicity: 25-40 Group



The interactions within the 41-55 group and the older than 55 group produced interesting results and are presented in Figure 4 and Figure 5. Males continued to outpace female earnings with Asian and Pacific Islander females earning 27% less than Asian and Pacific Islander males. However in the older than 55 group, Black/African-American females demonstrated a slight gain in hourly wage.

Figure 4

Estimated Marginal Means of Hourly Reemployed Wage Gender, Age, and Ethnicity: 41-55 Group

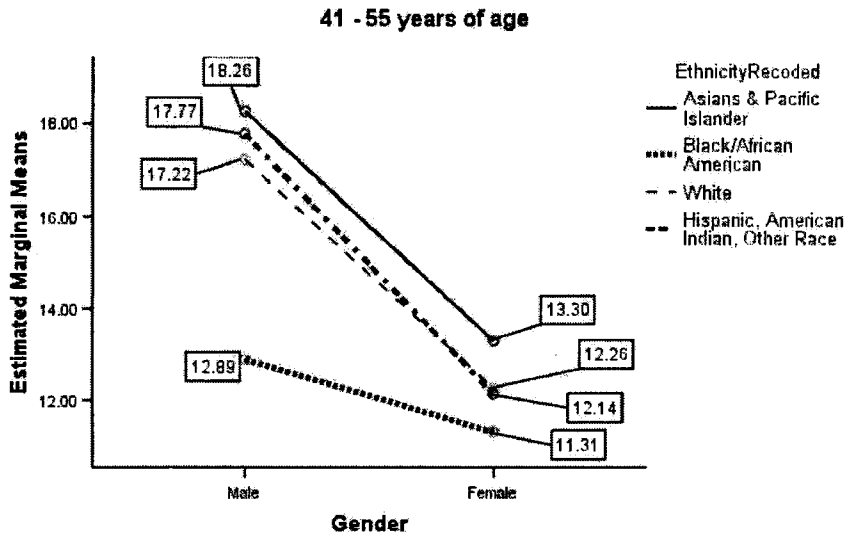
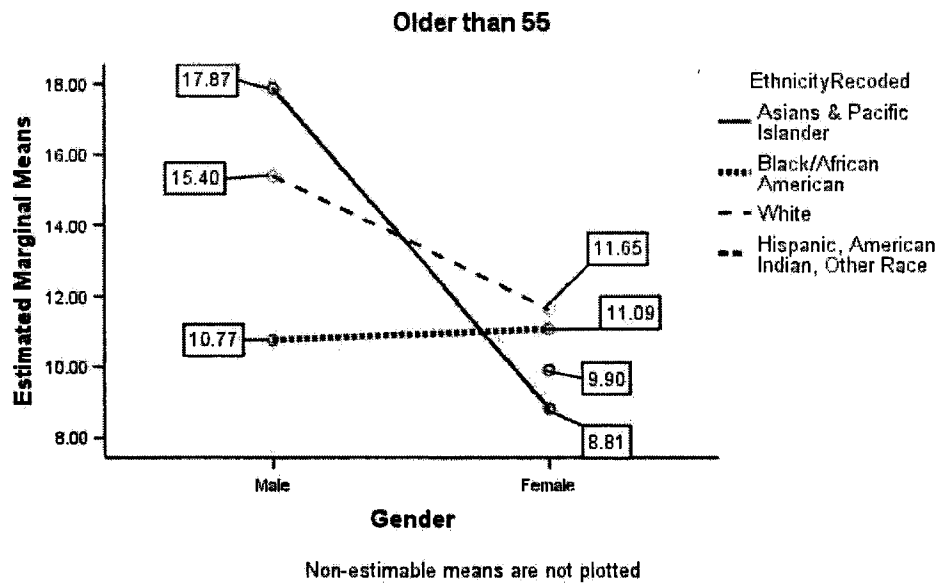


Figure 5

Estimated Marginal Means of Hourly Reemployed Wage Gender, Age, and Ethnicity: Older than 55 Group



The four-way interaction of gender, ethnicity, age, and prior educational attainment with hourly reemployed wage was statistically significant finding a fairly small $F(10, 2972) = 1.955$, partial $\eta^2 = .007$ $p < .034$. The small F statistic suggested that the difference in means might have occurred due to chance alone (Stockburger, 2001). Furthermore, analyzing a higher-order interaction may be complex and difficult to understand (George & Mallery, 2003; Keppel & Wickens, 2004; Neter, Kutner, Nachsheim, & Wasserman, 1996) as well as increase the likelihood of Type I errors (Cohen, 2000). Therefore, the four-way interaction was not interpreted as part of this study.

The hypothesis, weeks dislocated and hourly reemployed wage will differ by groups segmented by prior educational attainment, but will not differ by ethnicity, age, or gender groups, was not supported. Statistically significant differences were found for hourly reemployed wage. However, no statistically significant effects between the demographic variables of gender, age, ethnicity, and prior educational attainment were found on weeks dislocated.

Hourly reemployed wage indicated (a) a two-way interaction between gender and age; (b) a three-way interaction between gender, age, and ethnicity; and (c) a four-way interaction between all demographic variables. An analysis of gender effects discovered that males outperformed or equaled female wages in most all age groups. Exceptions occurred in two age groups: (a) white females demonstrated higher earnings in the less than 25 group and (b) Asian females had higher earnings in the 25-40 group. Black/African-American females earned less than all other groups. Post hoc tests report significant differences between ethnic groups. Additionally, the less than 25 group was

found to earn less than all other age groups. Post hoc test also produced significant results based on prior educational attainment with higher hourly reemployed wages aligned with higher levels of prior educational attainment. One exception existed with the Diploma/GED group earning less than all other groups.

No statistically significant effects between the demographic variables of gender, age, ethnicity, and prior educational attainment were found on weeks dislocated. This finding was somewhat surprising and did not support previous research that reported males, college graduates, and younger workers unemployed fewer weeks than other groups (Butcher & Hallock, 2004; Farber, Haltiwanger, & Abraham, 1997; Helwig, 2004; Helwig, 2001; Hipple, 1999).

Qualitative

Research Question Five: Customer Perceptions of Quality of WIA services and WIA Training Experiences

Telephone interviews were conducted with dislocated workers on their perceptions of the quality of the services provided by WIA One Stop Centers and the quality of their training experiences. Although 269 individuals selected from the Virginia Employment Commission's (VEC) dislocated worker database were invited to be interviewed, only 19 dislocated workers participated. Among the participants, 47.4% were female (n = 9) and 52.6% were male (n = 10). The original sample of 269 dislocated workers included 37.2% (n = 100) African-American, 60.2% (n = 162) White, 1.1% (n = 3) Asian, .4% (n = 1) American Indian, .4% Hispanic (n = 1), and .7% (n = 2) missing data. However, only 10.5% of the respondents were African-American and 89.5% were White. No other ethnicity group agreed to participate in the interviews.

Participants' ages were distributed mostly in the 41-54 age group (n = 12, 63.2%) with 10.5% (n = 2) between 25-40 and 21.1% (n = 4) 55 years and older. Table 20 presents the frequency data on dislocated industry and position/job type, prior educational attainment (before dislocation), and weeks unemployed.

Table 19

Frequency Dislocation Data

Dislocated Issue	*n* (N = 19)	%
Dislocated Industry Type		
Textiles	4	21.1
Other manufacturing	4	21.1
Information technology/telecommunication	5	26.3
Business, government, & other	6	31.6
Position/Job Type		
Hourly worker	6	31.6
Senior-level technician/supervisor	10	52.6
Management or education	3	15.8
Prior Educational Attainment (before dislocation)		
Less than high school	1	5.3
High school diploma/GED	4	21.1
Some college but no degree	8	42.1
Associate degree, certificate, diploma, or skill certificate	2	10.5
Bachelor's or graduate degree	4	21.1
Weeks Unemployed		
52 weeks or less	7	36.8
53 – 104 weeks	3	15.8
More than 104 weeks	7	36.8
Missing data (Retired, not looking for work)	2	10.5

When participants were asked if they were reemployed, 11 (57.9%) reported reemployed in full-time positions, 5 (26.3%) were employed in part-time or temporary positions, 1 (5.3%) was not employed, and 2 (10.5%) identified themselves as retired and not looking for work. Only 47.4% (n = 9) of those employed full-time had any fringe benefits. Of the 17 employed participants, 73.6% (n = 14) were either satisfied or very satisfied with their current position, 10.5% (n = 2) were neutral, and only 5.3% (n = 1)

were dissatisfied. When asked why the job was dissatisfying, one participant indicated that the salary was low but the job was less stressful. It is interesting to note that 52.9% (n = 9) of those employed reported wages less than their previous wage with 35.3% (n = 6) indicating their wages were more than the pre-dislocation wage.

Although all of the individuals selected for the interviews were identified in the VEC database as having received training services, three (3) participants reported that only core or core and intensive services were provided with no training services received or offered by the One Stop Center staff. One of the three commented that although training was not offered by WIA, training was completed and paid for by the participant. The remaining 16 (84.21%) participants received all levels of WIA services including training. Dislocated workers may also be eligible for WIA support services that included payments for mileage, child care, emergency assistance, and stipends. Only 26.3% (n = 5) of the participants reported receiving any support services.

Perception of WIA services. Among the 19 interview participants, only two (10.5%) were non-completers of training programs, and one did not participate in training. When asked what was their perception of the WIA services received while dislocated, 57.95% (n = 11) stated that the services were "excellent," "very nice," "top notch," "thorough, caring, showed respect to the individual," "got more than I expected," and "allowed her to have dignity." Those who perceived WIA services as being either satisfactory or very satisfactory referenced the personal attention provided to them by the WIA staff and the assistance provided as they navigated through the stress of unemployment. One participant commented, "it was outstanding to have the value given back to you at a very low period in a person's life." Others commented that they were in

shock and needed the WIA staff who were "knowledgeable, professional, and friendly." In addition, WIA services enabled individuals to discover supporting resources and potential job openings.

As would be expected, not all dislocated workers spoke highly of the WIA services they received with 42.1% ($n = 8$) encountering negative experiences while seeking services from the One Stop Centers. Only one (1) non-completer expressed dissatisfaction with WIA services. Participants stated that the staff was "disinterested and were not available" even though repeated requests for assistance were made. When asked why the staff responded in this manner, the participant indicated that there was only one counselor in the center and her previous high wage and Bachelor's degree may have been used as a reason not to provide service. Another individual commented that the personnel were not forthcoming with information and only told a select few. "Overall it was a joke" and "it didn't seem that WIA was very informed on what was going on or how to handle the people." Participants also reported issues with delayed mileage payments, travel distance to WIA offices, lack of experienced personnel, and closure of local offices.

Perception of training services. During the telephone interview, participants were asked what they thought of the training program and what effect training had on obtaining their current job. One participant indicated that she was not eligible for training as a WIA service. Positive responses were received from 84.2% ($n = 16$) with most commenting that the training was "very good," "excellent," and "program and courses were outstanding." Participants completed short-term training for skill certification, community college coursework, Associate degrees at community colleges,

and Bachelor's degrees at four-year institutions. Individuals who did not complete the training made two of the 16 positive comments.

Two other responses (10.5%) were somewhat negative. One participant reported that she was unsure about "what she was getting into and was locked into a program and couldn't make a change." Another stated that "it was just a training program, not a true information technology educational program, just enough to get you started in the field." Both individuals completed training at a community college.

One would expect that customer perceptions of quality of WIA services and WIA training experience would differ between those who completed training and those who did not complete training. More specifically, it was anticipated that non-completers would perceive WIA and training as somewhat useless. However, among those interviewed, 42.1% had a negative experience and only one of the participants reporting an unfavorable perception was a non-completer. The majority of both completers and non-completers favored the services provided by the One Stop Centers and were pleased with the training they received.

Research Question Six: Employer Perceptions of WIA Services

A small sample of businesses and industries that had utilized WIA services were invited to participate in a telephone interview. Although requests were made to each of the 17 WIA district offices to submit company names that might participate in the interview, only four districts complied with only three companies agreeing to be interviewed. All three companies were manufacturing industries employing between 200 and 1600 employees that had been in business between 40 and 100 years.

WIA interaction. Industries had interacted with WIA One Stop Centers in order to create a bridge between the companies' employment demands and the potential workforce served by the One Stop Centers. One company reported more than 25% (n = 108) of its workforce was secured from the One Stop Centers. Another company incorporated on-the-job-training as part of its plan to remain competitive. Two of the three companies collaborated with the centers to recruit individuals to apply for job openings, arrange meetings with potential workers, and assess workers' skills.

Expectation. Industry representatives reported they expected WIA One Stop Centers to sponsor job fairs with other employers as well as for the individual company, advertise openings, and provide job referrals. There was also an expectation that the One Stop staff would develop a working knowledge of the industry and understand employment needs in order to assist the company in filling different jobs. Overall, industries wanted One Stop staff to be responsive, provide service, and minimize required paperwork. One company "thought it would be like working with the Virginia Employment Commission (VEC)," but discovered the One Stop staff partnered with the company more easily than the VEC.

Experience with One Stop. Two of the three industries reported exceptional experiences with the One Stop Centers. "The work has been outstanding and staff responded in a professional manner." A representative reported that his company was "absolutely pleased with every encounter." Because of the positive relationship, the industry had recently agreed to be a partner in a successful community faith-based grant proposal.

The third industry expressed concern regarding the initial working relationship with the One Stop. Apparently, the One Stop had implemented procedures in handling on-the-job training contracts that created confusion and delays in obtaining approvals. However, once a change was made in the One Stop provider contract and the center began operating under the management of the local Virginia Employment Commission, approval processes were more efficient and working relationships greatly improved. Having utilized on-the-job-training services and believing the WIA program can be heavily bureaucratic, the industry encouraged policymakers to be creative in addressing issues and reduce the number of regulations and guidelines governing industrial relationships.

Perception of workers served by WIA. Adult and dislocated workers served by WIA One Stop Centers are somewhat attractive as potential employees to the three industries participating in the interview. One company stated that there were some employment success stories, but he would like to see workers' attitudes toward work and the work ethic improve. Another representative noted that the company hired a worker based on a positive attitude and then trained the worker with the required skills. There was frustration among the industries in not finding better-prepared workers from the One Stop Centers. One industrial representative commented that WIA has the programs, "but the people don't participate." His company wanted people who would be leaders. They had partnered with the One Stop to assess a worker's educational level with the company offering GED classes when needed. The company even went a step further and requested the community college to provide instructors for leadership courses. However, the community college became focused on "selling them credit hours and could not get past

the idea of a credit." Ultimately, the community college's credit costs were too high, no instructors were identified, and the company was left without support. Therefore, the company developed internal training programs encouraging creative thinking and designed opportunities to educate the workers presently employed by the industry.

Beneficial services. For one company, the most beneficial WIA service was on-the-job-training which has allowed the industry time to train its newly hired employees at a reduced cost. The company had also begun to utilize the incumbent worker program. Although policy issues are still being resolved, the company believed the option "has the potential to be a strong program for business and industry." Two other industries reported that all services had been very satisfactory.

Least effective services. Two companies reported that every service had been beneficial. The third company indicated that career counseling was perhaps the least effective. "In the past, the counselors were directing people into programs with no job opportunities in the area instead of working with businesses and economic development offices to determine where the jobs were and getting the people training in those areas."

Effect of training on dislocated worker's reemployment. Two companies indicated that they had not "had an opportunity to evaluate the effect of training on reemployment." The third company indicated it made workers more attractive to the company if the potential employee had training or experience. The company had actually tried to get a training program designed specifically for their company but had not yet been successful.

Industry representatives think One Stop Centers have done a good job in working with local companies, but believe the One Stop may be burdened with bureaucracy. Two

industries expressed a desire to have One Stop staff "step outside the box and use tools other than WorkKeys" when serving their companies. A third industry encouraged other employers to avail themselves of the services. "If there is a problem with any WIA One Stop Center, it is not the fault of the agency. The employer must work with the WIA, letting them know the company's objectives and requirements. WIA will work with the employer."

In many instances employer perceptions of WIA services and the dislocated worker as an employee reflected the employers' utilization of available services. For example, two of the three companies had engaged WIA One Stop Center staff as employment and training partners. These two companies provided very favorable comments. The third company had only limited use of WIA service and expressed some dissatisfaction with procedures and response time.

Summary

A comprehensive assessment was completed on individuals dislocated from their jobs between January 2000 and December 2004 searching for results to six research questions. Descriptive statistics on the research population were interesting but not surprising. Females composed 60% of the population with 52.4.9% of the population 41 and older. Ethnic groups were mainly represented by White (60.5%) and Black/African-American (39.5). Other ethnic groups included Hispanic/Latino (2.4%), Asian (1.9%), American Indian (.4%), and Pacific Islander (.3%). The majority (59.6%) of the participants received a combination of core and training, intensive and training, training alone, or all three levels of WIA service. Even though approximately 95% of the

dislocated workers received some type of WIA service, only 33.8% were identified as reemployed at the time they exited the WIA support system (Table 1).

Question one. Research question one asked how type or intensity of WIA service level affected weeks dislocated and hourly reemployed wage. Significant results were found for weeks dislocated but not for hourly reemployed wage. Findings indicated that individuals who received No Service returned to work 20 to 24 weeks earlier than any of the other two groups with those receiving training dislocated the highest number of weeks and earning the lowest hourly wage. Based on these findings, hypothesis one cannot be supported.

Question two. Research question two focused on how a training credential received after the completion of WIA services affected the two dependent variables: (a) weeks dislocated and (b) hourly reemployed wage. The hypothesis, type of training credential received at the completion of training will not have a significant effect on reemployed wage but will have a significant effect on time dislocated when controlling for time invested in training, was partially supported. Type of training credential had a significant impact on both time dislocated and reemployed wage. For weeks dislocated, significant differences were found between Associate/Bachelor's grouping and the short-term training group and between Associate/Bachelor's grouping and the No Credential group. Those completing no credential or a short-term credential averaged reemployment within 69 to 72 weeks compared to individuals completing an Associate or Bachelor's degree who averaged 124 weeks of unemployment (Table 10). Parallel to these findings, significant difference was determined for the hourly reemployed wage variable between Associate/Bachelor's group and the short-term training group with short-term training

reporting a higher reemployed hourly wage. Results indicated that individuals completing short-term training credentials would not only be unemployed fewer weeks, but would also receive a slightly higher hourly wage compared to those who completed a two-year or four-year degree.

Question three. Analysis for research question three addressed how the characteristics of training completers and training non-completers differ based on the demographic variables of gender, age, ethnicity, and prior educational attainment. The chi-square test of the relationship between variables suggested that there was a strong relationship between prior educational attainment and the completion of a credential with the percentage of completers ranking the lowest among individuals with less than a high school diploma (35.9%) and highest among those who had completed at least 16-18 years of education (47.7%) prior to being dislocated (Table 11). Therefore, the hypothesis, characteristics of training completers and training non-completers will significantly differ by prior educational attainment, was supported by these findings.

Question four. Within research question four, differences in hourly reemployed wage and weeks dislocated were examined based on gender, age, ethnicity, and prior educational attainment. The hypothesis, hourly reemployed wage and weeks dislocated will differ by groups segmented by prior educational attainment, but will not differ by ethnicity, age, or gender groups, was not supported. Three of the four demographic variables (gender, ethnicity, and prior educational attainment) were found to have a statistically significant effect on only hourly reemployed wage (Table 14). However, the demographic variables had no statistically significant effect on weeks dislocated (Table 13).

A significant interaction occurred between hourly reemployed wage and (a) gender and age; (b) gender, age, and ethnicity; and (c) gender, age, ethnicity, and prior educational attainment. The less than 25 group findings suggested both Black/African-American and White males earned approximately the same hourly reemployed wage. However, white females showed a much higher mean hourly wage ($11.63) than all males with Black/African-American females earning the least of all groups (Figure 2). For the 25-40 group, three of the male ethnicity groups averaged earnings at least 14% to 16% higher than female groups. Only Asian females out performed all male groups (Figure 3). Within the 41-55 group, males continued to outpace female earnings with Asian and Pacific Islander females earning 27% less than Asian and Pacific Islander males. However in the older than 55 group, Black/African-American females demonstrated a slight gain in hourly wage (Figure 4 and Figure 5).

Question five. Interview responses centered on the interactions between One Stop staff and the dislocated worker. Dislocated workers (n = 19) who participated in telephone interviews related numerous examples of how One Stop Center staff either provided "top notch" service allowing them to "have dignity" during a crisis or indicated that the staff was 'disinterested," "not informed," or lacked the experience in "how to handle people."

Perceptions of training were highly favorable defining the programs as "excellent" or "outstanding." Only 2 of the 19 participants expressed dissatisfaction with training. These 2 participants indicated that once a training program was selected, "no change could be made" or the program was "just enough" to get started and not a true educational program.

Question six. Employer perceptions of WIA services were mostly favorable. The companies expected WIA One Stop Centers to know the companies' operations and promote their employment needs to potential workers. Interactions with WIA One Stop Centers were characterized as "exceptional" for two of the three companies. The third company expressed concerns over procedural activities and the timeliness of responses.

CHAPTER 5

DISCUSSION

The research questions addressed in this study are important ones given that billions of federal dollars have been invested through the 1998 Workforce Investment Act (WIA) in states and local communities to increase the skilled workforce and to support individuals who require training, education, and employment services. Fully implemented in 2000, America's unemployed adults, incumbent workers, and dislocated workers along with youth were welcomed into the one-stop system to begin their journey to employment (WIA, 1998).

The present study investigated differences in hourly reemployed wage and weeks dislocated among Virginia dislocated workers. Analysis of variance with follow-up post hoc tests probed for statistically significant differences in hourly reemployed wage and weeks dislocated affected by (a) WIA service level, (b) impact of training, (c) characteristics of training completers and non-completers, and (d) impact of dislocated worker characteristics. In addition, qualitative methods were employed to examine trends and patterns in the perceptions of both customers and employers.

Effect of WIA Service Level

Striving to improve employability and earnings, WIA offers three levels of service to its customers: (a) core, (b) intensive, and (c) training (U.S. Department of Labor, n.d.d; WIA, § 122, 1998; WIA, §134, 1998). A study completed by Mathematica Policy Research, Inc., and Social Policy Research Associates (2001) reported One Stop Center personnel were committed to a "work-first" attitude and authorized training only when it was "absolutely necessary" (D'Amico, Martinez, Salzman, Wagner, Decker,

2001). Within the total research population of Virginia dislocated workers, 4.7% received no service, 35.7% received core and/or intensive, and 59.6% participated in training (see Table 4). Among the reemployed dislocated worker group, only 2.3% received no service, 27.3% completed core and/or intensive, and 70.4% selected training (see Table 7). With over 70% of Virginia's dislocated workers participating in training services, the 2001 Mathematica findings were not supported by this study.

Nauth (1996) studied Minnesota dislocated workers who participated in educational services at post secondary institutions and found that participants enrolled at technical colleges remained in support programs longer than those who entered other colleges or training programs including job search activities. Although the analysis of Virginia data did not record the type of training institution, findings supported Nauth's results that training programs affected the length of unemployment. The level of WIA service received by the dislocated worker had significant effect on the number of weeks dislocated but did not affect hourly reemployed wage. Follow-up post hoc tests revealed that individuals who received no service returned to work 20 to 24 weeks earlier than those who received either core/intensive or training/any combination of service[s].

It was expected that dislocated workers selecting training services would be dislocated longer than other groups. However, it was surprising that no statistically significant difference was found between the core/intensive group and the training group in the number of weeks dislocated or in the reemployed wage. Recognizing the No service group returned to work in less time than the other groups, one could clearly state that all WIA support services prolonged the time individuals were unemployed.

Therefore, policymakers may conclude that WIA service created delays to reemployment. These assertions would be factual, but would not accurately represent the findings.

The small population of 71 individuals identified in the No service group reported similar prior educational attainment as the research population and obviously unknown factors affected their eligibility for service or their decision to accept service. Furthermore, the No service group may have possessed in-demand job skills resulting in reemployment and exiting the WIA system at a faster rate that those receiving WIA services. Overall, the key finding is not related to the No service group, but is centered on the absence of statistically significant differences between the core/intensive group and the training group in number of weeks dislocated or in reemployed wage.

Effect of Training Credential

Kodrzycki (1997) recommended that displaced workers be given a choice regarding their training. As part of Kodrzycki's research, training was found to be the choice of workers with higher academic ability; and, when coupled with the workers' previous work history, enabled them to make substantial changes in their careers. Benedict and Vanderhart (1997) reported that factors such as the lack of industry-required skills and low educational attainment were forceful obstacles to reemployment. However, studies on the Job Training Partnership Act program did not find training to improve reemployment or to increase the reemployed wage unless the training was for in-demand skills, comprehensive, and connected to previous work experience (Koppel & Hoffman, 1996). In a study conducted on unemployed workers in Canada, a positive effect of retraining on reemployment was "largely unobserved" and suggested that training programs must be targeted to the recipient's needs (Mazerolle & Singh, 2004).

Another study reported that individuals who completed training at a community college would experience a financial benefit especially if the training was at least one year and in an occupational program (Osterman, 2005).

Since its implementation, WIA programs offered dislocated workers a choice of training from an array of eligible providers thereby allowing workers to develop in-demand skills and complete educational credentials. Findings from this research study on Virginia dislocated workers indicated that the type of training credential had a significant impact on both time dislocated and reemployed wage. Individuals completing Associate or Bachelor's degrees averaged 124 weeks of unemployment. However, those completing no credential or a short-term credential averaged reemployment within 69 to 72 weeks. Parallel to these findings, individuals completing a short-term training credential reported a higher reemployed hourly wage than any other group. Results indicated that individuals completing short-term training credentials would not only be unemployed fewer weeks, but would also receive a slightly higher hourly wage compared to those who completed a two-year or four-year degree.

In previous research, Lucas (1994) analyzed training systems implemented throughout the world and argued that the unemployed worker should receive a more general training program thereby creating expanded options for reemployment. Leigh's study (as cited in John J. Heldrich, 2005a) indicated that short-term training had a modest impact with customized and on-the-job training resulting in higher earnings. Findings in this Virginia study did not support general training programs, but concluded that short-term training resulted in fewer weeks dislocated.

Effect of Gender, Age, Ethnicity and Prior Educational Attainment

In its August 2006 news release, Monthly Labor Review reported its findings on U.S. workers dislocated between January 2003 and December 2005. Findings indicated 77% of males and 66% of females were reemployed by January 2006. In addition, 70% to 72% of White, Black, and Asian groups were reemployed with only 60% of Hispanics securing reemployment by January 2006. Workers ages 25-54 reported a 75% reemployment rate with the 20-24 age group experiencing 66% reemployment and 61% for those 55 to 64 (U.S. Department of Labor, 2006). These findings are similar to past studies that indicated women experienced more weeks unemployed than men (Helwig, 2001; Mazerolle & Singh, 2004). Benedict and Vanderhart (1997) found that more highly educated groups were more likely to be reemployed regardless of the type of industry and that whites had higher rates of reemployment than other ethnic groups. Other studies conducted on dislocated workers during the past decade have also indicated that those with a college degree were reemployed at higher rates than those who held only a high school diploma (Butcher & Hallock, 2004; Hipple, 1999) and that those with less than a high school diploma have experienced higher unemployment rates (Fallick, 1996; Hipple, 1999; U.S. Department of Labor, n.d.e).

In this study on Virginia dislocated workers, demographic characteristics had no statistically significant effect on weeks dislocated. However, females experienced more weeks dislocated than males in every ethnic group with the exception of the Hispanic group. Among the various age groups, females also experienced longer unemployment times except in the 41 to 55 age group (Appendix J).

Simmons (1995) found that training with practical value would prove to be a primary motivation for attending and completing the program with lower skilled workers completing training in order to obtain employment. However, findings in the current study did not indicate this to be the pattern of behavior. An analysis of all individuals who participated in training services found that individuals who had completed at least 16-18 years of education (Bachelor's or advanced degrees) ranked highest among credential completers. Individuals with less than a high school diploma ranked highest among non-completers.

Previous research on wage analyzed pre- and post-dislocation earnings and found post-dislocation wages were consistently lower (Farber, Haltiwanger, & Abraham, 1997; Hipple, 1999; Keltzer, 1998; Kodrzychi, 1997; Polsky, 1999; Stevens, 1997). Because of missing data, no comparison was made between pre- and post-dislocation wages. However, a comparison of hourly reemployed wages by demographic variable was conducted. Findings indicated that hourly reemployed wage was significantly influenced by interactions occurring between and (a) gender and age; (b) gender, age, and ethnicity; and (c) gender, age, ethnicity, and prior educational attainment. The less than 25 years of age group found both Black/African-American and White males earned approximately the same hourly reemployed wage. However, in this age group, white females showed a higher mean hourly wage than all males with Black/African-American females earning the least of all groups. For the 25-40 age group, three of the male ethnicity groups averaged earnings higher than female groups. Only Asian females out performed males overall. Within the 41-55 age group, males continued to outpace female earnings with Asian and Pacific Islander females earning less than males in most other ethnic groups.

However in the older than 55 group, Black/African-American females demonstrated a slight gain in hourly wage only exceeding Black male earnings which ranked the lowest among all male wages. All other female earnings remained less than male earnings.

Perceptions of Dislocated Workers

Never is an individual more in need of support than when that person is dislocated from a job, and all access to financial resources has been removed. Dislocated workers who participated in telephone interviews related numerous examples of how One Stop Center staff provided professional, knowledgeable, and "top notch" services allowing them to "have dignity" during a crisis. Overall importance was placed on being valued by someone while managing the stress of unemployment. Only one participant indicated that the staff was 'disinterested" and not informed. From these interviews, one concludes that personal and career counseling services are considered to be a highly valued service offered by WIA staff. These findings supported a 2005 study conducted by the John J. Heldrich Center for Workforce Development. Heldrich findings indicated that dislocated workers struggled to cope with stress and depression resulting from job loss. The interviewed workers valued the One Stop peer support groups for validating and reinforcing the workers' self-worth (John J. Heldrich, 2005a).

Furthermore, the Heldrich study (2005a) uncovered three criticisms of One Stop Centers by dislocated workers: (a) service inconsistency between sites, (b) inability to connect unemployed with available jobs, and (c) services appeared to be oriented to the "less-skilled workers." Interviews with Virginia participants also discovered similar comments related to closed offices requiring participants to drive into another community

for service and the appearance that One Stop staff did not know how to or did not prefer to serve individuals who had completed some post-secondary education.

In past studies, community college graduates reported high approval ratings of their training (VanDerLinden, 2003) and higher wages based on coursework in technical areas, mathematics, or science (Jacobson, LaLonde, & Sullivan, 2005). The National Education Longitudinal Survey of 1988 found that community college graduates earning an associate degree enjoyed higher wages than those who held only a high school diploma and that females earned 5 to 10% more for each year completed at a community college (Marcotte, Bailey, Borkoski & Kienzl, 2005). A study conducted by the Community College Research Center (Bailey, Kienzl, & Marcotte, 2004) also found that females with at least a one-year post-secondary certificate would experience higher wages than a high school graduate. Bachelor's degrees would result in earnings increasing by 56% and 66% above high school graduates for both men and women (Bailey, Kienzl, & Marcotte, 2004).

Perceptions of training services reported by Virginia's dislocated workers were highly favorable with participants defining the programs as "excellent" or "outstanding." Only 2 of the 19 participants expressed dissatisfaction with training. These 2 participants indicated that once a training program was selected, "no change could be made" or the program was "just enough" to get started and not a true educational program. Although not confirmed by the Virginia Employment Commission database, over 65% of the interview participants chose a training provider other than a community college. In most cases, the training provider was a for-profit training group offering short-term training. However, only 35.3% reported higher wages after completing training. This finding was

consistent with Kodrzycki (1997) study on the Job Training Partnership Act program which indicated that the median pay for workers who chose training was less than in their previous jobs.

Perceptions of Employers

In the Heldrich report (2005a) on public and private strategies for getting dislocated workers reemployed, two-thirds of the New Jersey companies surveyed reported a positive relationship between training incumbent workers and productivity. However, other companies in the Heldrich study (2005a) were "suspicious" and preferred to not access services provided by government agencies. In a GAO study (2001), employers questioned how agency programs such as apprenticeship could benefit them. Virginia employers supported a partnership between One Stop Centers and their company in training incumbent workers. Overall employer perceptions of WIA services were mostly favorable with company representatives expecting WIA One Stop Centers to know the companies' operations and promote their employment needs to potential workers. Interactions with WIA One Stop Centers were categorized as "exceptional" for two of the three companies. The third company expressed concerns over procedural activities and the timeliness of responses.

Data collected by the John J. Heldrich Center for Workforce Development (2005b) found that 86% of 400 New Jersey employers believed graduates of two- and four-year institutions were prepared for employment. Virginia's employers were still searching for better-prepared workers. One employer expressed concern that the community college was too rigid in its commitment to credit-based courses and standardized workforce development tools such as WorkKeys. The company

representative believed the community college was unwilling to develop flexible training programs to educate the company's incumbent workers.

Limitations

The U.S. Government Accountability Office (2005) reported a lack of confidence in WIA data collection and management. However, the U.S. Department of Labor responded to these concerns by implementing data validation procedures (U.S. GAO, 2005). In this study, data entry did not result in any record being omitted, but was perhaps the most immediate limitation of this study. Entries identified individuals as reemployed, but had no reemployment wage entered. Therefore, the differences were analyzed between groups based only on reemployed wage with no analysis conducted on differences between pre- and post-dislocated wage. Wages entries varied by WIA region and were entered as hourly, weekly, monthly, or annual. Therefore, wage entries were required to be recalculated with all entries representing hourly rates. In addition, some data entered for dates dislocated and dates reemployed resulted in a negative number of weeks dislocated. These entries were obviously errors requiring the specific entries to be deleted and considered as missing data. The *Virginia Workforce Center Post-Exit Survey* was one source of data for the Virginia Employment Commission's database. Since all information collected from dislocated workers was self-reported to One Stop Center staff, data accuracy and completeness were dependent upon the staff's competency in entering results from the surveys. Although acceptable WIA procedures were followed, errors may exist and may affect internal validity.

In measuring perceptions of service and experiences, developing rapport with those being interviewed prior to the scheduled telephone conversation may have

enhanced participant candor. However, no procedures were available to ensure that forthright and honest responses were given by the participants under self-reporting conditions. Therefore, participants may have delivered comments that are assumed to match the researcher's desired response thereby threatening internal validity. It was the intuitive task of the researcher to limit this type of response through the questionnaire design of non-directional questions.

Although the telephone interview instrument was developed with unknown reliability and validity, extensive procedures were implemented to enhance both reliability and validity. Content validity was enhanced by identifying each question's relationship to the research questions as defined by the blueprint (Appendix A and B), by obtaining an evaluation from a WIA One Stop director and a VEC office manager, and by pilot testing the instrument on two dislocated workers and one employer. Reliability was enhanced by returning the interview summary to each participant for review and by securing an external evaluator's review of interview summaries and field notes.

External validity may be affected by the high unemployment rates within several Virginia regions. Because of a lack of job openings within dislocated workers' communities, reemployment opportunities may have been limited thereby increasing the time workers were dislocated. Virginia experienced unemployment rates ranging from 1.9% in December 2000 to 4.5% January 2002 (Virginia, 2005). However, among Virginia's 17 Workforce Centers included in this study, unemployment rates ranged from 0.9% in Region 11 during December 2000 to 12.4% in Region 17 during July 2002 (Virginia, 2005). Actually, Region 17 has always experienced higher unemployment rates than any other region in Virginia and has averaged double-digit unemployment

since December 2001. The reemployment limitations of the dislocated workers because of regional unemployment were not part of this study but do affect the study's external validity.

The study was limited to the dislocated workers served by the 17 Virginia Workforce Investment Board One Stop Centers and did not include statistics from any other state. Economic conditions in other states may produce different rates of reemployment and more positive wage results. Furthermore, the small sample size of the qualitative phase may also affect external validity. Every effort was made to encourage participation, but customers and employers did not respond favorably to the requests. However, WIA leadership should have been engaged in communicating the need to participate in the study to the selected dislocated workers. The biases of those who agreed to be interviewed may reflect only the opinions of the small sample and not the entire population. Therefore, the ability to generalize to the entire population or to dislocated workers in other states is limited.

Implications

Virginia dislocated workers who received no Workforce Investment Act (WIA) services were unemployed fewer weeks than those who received WIA services. No statistically significant differences were found in the reemployed wages of the dislocated workers participating in WIA services or those who did not received service. However, for those who were eligible for and chose to enroll in training services, a short-term training credential was found to equip workers for reemployment resulting in fewer weeks dislocated and a slightly higher wage than individuals completing other training credentials. Although workers who received no service and/or no training credential

averaged returning to work weeks earlier than individuals completing a short-term training credential, they did not earn a higher wage than workers holding this credential.

The findings related to the effect of short-term training have implications for future WIA policy development and practices within One Stop Centers. Eligible training providers have the capacity to implement new programs that accommodate dislocated workers' and employers' needs based on these results. Findings also provide a research base to support the recommendations published in 2001 by the U.S. Department of Labor to create specific training strategies that would develop needed reemployment skills in dislocated workers (U.S. Department of Labor, 2001). As Congress works to reauthorize the Workforce Investment Act of 1998 with the passage of the Workforce Investment Act Amendments of 2005, both the President and members of Congress are striving to "empower" America's workforce through innovative training programs for high-growth industries. Legislation such as H.R. 27: Job Training Improvement Act of 2005 has been designed to improve the effectiveness and flexibility of WIA services and address issues related to performance standards, standards for determining eligible providers of training services, state and local governance structures, and the authority of local officials (Statement of administration policy, 2005; National Association of State Workforce Agencies, n.d.; National Association of Workforce Boards, n.d.). Based on the findings of this Virginia study, short-term training delivered by eligible training providers is a proven effective response to improve reemployment rates for the dislocated workforce.

Virginia and other states have looked to community colleges to serve as a key player in training the workforce with in-demand skills through both credit and noncredit courses (Grubb, 2001; Katsinas, 1995; Lewis, 2002). Research findings have indicated

the positive influence post-secondary education has on earnings (Bailey, Kienzl, & Marcotte, 2004). In addition, community colleges are expected to provide rapid response to the short-term training needs of business and industry (U.S. GAO, 2004). Understanding the effect of short-term training on gainful reemployment and the long-term implications of post-secondary credentials on earnings, WIA leadership in collaboration with eligible training providers now have research findings to support the development of short-term training programs for regional in-demand jobs. The Virginia Community College System and other post-secondary institutions have the capacity to design curriculum delivery systems that teach the required content and develop the appropriate skills.

Dislocated workers need alternatives to the traditional course delivery structure. Short-term training addresses the concerns dislocated workers expressed during the telephone interviews of being "locked into a program." Some workers selected a training option while they were overwhelmed with anxiety from the loss of a job and did not always understand the choice they had made or whether the training was appropriate. Once the workers were committed to a training program, the WIA time limitation for training completion created restraints in transferring to a different program. Short-term modular programs would be one solution to this limitation.

It would be beneficial to Virginia's economy and the dislocated workers' future to offer training in a modular format that may be completed within a few weeks but connected to a sequence of higher levels training modules allowing for the potential to complete an educational credential. In addition, a short-course format may improve the percentage of training completers if multiple exit points were established throughout the

training program thereby supporting the individual's willingness to commit to a shorter training time frame. Overall, individuals would then reach a completion point, exit the training program, and accept employment perhaps sensing a level of accomplishment.

The Virginia study reported differences in credential completion rates between those who had completed post secondary education and those who had less than a high school diploma. Therefore, training providers and WIA One Stop Center staff may find greater results if additional support services were offered to dislocated workers who may have encountered difficulty in prior educational endeavors. Without a support system, dislocated workers may leave the WIA program without obtaining in-demand skills and/or a training credential that would increase their worth to employers. Understanding the impact of prior educational attainment is vital in designing support services and training options that enhance the individual's capacity to complete a training program. Although the limited scope of this study prohibited an in-depth discussion of student support strategies, dislocated workers with low prior educational attainment would benefit from support options including personal and career counseling, job shadowing, peer mentoring, and study groups. Recognizing the differences in reemployed wage based on gender, it would also be useful to provide females with an option to explore various jobs that represent a higher hourly wage.

Virginia dislocated workers averaged approximately 1.5 years between dislocation and new employment when participating in any level of WIA service. Those receiving no WIA service averaged approximately 1 year unemployed. Of greatest interest, however, is the number of weeks dislocated for those receiving core/intensive services. Since this level of service does not require a commitment to a specific program

but consisted of self-directed and counseling services, one would expect individuals receiving core/intensive services to have similar weeks unemployed as those receiving no service. Instead, core/intensive recipients averaged approximately the same number of weeks unemployed as those who received training. This finding of no significant effect of WIA service level on gainful reemployment was surprising and implies the need for closer examination of WIA service level activities.

Job loss has been equated to experiencing the death of a friend or family member with workers juggling an array of reactions from anger to depression (Duggan & Jurgens, in press). Dislocated workers must sort through these reactions, regain their emotional balance, identify the issues, determine the solutions, and implement the best options to become prepared to return to work. Individuals cannot manage these steps without well-informed guidance. Telephone interviews with Virginia dislocated workers revealed the value workers placed on the one-to-one support services. The personal interactions validated the workers' self-worth and provided the encouragement needed during a devastating life experience. In addition to these perceptions, findings indicated that those receiving the basic services of core and intensive were unemployed approximately the same number of weeks as those receiving training services. Individuals who did complete a short-term training credential were reemployed in fewer weeks and at a slightly higher wage than individuals completing an Associate or Bachelor's degree. Realizing these two conditions exist, these findings suggest that all workers may benefit from participating in short-term training. While in a training program, the interaction with other people would establish a network and would demonstrate to potential employers an interest in retooling for employment. Overall, these findings on WIA

service level effect suggest that a holistic approach to providing WIA services that mandates a combination of personal counseling and short-term training may result in improved reemployment rates.

Future Research and Practice

It was the intent of this study to expand the peer-reviewed literature on the effects of Workforce Investment Act services on dislocated worker reemployment. Insights offered from this study in no way exhaust the possible influences on gainful reemployment of workers who have been displaced from their jobs. Therefore, it is imperative that research continues to examine statistical trends in WIA service level effect on hourly reemployed wage and weeks dislocated.

A study of the operations within the One Stop Centers may produce an understanding of how data are captured from clients and provide a higher level of confidence in data reports. From this study, results would provide direction to the development of internal policies that would ensure consistent and comprehensive reporting systems throughout all regional One Stop Centers. Additional research should be completed on the correlation between WIA region unemployment rates and the number of dislocated workers and adults served by the region's One Stop Center[s]. The study would analyze if the workers are utilizing the Centers and if appropriate support services are being delivered.

Furthermore, future research must analyze how unemployment rates impact training services. Is there a relationship between the percentage of dislocated workers who participate in training services and the regional unemployment rates? Was the decision to enter training based on the need to acquire new job skills required for

available employment opportunities or was training in more general areas? Was the decision to participant in training influenced by the lack of job openings and desire to complete a credential or by the need to gain job-related skills?

Further study needs to include adult workers served by the One Stop Centers. The adult workers differ from dislocated workers because the majority of the adults are seeking either their first job or are moving from long-term absence from the workforce to employment. A comparison between the two groups may provide a more in-depth understanding of the impact WIA service level has on gainful reemployment. In addition, it is necessary that future studies be conducted comparing another state's WIA service outcomes to Virginia in order to develop a comparison of service impact.

Over 32% of the dislocated workers participated in short-term training and obtained a diploma, certificate, or certification credential. However, no clear distinctions were made in the data on the length of the program or the training provider for short-term training credentials. During telephone interviews, approximately 65% reported participating in certification training offered through for-profit organizations. With Virginia's community colleges designated as the Commonwealth's workforce training provider, it appeared that dislocated workers did not select community college programs for short-term credentials. Do for-profit institutions provide greater impact on worker skill development and reemployment options than community colleges? It would benefit WIA policy makers and all eligible training providers to have an analysis of short-term training programs to determine which short-term training provider has the greatest impact on gainful reemployment and what length of time defines an effective short-term training program.

U.S. Department of Labor, local WIA boards, and local partners must investigate the type of activities included in both core and intensive services and assess the impact of these services in comparison to the impact of short-term training. With no statistically significant difference found between weeks unemployed or hourly reemployed wage, the question exists as to whether or not support services and/or WIA policies encourage individuals to remain in reemployment programs longer than would be necessary. Are jobs available and offered to the dislocated workers but not being accepted because workers are cushioned by federal and state support dollars? Future research needs to examine the employment options for dislocated workers and the workers' choices on whether or not job offers are accepted or rejected during the time workers are participating in WIA services.

Conclusions

Workers who find themselves dangling above disaster want a safety net until they can find their balance. In Virginia as in other states, Workforce Investment Act services are the net that supports dislocated workers while they redefine themselves and their career options. Dislocated workers recognized their need for direction and were grateful for the individual support offered through WIA One Stop Centers.

For most Virginians, unemployment averaged 1.5 years with no significant differences in weeks dislocated or hourly reemployed wage observed between WIA service groups. However, reemployment was significantly affected by short-term training resulting not only in fewer weeks without a job but also higher hourly wages. Prior educational attainment had a strong relationship to training completion. In most

ethnic and age groups, males continue to earn higher wages than females. However, it appears that younger female and male workers' wages are equalizing.

Workforce legislation placed businesses and industries in program leadership roles and required the business community to partner in directing the workforce system to prepare individuals for existing jobs (WIA, §117, 1998). During the summer of 2006, the Governor's Economic Development & Workforce Development team held a series of public meetings with community leaders throughout the Commonwealth. The summary of those focus groups indicated a lack of business and industrial representation on WIA regional boards and encouraged a dialog with the business community on workforce needs and concerns (Commonwealth of Virginia, 2006). Every community focus group called for stronger partnerships and proactive relationships between employers and the workforce development system. Employers who have developed this type of partnership have discovered the benefits of WIA services. Company representatives seek WIA support in identifying potential workers, testing, and funding training activities. There appears to be a value placed on WIA's willingness to cooperate with companies in publicizing employment opportunities. However, there is a call from the business community for more flexibility and creativity from training providers and One Stop Center staff in designing programs and services for its workers.

Job loss and reemployment are complex and intense issues and have the full attention of multiple federal, state, and local agencies. Funding demands for support services overwhelm financial resources. Workforce trainers and agency staff members are searching for strategic responses to remove unemployment barriers for each person served by the system. It is with great hope, but humble expectation, that the findings of

this study on Virginia dislocated workers will provide a point of reference for those engaged in this battle. If we fail to effectively respond to our neighbors when they need the most support, then we have failed our community. It is indeed a choice to act on the findings and implement new policy and procedures or to maintain the status quo and continue to observe unimpressive results.

REFERENCES

Addison, J. T., & Blackburn, M. L. (1994, July). The worker adjustment and retraining notification act: Effects on notice provision [Electronic version]. *Industrial & Labor Relations Review, 47*, 4, 650-662.

Bailey, T, Kienzl, G., & Marcotte, D. (2004, August). *Who benefits from postsecondary occupational education? Findings from the 1980s and 1990s.* (No. 23). New York: Community College Research Center. Retrieved October 1, 2005, from http://ccrc.tc.columbia.edu/ContentByType.asp?t=1&ContentItemTypeID=3&sub1=sort

Benedict, E., & Vanderhart, P. (1997, January). Reemployment differences among dislocated and other workers [Electronic version]. *The American Journal of Economics and Sociology, 56*, 1-15.

Bernstein, J. (2003, January 24). *The jobless recovery: Suffering from the recession's aftershocks, labor market conditions continue to worsen.* (Issue Brief No.186.) Washington, DC: Economic Policy Institute. Retrieved July 18, 2003, from http://www.epinet.org/content.cfm/issuebriefs_ib186

Borg, W. R., & Gall, M. D. (1983). Exploring relationships between variables: The casual-comparative method. In *Educational research: An introduction* (pp. 549-552). White Plains, NY: Logman Inc.

Butcher, K. F., & Hallock, K. F. (2004, October). Job loss: Causes, consequences, and policy responses. *Chicago Fed Letter, 207(1).* Retrieved March 23, 2005, from http://www.chicagofed.org/publications/fedletter/cfloctober2004_207.pdf

Byrne, E. F. (1985, February). Displaced workers: America's unpaid debt [Electronic version]. *Journal of Business Ethics, 4*, 31-34.

Career one stop training and education center. (n.d.). *Workforce Investment Act (WIA) eligible training providers*. Retrieved February 5, 2006, from http://www.careeronestop.org/TRAINING/TrainingEduHome.asp

Chronology: The making of the New Deal. (2005). Charlottesville, VA: University of Virginia, American Studies. Retrieved December 27, 2005, from http://xroads.virginia.edu/~MA02/volpe/newdeal/timeline_text.html

Civilian Conservation Corps (CCC). (n.d.). *Roosevelt's Tree Army*. Retrieved February 5, 2006, from http://www.cccalumni.org/history1.html

Code of Virginia (enacted). (2004). *Responsibilities of Board and System* §23-215. Retrieved October 23, 2005, from http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+23-215

Cohen, B. H. (2000). Three-way ANOVA chapter. In *Explaining psychological statistics* [Electronic version] (pp. 688-746). Retrieved September 18, 2006, from http://www.psych.nyu.edu/cohen/EPScohen.html

Cohen, A. M., & Brawer, F. B. (2003). *The American community college, Fourth edition* (pp. 1-36). San Francisco, CA: Jossey-Bass, Inc., Publishers.

Commonwealth of Virginia. (2006). *Governor's economic and workforce development strategic plans*. Richmond, VA: Secretary of Commerce and Trade. Retrieved August 2, 2006, from http://www.commerce.virginia.gov/EconPlan/EconStratPlan-PublicInput.pdf

D'Amico, R., Martinez, A., Salzman, J., & Wagner, R., (2001, August). *An evaluation of the individual training account/eligible training provider demonstration* [ES-1-VI-10]. Retrieved July 24, 2003, from the U.S. Department of Labor Web site: http://wdr.doleta.gov/opr/fulltext/Interim.pdf

Dillman, D. A. (1978). Implementing telephone surveys. In *Mail and telephone surveys: The total design method* (pp. 232-281). New York, NY: John Wiley & Sons.

Duggan, M. H., & Jurgens, J. C. (in press). *Career interventions and techniques: A complete guide for human service professionals.* Needham Heights, MA: Allyn & Bacon.

Eller, R., Martinez, R., Pace, C., Pavel, M., Garza, H., & Barnet, L. (1998). Rural Community College Initiative. I. Access: Removing barriers to participation. *American Association of Community Colleges*, AACC-PB-98-1. Retrieved July 25, 2003, from http://www.aacc.nche.edu/Content/NavigationMenu/ResourceCenter/AACCPublications/AACC_briefs.htm

Fallick, B. C. (1996, October). A review of the recent empirical literature on displaced workers [Electronic version]. *Industrial & Labor Relations Review, 50*, 5-16.

Fancher, A. (1942, July 27). Placing the displaced worker: Government and industry sponsoring program to find jobs for priority casualties [Electronic version]. *Barron's, 22*, 18. Retrieved March 24, 2005, from ProQuest Standard database.

Farber, H. S. (2005, Summer). What do we know about job loss in the United States? Evidence from the displaced workers survey, 1984-2004. *Economic Perspectives, 29.2*, 13-28. Retrieved January 5, 2006, from http://www.chicagofed.org/publications/economicperspectives/ep_2qtr2005_part2_farber.pdf

Farber, H. S., Haltiwanger, J., & Abraham, K. G. (1997). The changing face of job loss in the United States, 1981-1995. In W. C. Brainard and G. L. Perry (Eds.), *Brookings Papers on Economic Activity 1997: Microeconomics* (pp. 55-128). Washington, DC: Brookings Institution Press. Retrieved March 25, 2005, from http://www.irs.princeton.edu/pubs/pdfs/382.pdf

Fitzpatrick, J. L., Sanders, J. R., & Worthen, B. R. (2004). Collecting evaluative information: Data sources and methods, analysis, and interpretation. In *Program evaluation: Alternative approaches and practical guidelines (pp. 334-374).* Boston, MA: Pearson Education, Inc. Allyn and Bacon.

Gardner, J. M. (1995, April). Worker displacement: A decade of change [Electronic version]. *Monthly Labor Review Washington, 118(4),* 45-57.

Garson, G. D. (n.d). Economic Opportunity Act of 1964. In J.M. Burns, J. W. Peltason, T. E. Cronin, & D. B. Magleby. *Government by the people, brief edition, third edition.* Upper Saddle River, NJ: Prentice-Hall, Inc. Retrieved February 12, 2006, from http://cwx.prenhall.com/bookbind/pubbooks/burns4/medialib/docs/eoa1964.htm

George, P., & Mallery, P. (2003). *SPSS for windows step by step: A simple guide and reference 11.0 update. Fourth Edition.* Boston: Allyn and Bacon.

Godwin, M. E. (1966, January 17). *Address of Mills E. Godwin, Jr. to the General Assembly of Virginia.* Retrieved March 4, 2003, from http://leg2.state.va.us/dls/h&sdocs.nsf/0/011d81a4a62f7c7285256bab005660b0?OpenDocument

Green, S. B., & Salkind, N. J. (2003). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (pp. 160-201). Upper Saddle River, NJ: Prentice Hall, Inc.

Grubb, W. N. (1993). The varied economic returns to postsecondary education: new evidence from the Class of 1972. *Journal of Human Resources 28*(2), 365. Retrieved July 23, 2003, from Infotrack data base.

Grubb, W. N. (2001, Fall). From isolation to integration: Post secondary vocational education and emerging systems of workforce development [Electronic version]. *New Directions for Community Colleges, 115*, 27-37.

Grubb, W. N., Badway, N., Bell, D., Bragg, D., & Russman, M. (1997). *Workforce, economic, and community development: The changing landscape of the entrepreneurial community college.* Mission Viejo, CA: League for Innovation in the Community College.

Guttman, R. (1983, March). Job Training Partnership Act: New help for the unemployed. *Monthly Labor Review, 106(3).* Retrieved April 1, 2005, from http://www.bls.gov/opub/mlr/1983/03/art1abs.htm

Helwig, R. T. (2001, June). Worker displacement in a strong labor market [Electronic version]. *Monthly Labor Review, 124*(6), 13-28.

Helwig, R. T. (2004, June). Worker displacement in 1999-2000 [Electronic version]. *Monthly Labor Review, 127(6)* 54-68.

Hipple, S. (1999, July). Worker displacement in the mid-1990s [Electronic version]. *Monthly Labor Review Washington, 122*(7), 15-32.

Jacobs, J. (2001). Community colleges and the Workforce Investment Act: Promises and problems of the new vocationalism [Electronic version]. *New Directions for Community Colleges*, (115), 93-99.

Jacobson, L. S., LaLonde, R. J., & Sullivan, D. G. (2005, March-April). Estimating the returns to community college schooling for displaced workers. [Electronic verson]. *Journal of Econometrics,(1-2) 125,* 271-304.

John J. Heldrich Center for Workforce Development. (1999). *Working hard but staying poor: A national survey of the working poor and unemployed.* New Brunswick, NJ: Rutgers University & University of Connecticut, Center for Survey Research and Analysis. Retrieved July 22, 2003, from http://www.heldrich.rutgers.edu/Resources/Publication/44/Work_Trends_III_Full_Report.pdf

John J. Heldrich Center for Workforce Development. (2005a, January). *Getting back to work: New public/private strategies for laid-off American workers.* New Brunswick, NJ: Rutgers University. Retrieved October 17, 2006, from http://www.heldrich.rutgers.edu/Resources/Publication/161/Getting%20Back%20to%20Work%20Full.pdf

John J. Heldrich Center for Workforce Development. (2005b, March). *Survey of New Jersey employers to assess the ability of higher education institutions to prepare students for employment.* New Brunswick, NJ: Rutgers University. Retrieved February 21, 2006, from http://www.state.nj.us/highereducation/CHEemployersurveyreport04_19_05.pdf

Katsinas, S. G. (1995). Community colleges and workforce development in the new economy [Electronic version]. *Community Service Catalyst, 24*(1), 9-20.

Keppel, G. & Wickens, T. D. (2004). *Design and analysis: A researcher's handbook.* (p. 566). Upper Saddle River, NJ: Prentice Hall.

Kletzer, L. G. (1998, Winter). Job displacement. *The Journal of Economic Perspectives, 12*(1), 115. Retrieved March 23, 2005, from ProQuest (27479144).

Kodrzycki, Y. K. (1997, May/June). Training programs for displaced workers: What do they accomplish [Electronic version]? *New England Economic Review*, 39-57.

Koppel, R. & Hoffman, A. (1996, March). Dislocation policies in the USA: What should we be doing [Electronic version]? *The Annals of the American Academy of Political and Social Science, 544,* 111-126.

Kossoris, M. D. (1963, February). Automation funds and displaced workers [Electronic version] [Review of the study Automation funds and displaced workers]. *Monthly Labor Review, 86*, 186-187.

Lewis, M. V. (2002, April). *Needs, feedback, and the future: Need sensing activities in 2001*. Columbus, OH: Ohio State University, National Dissemination Center for Career and Technical Education. Retrieved July 24, 2003, from http://www.nccte.org/publications/projectReports.asp

Lucas, R. E. B. (1994). The impact of structural adjustment on training needs [Electronic version]. *International Labour Review 133*(5-6), 677-695.

Marcotte, D., Bailey, T. R., Borkoski, C., & Kienzl, G. S. (2005, Summer). The returns of a community college education: Evidence from the National Education Longitudinal Survey [Electronic version]. *Educational Evaluation & Policy Analysis, 27*(2), 157-175.

Mazerolle, M. J. & Singh, G. (2004, July). Economic and social correlates of re-employment following job displacement: Evidence from 21 plant closures in Ontario [Electronic version]. *The American Journal of Economics and Sociology, 63*(3), 717-730.

National Association of State Workforce Agencies. (n.d.). *Fiscal year 2006 budget briefing*. Washington, DC: Employment and Training Administration. Retrieved September 20, 2006, from http://www.workforceatm.org/sections/pdf/2005/FY06Budget_SWA.pdf

National Association of Workforce Boards. (n.d.). *WIA reauthorization*. Retrieved September 20, 2006, from http://nawb.org/pdf/wia_reauth.pdf

Nauth, B. M. (1996). A comparative analysis of the effectivness of educational services on labor market reentry for dislocated workers in Minnesota. (Doctoral dissertation, University of Minnesota, 1996). *Dissertation Abstracts International, 57*(06A), 2455. (UMI No. AAG9632344).

Neter, J., Kutner, M. H., Wassemer, W., & Nachtsheim, C. J. (1996). Applied linear statistical models. (p. 930). Boston: McGraw-Hill.

Nora, A. (2000). Reexamining the community college mission [Electronic version]. *New Expeditions: Charting the Second Century of Community Colleges – a W.K. Kellogg Foundation Initiative* (pp. 1-8). Washington, DC: American Association of Community Colleges.

O'Brien, B. (2005, April). *Southside Works Consortium: Your One-Stop operator.* Paper presented at the meeting of the Region XVII Workforce Investment Board, Danville, VA.

Osterman, P. (2005, October). *Employment and training policies: New directions for less skilled adults.* Paper presented at the Urban Institute Conference "Workforce Polices for the Next Decade and Beyond," Washington, DC. Retrieved October 17, 2006, from http://web.mit.edu/osterman/www/Emp-Train-Policies-New-Dirs-Less-Skilled.pdf

Panel Study of Income Dynamics (PSID). (n.d.). *An overview of the panel study of income dynamics.* Ann Arbor, MI: University of Michigan, Institute for Social Research. Retrieved February 12, 2006, from http://psidonline.isr.umich.edu/Guide/Overview.html

Phillippe, K. A., & Valiga, M. J. (2000). *Faces of the future - A portrait of America's community college students: Summary findings.* Washington, DC: American Association of Community Colleges & ACT. Retrieved July 25, 2003, from http://www.aacc.nche.edu/Content/ContentGroups/Project_Briefs2/facesfut.pdf

Polsky, D. (1999, July). Changing consequences of job separation in the United States. *Industrial & Labor Relations Review*, 52(4), 565-580. Retrieved September 19, 2005, from ProQuest (43482524).

Remarks by President Bush highlight the need for congress to complete work on job training legislation. (2004, April 5). *News from the Committee on Education and the Workforce.* Retrieved July 29, 2004, from http://edworkforce.house.gov/press/press108/second/04April/bushremarks040504.htm

Schloss, P. J., & Smith, M. A. (1999). *Conducting research* (pp. 85-96). Upper Saddle River, NJ: Prentice-Hall, Inc.

Schwenk, A. E. (2003, January 30). *Compensation in the 1970s.* Washington, DC: Bureau of Labor Statistics. Retrieved April 1, 2005, from http://www.bls.gov/opub/cwc/print/cm20030124ar05p1.htm

Schugurensky, D. (n.d.). *History of education: Selected moments of the 20th century, The GI Bill of Rights.* Toronto: University of Toronto, The Ontario Institute for Studies in Education. Retrieved February 5, 2006, from http://www.higher-ed.org/resources/GI_bill.htm

Simmons, D. L. (1995). Retraining dislocated workers in the community college: Identifying factors for persistence. *Community College Review 23(2),* 47-58.

Statement of administration policy: H.R. 27 Job Training Improvement Act of 2005. (2005, March 2). Washington, DC: Executive Office of the President. Retrieved September 19, 2006, from http://www.whitehouse.gov/omb/legislative/sap/109-1/hr27sap-h.pdf

Stevens, A. H. (1997). Persistent effects of job displacement: The importance of multiple job losses [Electronic version]. *Journal of Labor Economics 15*, 165-188.

Stockburger, D. W. (2001, March). *Introductory statistics: Concepts, models, and applications* (WWW Version 1.0). Cincinnati, Ohio: Atomic Dog Publishing. Retrieved September 18, 2006, from http://www.psychstat.missouristate.edu/introbook/sbk27m.htm

2005-2007 WIA and Wagner-Peyser state plan. (2005, May 31). Richmond, VA: Commonwealth of Virginia. Retrieved on February 12, 2006, from http://www.vec.virginia.gov/vecportal/wia/pdfs/vaplan.pdf

U. S. Census Bureau. (1997, August 4). *Displaced workers: Public use file overview.* Washington, DC: U.S. Bureau of Labor Statistics. Retrieved February 12, 2006, from http://www.bls.census.gov/cps/dispwkr/dispwkr.htm

U.S. Department of Housing and Urban Development. (2003, August 21). *HUD Historical Background.* Washington, DC: Author. Retrieved December 27, 2005, from http://www.hud.gov/offices/adm/about/admguide/history.cfm

U.S. Department of Labor. (n.d.). *MDTA: The origins of the Manpower Developmetn and Training Act of 1962.* Washington, DC: U.S. Department of Labor, Office of the Assistant Secretary for Policy. Retrieved February 12, 2006, from http://www.dol.gov/dol/asp/programs/history/mono-mdtatext.htm

U.S. Department of Labor (n.d.a). *Fact sheet: Trade Adjustment Assistance.* Washington, DC: U.S. Department of Labor, Employment & Training Administration. Retrieved November 29, 2004, from http://www.doleta.gov/programs/factsht/taa.htm

U.S. Department of Labor. (n.d.b). *Performance & Results.* Washington, DC: U.S. Department of Labor, Employment & Training Administration. Retrieved November 1, 2005, from http://www.doleta.gov/Performance/results/Reports.cfm?#wiasrd

U.S. Department of Labor. (n.d.c). *WIA quarterly state spending reports.* Washington, DC: U.S. Department of Labor, Employment & Training Administration. Retrieved February 12, 2006, from http://www.doleta.gov//budget/qtrlyspend/cfm

U.S. Department of Labor. (n.d.d). *Training.* Washington, DC: U.S. Department of Labor, Employment & Training Administration. Retrieved August 24, 2005, from http://www.dol.gov/dol/topic/training/index.htm

U.S. Department of Labor. (n.d.e). *WIA PY2003 performance measures state comparison.* Washington, DC: U.S. Department of Labor, Employment & Training Administration. Retrieved February 12, 2006, from http://www.doleta.gov/performance/Charts/Perf-main.cfm

U.S. Department of Labor. (1998a). *Key features of the Workforce Investment Act as compared to current law.* Washington, DC: Author. Retrieved May 22, 2003, from http://www.doleta.gov/usworkforce/archive/sideby810.htm

U.S. Department of Labor. (1998b, August 10). *Summary of workforce development provisions of The Workforce Investment Act of 1998 (P.L. 105-220).* Washington, DC: Author. Retrieved February 5, 2006, from http://www.doleta.gov/usworkforce/wia/summarywia.htm

U.S. Department of Labor. (2000, August 11). *Workforce Investment Act: Final rules.* Washington, DC: Author. Retrieved February 5, 2006, from http://www.doleta.gov/usworkforce/wia/finalrule.txt

U.S. Department of Labor. (2001). *The five-year strategic plan for pilots, demonstrations: Research and evaluation July 2000-June 2005.* Washington, DC: Author. Retrieved July 24, 2003, from http://wdr.doleta.gov/opr/fulltext/01-strategicPlan.pdf

U.S. Department of Labor. (2001, March 5). *Training and employment guidance letter No. 14-00.* Washington, DC: Author. Retrieved April 12, 2006, from http://www.ows.doleta.gov/dmstree/tegl/tegl2k/tegl_14-00.htm

U.S. Department of Labor. (2004, July 30). *Worker displacement 2001-2003.* Washington, DC: U.S. Bureau of Labor Statistics. Retrieved December 30, 2005, from http://www.bls.gov/news.release/disp.nr0.htm

U.S. Department of Labor. (2006, August 17). *News Release 06-1454: Worker Displacement, 2003-2005*. Washington, DC: U.S. Bureau of Labor Statistics. Retrieved October 17, 2006, from ftp://ftp.bls.gov/pub/news.release/History/disp.08172006.news

United States General Accounting Office (GAO). (2000, October). *Trade adjustment assistance: Trends, outcomes, and management issues in dislocated worker programs (Publication No. GAO-01-59).* Washington, DC: Author. Retrieved February 12, 2006, from http://www.gao.gov/new.items/d0159.pdf

United States General Accounting Office. (2001, September). *Registered apprenticeships: Labor could do more to expand to other occupations* (Publication No. GAO-01-940). Washington, DC: Author. Retrieved October 17, 2006, from General Accounting Office Reports Online via GPO Access: http://www.gao.gov/new.items/d01940.pdf

United States General Accounting Office. (2003, June). *Workforce Investment Act: Exemplary one-stops devised strategies to strengthen services, but challenges remain for reauthorization* (Publication No. GAO-03-884T). Washington, DC: Author. Retrieved July 22, 2003, from General Accounting Office Reports Online via GPO Access: http://www.gao.gov/atext/d03884t.txt

United States Government Accountability Office (GAO). (2004). *Public community colleges and technical schools: Most schools use both credit and noncredit programs for workforce development* (Publication No. GAO-05-04). Washington: DC: Author. Retrieved January 26, 2005, from General Accounting Office Reports Online via GPO Access: http://www.gao.gov/new.items/d054.pdf

United States Government Accountability Office (2005, June). *Workforce Investment Act: Substantial funds are used for training, but little is known nationally about training outcomes.* (Publication No. GAO-05-650). Washington, DC: Author. Retrieved December 27, 2005, from Government Accountability Office Reports Online via GPA Access: http://www.gao.gov/new.items/d05650.pdf

U.S. History. (n.d.). *The Hoover Administration.* Retrieved December 27, 2005, from http://www.u-s-history.com/pages/h1445.html

U.S. House of Representatives. (2003, March 27). *Committee Republicans pass bill to strengthen job training & adulteducation opportunities.* Washington, DC: U.S. House of Representatives, Committee on Education and the Workforce. Retrieved July 22, 2003, from http://edworkforce.house.gov/press/press108/03mar/wiapc032703.htm

U.S. National Archives & Records Administration. (2005). *Records of the President's Organiztion on Unemployment Relief* (Record Group 73). Washington, DC: Author. Retrieved December 27, 2005, from http://www.archives.gov/research/guide-fed-records/groups/073.html

University of Washington Libraries. (n.d.). *The Federal Emergency Relief Administration.* Seattle: University of Washington. Retrieved December 27, 2005, from http://content.lib.washington.edu/feraweb/essay.html

Vanderheuvel, S. M. (1989). Reemployment experiences of dislocated workers in a community experience high unemployment. (Doctoral dissertation, Michigan State University, 1989). *Dissertation Abstracts International, 50*, 12A. (AAG9012077).

VanDerLinden, K. (2002, April). *Faces of the future - A portrait of America's community college students.* Washington, DC: American Association of Community Colleges & ACT. Retrieved July 25, 2003, from http://www.aacc.nche.edu/Content/ContentGroups/Research_Briefs2/16471.pdf

Vaughan, G. B. (1987). *Pursuing the American dream: A history of the Virginia community college system.* Richmond, VA: Virginia Community College System.

Virginia Employment Commission. (2005). *Virginia's electronic labor market access* (VELMA). Retrieved April 12, 2005, from http://velma.virtuallmi.com/analyzer/mappages/map.asp?mapcode=15

Virginia General Assembly. (2003). *HB 2075 Virginia Workforce Council: Membership powers and duties.* Retrieved January 2, 2006, from http://leg1.state.va.us/cgi-bin/legp504.exe?031+sum+HB2075

Williams, T. E. (2002). Challenges in supporting student learning and success through student services. *New Directions for Community Colleges*, (117), 67. (ERIC Document Reproduction Service No. 200210501516008)

Wolniak, G. C., & Pascarella, E. T. (2005, October). The effects of college major and job field congruence on job satisfaction [Electronic version]. *Journal of Vocational Behavior, 67(2),* 233-251.

Workforce Investment Act (WIA) of 1998 (enacted), P.L. 105-220. (1998, August 7). Retrieved July 29, 2004, from http://www.doleta.gov/regs/statutes/wialaw.html

APPENDIXES

APPENDIX A

TELEPHONE INTERVIEW BLUEPRINT: DISLOCATED WORKER

Research Question Category	Question
Pre-dislocation employment history: type of industry/business, type of position, length of time employed	1. In what type of industry/business were you employed before you were dislocated?
	2. What was your position/job?
	3. How long were you employed in that job?
	4. When did your job end?
	5. Why did your business/industry terminate your position?
Current employment: employment status, date reemployed, total time dislocated, and job satisfaction	6. Are you currently employed?
	7. When did you begin (date) your current job?
	8. How long were you unemployed after being dislocated?
	9. Is the time it takes you to travel to work longer or shorter than in your previous job?
	10. Do you have fringe benefits in your current position/job?
	11. Are you satisfied with your current position/job?
WIA Services: types of WIA services received (core, intensive, and/or training), reason for selecting training or for not selecting training, time between dislocation and beginning training, institution where training was completed, type of training program, credential received,	12. What type of WIA services did you receive?
	13. Why did you decide to be retrained?
	14. How long was it between the time you were dislocated and the time you began your training?
	15. What was the name of the institution? Where was the training facility located?
	16. What type of training program did you select?
	17. Did you complete the training?
	18. If so, how long did the training take?
	19. Did you receive any credential such as a certification, diploma, certificate, or degree at the end of the training?
Perceptions: relationship of services to reemployment, quality of WIA services, experiences in WIA training programs, and relationship of training program to reemployment.	20. How does your current job relate to the training your received?
	21. Did you receive any support services during your training?
	22. How does your current wage compare to your wage in your job before you were dislocated?
	23. What effect do you think that training had on obtaining your current job?
	24. What did you think of the training program you selected?
	25. What is your perception of the WIA services you received?
Confirm demographic data collected from the WIASRD: gender, ethnicity, age, and previous educational attainment.	26. Gender of participant.
	27. Ethnicity.
	28. Age.
	29. Pre-training educational attainment.
	30. Ask for additional comments.

APPENDIX B

TELEPHONE INTERVIEW BLUEPRINT: EMPLOYER

Research Question Category		Question
Description of industry/business: Type of industry/business Number of employees Length of time in business	1.	How would you define your industry/business?
	2.	How many employees does this industry/business employ?
	3.	How long has your company been in business?
RQ 5 How do employers describe their experiences with WIA services? Perceptions of WIA customers?	4.	What type of interaction has your company had with the Workforce Investment Act One Stop Centers?
	5.	What were your expectations of the WIA One Stop Center?
	6.	How would you describe your experience with the One Stop Center?
	7.	Of the workers who received WIA services and then employed by your company, how would you describe their readiness to work?
	8.	What services have you found to be the most beneficial to enhancing a dislocated worker's opportunities for reemployment?
	9.	What services have been the least effective for enhancing a dislocated worker's opportunities for reemployment?
RQ 6: Perceptions of training	10.	How would you describe the effect of training on a dislocated worker's reemployment?

APPENDIX C

PILOT RESPONSE INTERVIEW: DISLOCATED WORKER

Script: *Thank you for participating in this practice telephone interview. Would you now give me your opinion of the interview? Your comments will allow me to improve the telephone interview questionnaire prior to conducting interviews that will be included as part of the data in my dissertation study. You know that all responses will remain confidential and destroyed at the conclusion of the research study.*

How long did it take for you to complete the telephone interview? _____ Minutes

---

How would you describe the instructions?

What should be revised?

How would you describe the questions?

What questions should be revised?

Do you have suggestions for other questions that should be asked?

Were any of the questions inappropriate?

Why?

In your opinion, has any topic been omitted?

What is your opinion of the sequencing/order of the questions?

Which questions should be rearranged and why?

What suggestions or comments would you offer related to the telephone interview?

APPENDIX D

TELEPHONE INTERVIEW QUESTIONNAIRE: DISLOCATED WORKER

Introductory Remarks

This is Martha Walker with Old Dominion University. May I speak with _____.

Mr./Ms. _____, recently you agreed to participate in a study I am conducting on individuals who were served by a One Stop Center. Thank you for talking with me about your experiences at the One Stop Center and your opinion of the training you received.

Is this a good time for us to talk?

If so, continue the interview. If not, ask for a better time and reschedule the interview.

Define the Purpose of the Interview

Mr./Ms. _____, the purpose of the interview is to gather your perceptions of the quality of WIA services and your opinions regarding your experiences with WIA training programs.

Time required for the Interview

The interview will require approximately 45 minutes.

Interviewee's preference to receive a summary of the interview

As you respond to questions, I will record your information, and it will be transcribed in approximately three weeks. Would you like a summary of your responses?

If yes, confirm delivery method:
(a) U.S. mail, confirm address

_____

(b) Electronic mail, obtain e-mail address

_____

(c) Facsimile, obtain fax number

_____

Instructions for the Interview

I will ask you a series of questions and would like for you to share your thoughts. There are no wrong answers. After each response, I will repeat your response for your confirmation of its accuracy. All of your responses are confidential and will never be linked with your name in any publication.

Do you have any questions?

Are you ready to begin?

Interview Questions

Interview Date _____ *Time Interview Begins* _____

	Question	Response
1.	In what type of industry/business were you employed before you were dislocated?	
2.	What was your position/job?	
3.	How long were you employed in that job?	
4.	When did your job end?	
5.	Why did your business/industry terminate your position?	
6.	Are you currently employed?	
7.	When did you begin (date) your current job?	
8.	How long were you unemployed after being dislocated?	
9.	Is the time it takes you to travel to work longer or shorter than in your previous job?	
10.	Do you have fringe benefits in this position?	
11.	Are you satisfied with your current position/job?	
12.	What type of WIA services did you receive?	_____ Core _____ Intensive _____ Training
13.	Why did you decide to be retrained?	
14.	How long was it between the time you were dislocated and the time you began your training?	
15.	What was the name of the institution? Where was the training facility located?	
16.	What type of training program did you select?	
17.	Did you complete the training?	
18.	If so, how long did the training take?	
19.	Did you receive any credential such as a certification, diploma, certificate, or degree at the end of the training?	
20.	How does your current job relate to the training you received?	
21.	Did you receive any support services during your training?	
22.	How does your current wage compare to your wage in your job before you were dislocated?	
23.	What effect do you think that training had on obtaining your current job?	
24.	What did you think of the training program you selected?	

Question	Response
25. What is your perception of the WIA services you received?	
26. Gender of participant.	_____ Female _____ Male
27. Ethnicity.	_____ Asian _____ African American _____ Hispanic _____ Native American _____ White
28. Age.	_____ Less than 25 years _____ 26-40 years _____ 41-55 years _____ 55 years and greater
29. Pre-training educational attainment.	_____ Less than high school diploma _____ High school diploma or GED _____ Some college but no degree _____ Associate degree, certificate, diploma, skill certification _____ Bachelor's or Graduate degree _____ No response
30. Additional comments	

Closing the Interview

This concludes my questions. Do you have any questions or additional comments you would like to share?

Thank you Mr./Ms. _____ for your time and for sharing your experiences with me.

Enjoy your evening.

Record Date _____
Time interview ended _____

APPENDIX E

TELEPHONE INTERVIEW QUESTIONNAIRE: EMPLOYER

Introductory Remarks

This is Martha Walker with Old Dominion University. May I speak with _____.

Mr./Ms. _____, recently you agreed to participate in a study I am conducting on individuals who were served by a One Stop Center. Thank you for talking with me about your company's experiences with the One Stop Center and the employment of dislocated workers.

Is this a good time for us to talk?

If so, continue the interview. If not, ask for a better time and reschedule the interview.

Define the Purpose of the Interview

Mr./Ms. _____, the purpose of the interview is to gather your perceptions of the quality of WIA services and your opinions regarding your experiences employing individuals who had been dislocated from their previous job.

Time required for the Interview

The interview will require approximately 20 minutes.

Interviewee's preference to receive a summary of the interview

As you respond to questions, I will record your information, and it will be transcribed in approximately three weeks. Would you like a summary of your responses?

If yes, confirm delivery method:

(d) U.S. mail, confirm address

_____

(e) Electronic mail, obtain e-mail address

_____

(f) Facsimile, obtain fax number

_____

Instructions for the Interview

I will ask you a series of questions and would like for you to share your thoughts. There are no wrong answers. After each response, I will repeat your response for your confirmation of its accuracy. All of your responses are confidential and will never be linked with your name in any publication. Do you have any questions? Are you ready to begin?

Interview Questions

Interview Date _____ *Time Interview Begins* _____

	Question	Response
1.	How would you define your industry/business?	
2.	How many employees does this industry/business employ?	
3.	How long has your company been in business?	
4.	What type of interaction has your company had with the Workforce Investment Act One Stop Centers?	
5.	What were your expectations of the WIA One Stop Center?	
6.	How would you describe your experience with the One Stop Center?	
7.	Of the workers who received WIA services and then employed by your company, how would you describe their readiness to work?	
8.	What services have you found to be the most beneficial to enhancing a dislocated worker's opportunities for reemployment?	
9.	What services have been the least effective for enhancing a dislocated worker's opportunities for reemployment?	
10.	How would you describe the effect of training on a dislocated worker's reemployment?	

Closing the Interview

This concludes my questions. Do you have any questions or additional comments you would like to share?

Thank you Mr./Ms. _____ for your time and for sharing your experiences with me.

Record Date _____ Time interview ended _____

APPENDIX F

LETTER TO POTENTIAL TELEPHONE INTERVIEW PARTICIPANTS

May 15, 2006

(name)
(address)
(city), (ST) (ZIP)

Dear (name):

Your help is needed! I am studying the difference Workforce Investment Act (WIA) services provided by your One Stop Center had on your ability to be reemployed.

Would you be willing to participate in a telephone interview? I would like to ask you questions about your experiences at the One Stop Center and your thoughts on the training you received. Your opinions given during this interview will be kept confidential and will become part of a larger study that may support other dislocated workers as they make well-informed choices.

The telephone interview should take approximately 30 minutes to complete. There is no cost to you. **Please complete the enclosed confirmation form and return it to me in the enclosed, stamped envelope before May 31, 2006.** I will contact you and confirm our conversation. Your decision to be part of this study will help others who are using WIA services.

Thank you for returning the enclosed form. I look forward to talking with you.

Sincerely,

Martha A. Walker
Graduate Student
Old Dominion University

Enclosure

APPENDIX G

CONFIRMATION FORM: TELEPHONE INTERVIEW CONFIRMATION

(name)
(address)
(city), (ST) (ZIP)

You have been selected to participate in a telephone interview regarding your experiences and opinions on Workforce Investment Act (WIA) services and training. Would you please complete the following information and return this form to me in the enclosed, stamped envelope by May 31, 2006.

____ Yes, I will participate in the telephone interview. Please place a check mark by the date and time you prefer to be called.

Or . . .

____ Thank you for selecting me, but I will not be able to participate

Thursday, June 1	6:00 p.m.	
	7:00 p.m.	
	8:00 p.m.	
Friday, June 2	6:00 p.m.	
	7:00 p.m.	
Saturday, June 3	9:00 a.m.	
	10:00 a.m.	
	11:00 a.m.	
	12 noon	
	1:00 p.m.	
	2:00 p.m.	
Monday, June 5		
	6:00 p.m.	
	7:00 p.m.	
	8:00 p.m.	
Tuesday, June 6	6:00 p.m.	
	7:00 p.m.	
	8:00 p.m.	

Wednesday, June 7	6:00 p.m.	
	7:00 p.m.	
	8:00 p.m.	
Thursday, June 8	6:00 p.m.	
	7:00 p.m.	
	8:00 p.m.	
Friday, June 9	6:00 p.m.	
	7:00 p.m.	
Saturday, June 10	9:00 a.m.	
	10:00 a.m.	
	11:00 a.m.	
	12 noon	
	1:00 p.m.	
	2:00 p.m.	
Monday, June 12	6:00 p.m.	
	7:00 p.m.	
	8:00 p.m.	
Other Date or Time Suggestion:		

Please call me at the following telephone number

_____ (Area Code) _____ (Telephone Number).

Please return this form by May 31, 2006, to:

Martha A. Walker, 269 Barker Road, Ringgold, Virginia 24586.

If you have any questions, please call me at 434-766-6716 or e-mail me at walker53@vt.edu.
I look forward to talking to you about your experiences as a dislocated worker.

APPENDIX H

RESEARCH QUESTION 1: INITIAL GROUPING

Appendix H Table 1

WIA Service Level Descriptive Statistics for Weeks Dislocated and Hourly Reemployed Wage: Initial Grouping

WIA service level	*Weeks dislocated* (n = 3031)			*Hourly reemployed wage* (n = 3110)		
	N	M	SD	*N*	M	SD
Core only	1	68.00	-	2	6.60	.572
Intensive only	826	72.70	52.814	839	12.15	6.961
Training only	261	90.77	37.985	271	10.92	5.197
Core & Intensive	33	30.61	17.895	37	10.86	5.401
Core & Training	1	66.00	-	1	11.46	-
Intensive & Training	1749	75.64	47.065	1786	11.96	6.703
All levels	89	52.78	37.709	96	13.50	8.364
No service	71	52.21	46.165	78	13.35	7.869

Summary of ANOVA Findings

An ANOVA was conducted for both the initial WIA service level grouping and the follow-up grouping. With WIA service level categorized into 8 groups (Appendix Table 1), the ANOVA indicated total weeks dislocated findings significant at the .05 level of significance ($p < .001$) with F (7, 3023) = 13.587, partial $\eta^2 = .031$. ANOVA results were reported for hourly reemployed wage with F (7, 3102) = 2.532, partial $\eta^2 = .006$, and $p = .013$. Although both tests were significant, perhaps because of the large sample size, the ANOVA F test and eta were somewhat small suggesting no significant differences in the mean scores among groups based on the effect of the independent variable, WIA service level, on the dependent variables, weeks dislocated and hourly reemployed wage.

APPENDIX I

RESEARCH QUESTION 2: INITIAL GROUPING

Appendix I Table 1

Training Credential Descriptive Statistics for Weeks Dislocated and Hourly Reemployed Wage

Training credential	*Weeks dislocated* (n = 2960)			*Hourly reemployed wage* (n = 3032)		
	N	M	SD	*N*	M	SD
Other credential	120	78.39	48.74	123	14.07	9.80
Occupational skills license	165	72.95	50.78	165	12.99	5.78
Occupational skills certificate	636	71.01	48.07	654	12.66	7.12
Local board approved	51	63.31	43.08	52	10.00	3.35
High school diploma or GED	3	63.00	47.09	3	10.72	1.55
Associate of Arts/Science	224	125.22	37.09	227	10.46	4.25
Bachelor of Arts/Science	20	117.85	53.27	21	17.37	12.77
No credential	1741	69.76	45.25	1787	11.64	6.51

Weeks dislocated. With training credential variable categorized into 9 groups (Table 5), the ANOVA findings for training credential effect on total weeks dislocated were significant ($p < .001$) with $F(7, 2952) = 45.55$ and partial $\eta^2 = .097$. The strength of the relationship between training credential and weeks dislocated was fairly moderate as assessed by η^2. Because the overall F test for weeks dislocated was significant and a moderate η^2, follow-up tests were conducted to evaluate pair-wise differences among the means using Bonferroni post hoc procedure to control for Type I error across multiple pairwise comparisons. Bonferroni's test declares significant differences on weeks dislocated between both Associate and Bachelor's degrees and (a) Other credential, (b) Occupational Skills License, (c) Occupational Skills Certificate, and (d) Local Board Approved credentials (Table 6). Participants (n = 224) completing training for an Associate degree experienced the most number of weeks dislocated (M = 125.22) with Bachelor's degree participants (n = 20) averaging 117.85 weeks dislocated (Table 5).

Appendix I Table 2

Weeks Dislocated Bonferroni Post Hoc Test

Credential	Associate of Arts/Science Degree ($n = 224$)			Bachelor's of Arts/Science ($n = 20$)		
	Mean Difference	Std. Error	p	Mean Difference	Std. Error	p
Other	46.83	5.190	< .001	39.46	11.082	.011
Occupational skills license	52.27	4.707	< .001	44.90	10.864	.001
Occupational skills certificate	54.20	3.565	< .001	46.84	10.420	< .001
Local board approved	61.91	7.119	< .001	54.54	12.105	< .001
High school diploma/GED	62.22	26.667	.552	54.85	28.407	1.000
Associate of Arts/Science	-	-	-	-7.37	10.708	1.000
Bachelor of Arts/Science	7.37	10.708	1.000	-	-	-
No credential	55.46	3.25	< .001	48.09	10.301	< .001

Hourly reemployed wage. An ANOVA on hourly reemployed wage and training credential reported findings with F (7, 3024) = 8.243, $p < .001$, and partial $\eta^2 = .019$. Although the test was significant, the ANOVA F test and eta were somewhat small suggesting no significant differences in the mean scores among groups. The means for each of the nine groups clearly indicated that participants obtaining a Bachelor's degree achieved a higher hourly reemployed wage ($M = \$17.37$) than any other credential. However, those who were grouped in the Other credential category averaged the second highest hourly reemployed wage ($M = \$14.07$). Participants gaining Associate degrees ($M = \$10.46$) ranked lower than those obtaining occupational skills license ($M = \$12.99$) or certificates ($M = \$12.66$). The Bonferroni test indicated differences between the Associate degree and three short-term training credentials as well as the Bachelor's degree. In addition, findings suggested differences between the Bachelor's degree and short-term training as well as No credential and Associate degree.

Appendix I Table 3

Hourly Reemployed Wage Bonferroni Post Hoc Test

Credential	Associate of Arts/Science Degree ($n = 227$)			Bachelor's of Arts/Science ($n = 21$)		
	Mean Difference	Std. Error	p	Mean Difference	Std. Error	p
Other	-3.61	.749	< .001	3.31	1.580	1.000
Occupational skills license	-2.53	.685	.006	4.38	1.550	.132
Occupational skills certificate	-2.20	.515	.001	4.712	1.483	.042
Local board approved	.45	1.028	1.000	7.37	1.730	.001
High school diploma/GED	-.26	3.888	1.000	6.66	4.130	1.000
Associate of Arts/Science	-	-	-	6.92	1.526	< .001
Bachelor of Arts/Science	-6.92	1.526	< .001	-	-	-
No credential	-1.18	.469	.328	5.73	1.460	.002

APPENDIX J

DESCRIPTIVE STATISTICS FOR WEEKS DISLOCATED AND HOURLY REEMPLOYED WAGE

Gender Ethnicity	Prior Educational Attainment	Years of Age	Weeks dislocated N	Weeks dislocated M	Weeks dislocated SD	Hourly reemployed wage N	Hourly reemployed wage M	Hourly reemployed wage SD
Male								
Asian & Pacific Islander	Grades 0 -11	25 - 40	5	27.20	13.737	5	16.4580	11.07661
		41 - 55	2	79.50	17.678	2	15.6500	3.93151
		Older than 55	1	36.00	.	1	26.0000	.
	Grade 12	Less than 25	1	41.00	.	1	12.5000	.
		25 - 40	2	57.50	21.920	2	13.6250	9.01561
		41 - 55	3	42.67	47.931	3	15.4800	.95016
	Year 13-15	25 - 40	3	36.00	20.075	3	16.0000	6.08276
		41 - 55	1	76.00	.	1	20.1900	.
		Older than 55	1	121.00	.	1	14.0000	.
	Years 16 - 18	25 - 40	9	64.00	38.141	10	21.8450	9.41637
		41 - 55	6	48.00	32.168	6	21.7083	11.59786
		Older than 55	5	65.20	46.602	5	13.6200	3.92435
	Total	Less than 25	1	41.00	.	1	12.5000	.
		25 - 40	19	49.21	32.259	20	18.7995	9.29427
		41 - 55	12	54.25	33.664	12	19.0150	8.50056
		Older than 55	7	69.00	45.738	7	15.4429	5.65319
		Total	39	54.10	34.766	40	18.1193	8.36429
Black/ African American	Grades 0 -11	Less than 25	2	41.50	2.121	2	8.0500	1.48492
		25 - 40	21	70.52	46.606	21	9.5452	3.27294
		41 - 55	21	59.95	37.801	22	10.2455	3.99454
		Older than 55	1	41.00	.	1	11.9000	.
	Grade 12	Less than 25	15	70.40	47.691	16	9.8319	2.79740
		25 - 40	77	54.30	38.510	81	12.8695	5.39965
		41 - 55	68	63.18	45.791	70	10.8820	3.31468
		Older than 55	10	70.50	60.541	10	10.0780	4.12102
	Year 13-15	Less than 25	4	73.50	97.838	4	11.1425	1.67949
		25 - 40	22	61.77	51.288	26	13.1585	7.24334
		41 - 55	31	74.45	52.826	31	12.9100	7.48664

Gender Ethnicity	Prior Educational Attainment	Years of Age	Weeks dislocated N	Weeks dislocated M	Weeks dislocated SD	Hourly reemployed wage N	Hourly reemployed wage M	Hourly reemployed wage SD
		Older than 55	5	86.00	75.435	5	10.3420	1.58377
	Years 16 - 18	Less than 25	2	105.00	100.409	2	12.6850	2.38295
		25 - 40	15	71.33	44.215	15	19.4793	7.66015
		41 - 55	15	70.87	52.450	17	17.5053	9.36782
	Total	Less than 25	23	71.43	58.280	24	10.1396	2.64539
		25 - 40	135	59.93	42.811	143	13.1272	6.25737
		41 - 55	135	66.12	46.934	140	12.0353	5.92200
		Older than 55	16	73.50	62.009	16	10.2744	3.32595
		Total	310	65.57	52.738	323	12.2906	5.85723
					54.708			
White	Grades 0 -11	Less than 25	4	67.50	54.248	4	8.9300	.93431
		25 - 40	30	79.43	54.248	29	12.7831	5.57087
		41 - 55	50	59.22	46.005	49	19.2435	14.21663
		Older than 55	12	69.42	45.811	11	11.7127	9.04735
	Grade 12	Less than 25	40	62.43	38.116	42	10.4745	2.96693
		25 - 40	141	65.43	46.851	144	12.6866	5.44974
		41 - 55	151	66.23	52.005	152	13.9437	6.48091
		Older than 55	28	65.25	49.690	28	13.1518	8.53994
	Year 13-15	Less than 25	9	83.89	74.739	9	9.9067	2.47932
		25 - 40	52	69.77	53.025	51	13.7784	5.52025
		41 - 55	84	72.83	52.039	87	16.9989	9.75205
		Older than 55	12	95.08	58.153	13	13.6862	10.25823
	Years 16 - 18	Less than 25	1	49.00	.	1	12.3000	.
		25 - 40	30	61.00	41.910	30	23.4460	12.20454
		41 - 55	40	71.53	43.004	41	18.6888	9.43216
		Older than 55	20	62.80	43.294	20	23.0445	12.55019
	Total White	Less than 25	54	66.13	46.381	56	10.3055	2.78594
		25 - 40	253	67.45	48.526	254	14.1876	7.41779
		41 - 55	325	67.51	50.092	329	16.1322	9.45413
		Older than 55	72	70.24	49.188	72	15.7764	10.96147
		Total	704	67.66	49.071	711	14.9426	8.72589
Hispanic, American Indian, Other Race	Grades 0 -11	41 - 55	4	72.75	24.581	4	11.7600	2.66828
	Grade 12	Less than 25	1	39.00	.	1	9.0000	.
		25 - 40	2	58.00	9.899	2	16.0000	4.24264

Gender Ethnicity	Prior Educational Attainment	Years of Age	Weeks dislocated N	Weeks dislocated M	Weeks dislocated SD	Hourly reemployed wage N	Hourly reemployed wage M	Hourly reemployed wage SD
		41 - 55	2	51.00	42.426	2	13.9100	5.52958
	Year 13-15	25 - 40	3	96.33	55.645	4	14.1125	5.67309
		41 - 55	2	66.00	16.971	2	27.6400	11.89354
	Years 16 - 18	25 - 40	5	77.40	32.715	5	15.1000	9.86408
	Total Hispanic, American Indian, Other Race	Less than 25	1	39.00	.	1	9.0000	.
		25 - 40	10	79.20	37.070	11	14.9045	7.13339
		41 - 55	8	65.63	25.444	8	16.2675	8.81918
Total Males								
Prior Educ. Attain. and Age	Grades 0 -11	Less than 25	6	58.83	44.463	6	8.6367	1.08225
		25 - 40	56	71.43	50.679	55	11.8809	5.80053
		41 - 55	77	60.65	42.274	77	16.1905	12.24029
		Older than 55	14	65.00	43.621	13	12.8262	9.15874
		Total	153	64.92	45.574	151	14.0310	10.00761
	Grade 12	Less than 25	57	63.74	40.170	60	10.3123	2.88067
		25 - 40	222	61.43	43.947	229	12.7884	5.42205
		41 - 55	224	64.85	49.883	227	13.0196	5.79984
		Older than 55	38	66.63	51.950	38	12.3429	7.69624
		Total	542	64.24	50.051	554	12.5844	5.60140
	Year 13-15	Less than 25	13	80.69	78.370	13	10.2869	2.27060
		25 - 40	80	67.30	51.814	84	13.6818	6.04234
		41 - 55	118	73.17	51.386	121	16.1536	9.42967
		Older than 55	18	94.00	59.914	19	12.8226	8.54614
		Total	229	73.18	54.090	237	14.6886	8.16668
	Years 16 - 18	Less than 25	3	86.33	78.015	3	12.5567	1.69960
		25 - 40	59	65.47	40.699	60	21.4920	10.66367
		41 - 55	61	69.05	44.491	64	18.6575	9.52335
		Older than 55	25	63.28	42.974	25	21.1596	11.91904
		Total	148	67.00	43.110	152	20.0675	10.38535
	Total	Less than 25	79	67.01	49.444	82	10.2678	2.71007
		25 - 40	417	64.47	46.038	428	14.0673	7.21317
		41 - 55	480	66.76	48.512	489	15.0322	8.75310
		Older than 55	95	70.69	50.757	95	14.8252	9.94013
		Total	1072	66.63	49.504	1094	14.2796	8.06723

Gender Ethnicity	Prior Educational Attainment	Years of Age	Weeks dislocated N	Weeks dislocated M	Weeks dislocated SD	Hourly reemployed wage N	Hourly reemployed wage M	Hourly reemployed wage SD
Female								
Asian & Pacific Islander	Grades 0 -11	25 - 40	6	50.67	26.860	6	17.3917	13.70220
		41 - 55	4	71.50	70.788	3	8.2500	1.39194
	Grade 12	25 - 40	7	47.43	27.011	7	11.9357	1.96980
		41 - 55	11	63.91	53.558	11	12.5509	3.34761
		Older than 55	2	71.50	27.577	2	7.6250	.88388
	Year 13-15	41 - 55	3	70.67	45.181	3	11.5000	1.32288
		Older than 55	2	65.00	48.083	2	10.0000	4.24264
	Years 16 - 18	25 - 40	5	47.20	25.253	5	34.4700	4.94768
		41 - 55	7	82.71	45.493	7	20.8900	6.11136
	Total	25 - 40	18	48.44	24.948	18	20.0139	12.37384
		41 - 55	25	71.20	50.717	24	14.3142	5.95090
		Older than 55	4	68.25	32.222	4	8.8125	2.85318
		Total	47	62.23	41.964	46	16.0661	9.43572
Black/ African American	Grades 0 -11	Less than 25	4	77.50	34.646	4	7.6000	1.09848
		25 - 40	35	82.54	53.314	36	10.0556	6.20892
		41 - 55	49	64.00	49.519	49	8.2302	2.80470
		Older than 55	8	62.25	44.609	9	7.8311	2.32033
	Grade 12	Less than 25	21	80.10	46.602	23	7.8965	1.94515
		25 - 40	200	82.42	44.977	205	9.7208	3.17937
		41 - 55	195	76.21	47.891	207	9.7090	3.58451
		Older than 55	23	86.00	38.261	26	7.7023	2.21545
	Year 13-15	Less than 25	5	89.60	23.201	5	9.9080	2.97155
		25 - 40	80	92.81	50.896	86	10.4788	3.59125
		41 - 55	77	89.08	52.538	79	11.4265	5.42641
		Older than 55	6	54.50	28.634	6	13.2100	4.36013
	Years 16 - 18	25 - 40	14	82.93	60.655	14	16.6764	8.02036
		41 - 55	18	64.22	43.143	18	15.8928	11.58791
		Older than 55	3	49.33	52.386	3	15.6233	9.98056
	Total	Less than 25	30	81.33	41.366	32	8.1738	2.12741
		25 - 40	329	84.98	48.077	341	10.2329	4.19567
		41 - 55	339	76.73	49.453	353	10.2034	4.92735
		Older than 55	40	73.78	40.587	44	9.0198	4.18765
		Total	738	80.43	48.195	770	10.0645	4.50468
White	Grades 0 -11	Less than 25	3	92.00	46.033	3	12.1500	1.52561

Gender Ethnicity	Prior Educational Attainment	Years of Age	Weeks dislocated N	Weeks dislocated M	Weeks dislocated SD	Hourly reemployed wage N	Hourly reemployed wage M	Hourly reemployed wage SD
		25 - 40	38	64.08	46.602	39	12.9064	13.53015
		41 - 55	46	66.78	44.996	47	9.3868	3.90666
		Older than 55	4	102.50	31.890	4	8.0050	2.18551
	Grade 12	Less than 25	57	74.74	42.957	55	9.3204	3.27260
		25 - 40	240	79.76	48.574	243	10.1113	3.50204
		41 - 55	252	80.76	51.390	257	9.7436	3.05786
		Older than 55	41	61.63	45.905	45	8.7700	2.45061
	Year 13-15	Less than 25	15	74.00	46.000	15	13.0640	5.03504
		25 - 40	99	94.04	54.866	99	12.3372	6.65771
		41 - 55	108	80.66	49.068	111	11.7502	5.42949
		Older than 55	18	56.33	42.158	20	12.5410	5.24974
	Years 16 - 18	Less than 25	2	49.00	9.899	2	12.0000	4.24264
		25 - 40	35	67.89	43.005	35	16.6703	7.48586
		41 - 55	36	65.44	47.882	38	18.1734	11.10777
		Older than 55	5	79.60	42.087	5	17.2840	11.68601
	Total	Less than 25	77	74.60	42.847	75	10.2537	3.92356
		25 - 40	412	80.74	50.212	416	11.4549	6.53508
		41 - 55	442	78.03	50.079	453	10.9054	5.45405
		Older than 55	68	63.96	44.566	74	10.3231	4.99198
		Total	999	77.92	49.367	1018	11.0396	5.80675
Hispanic, American Indian, Other Race	Grades 0 -11	25 - 40	1	12.00	.	1	10.0000	.
		41 - 55	3	55.00	62.450	3	12.1667	7.00595
		Older than 55	1	41.00	.	1	10.0000	.
	Grade 12	25 - 40	8	33.50	19.280	9	9.3089	1.18373
		41 - 55	11	61.00	35.415	11	10.5200	2.31235
		Older than 55	1	18.00	.	1	8.0000	.
	Year 13-15	25 - 40	3	13.33	9.866	3	12.6467	2.05719
		41 - 55	5	72.20	42.115	5	9.8620	1.72850
		Older than 55	1	94.00	.	1	9.0000	.
	Years 16 - 18	25 - 40	2	47.00	5.657	2	15.6850	.26163
		41 - 55	4	47.25	26.700	5	16.0160	8.02892
		Older than 55	2	56.00	48.083	2	12.5900	2.46073
	Total	25 - 40	14	29.57	18.932	15	10.8727	2.64940
		41 - 55	23	60.26	37.571	24	11.7338	4.87859

Gender Ethnicity	Prior Educational Attainment	Years of Age	Weeks dislocated N	Weeks dislocated M	Weeks dislocated SD	Hourly reemployed wage N	Hourly reemployed wage M	Hourly reemployed wage SD
		Older than 55	5	53.00	36.674	5	10.4360	2.42492
		Total	42	49.17	34.702	44	11.2927	3.97723
Total Females	Grades 0 -11	Less than 25	7	83.71	36.967	7	9.5500	2.70077
		25 - 40	80	70.50	49.431	82	11.9476	10.88143
		41 - 55	102	65.28	47.958	102	8.8795	3.51522
		Older than 55	13	73.00	43.215	14	8.0357	2.17750
		Total	202	68.49	47.797	205	10.0720	7.48781
	Grade 12	Less than 25	78	76.18	43.725	78	8.9005	3.00315
		25 - 40	455	79.62	46.915	464	9.9507	3.32312
		41 - 55	469	78.01	49.721	486	9.8100	3.30495
		Older than 55	67	69.64	44.161	74	8.3535	2.36338
		Total	1069	78.04	47.781	1102	9.7071	3.26427
	Year 13-15	Less than 25	20	77.90	41.479	20	12.2750	4.74394
		25 - 40	182	92.17	53.541	188	11.4920	5.47799
		41 - 55	193	83.64	50.155	198	11.5695	5.31963
		Older than 55	27	57.96	38.302	29	12.3821	4.87008
		Total	422	85.41	51.187	435	11.6226	5.32515
	Years 16 - 18	Less than 25	2	49.00	9.899	2	12.0000	4.24264
		25 - 40	56	69.05	46.592	56	18.2259	8.83186
		41 - 55	65	65.85	45.047	68	17.6907	10.56788
		Older than 55	10	65.80	43.261	10	15.8470	9.32869
		Total	133	66.94	44.991	136	17.6918	9.69486
	Total	Less than 25	107	76.49	42.351	107	9.6317	3.60362
		25 - 40	773	80.86	49.229	790	11.1114	5.97307
		41 - 55	829	76.80	49.553	854	10.7343	5.28195
		Older than 55	117	66.99	42.474	127	9.8284	4.60677
		Total	1826	77.87	48.684	1878	10.7688	5.47880
Total Asians & Pacific Islander	Grades 0 -11	25 - 40	11	40.00	24.216	11	16.9673	11.96618
		41 - 55	6	74.17	55.553	5	11.2100	4.61096
		Older than 55	1	36.00	.	1	26.0000	.
		Total	18	51.17	39.161	17	15.8053	10.43224
	Grade 12	Less than 25	1	41.00	.	1	12.5000	.
		25 - 40	9	49.67	25.040	9	12.3111	3.69122
		41 - 55	14	59.36	51.398	14	13.1786	3.21168
		Older than 55	2	71.50	27.577	2	7.6250	.88388
		Total	26	56.23	40.666	26	12.4250	3.45270
	Year 13-15	25 - 40	3	36.00	20.075	3	16.0000	6.08276
		41 - 55	4	72.00	36.986	4	13.6725	4.47724
		Older than 55	3	83.67	46.918	3	11.3333	3.78594
		Total	10	64.70	38.117	10	13.6690	4.66036

Gender Ethnicity	Prior Educational Attainment	Years of Age	Weeks dislocated N	Weeks dislocated M	Weeks dislocated SD	Hourly reemployed wage N	Hourly reemployed wage M	Hourly reemployed wage SD
	Years 16 - 18	25 - 40	14	58.00	34.077	15	26.0533	10.09679
		41 - 55	13	66.69	42.313	13	21.2677	8.65452
		Older than 55	5	65.20	46.602	5	13.6200	3.92435
		Total	32	62.66	38.444	33	22.2842	9.66552
	Total	Less than 25	1	41.00	.	1	12.5000	.
		25 - 40	37	48.84	28.537	38	19.3747	10.72778
		41 - 55	37	65.70	46.106	36	15.8811	7.14371
		Older than 55	11	68.73	39.583	11	13.0318	5.72779
		Total	86	58.55	38.858	86	17.0210	8.96080
Total Black/ African American	Grades 0 -11	Less than 25	6	65.50	32.660	6	7.7500	1.10408
		25 - 40	56	78.04	50.808	57	9.8675	5.28977
		41 - 55	70	62.79	46.081	71	8.8546	3.32594
		Older than 55	9	59.89	42.324	10	8.2380	2.53797
		Total	141	68.77	47.529	144	9.1667	4.14842
	Grade 12	Less than 25	36	76.06	46.629	39	8.6905	2.49190
		25 - 40	277	74.60	45.013	286	10.6126	4.17605
		41 - 55	264	74.42	54.016	277	10.0055	3.54930
		Older than 55	33	81.30	45.712	36	8.3622	3.00624
		Total	610	74.97	49.148	638	10.1045	3.81339
	Year 13-15	Less than 25	9	82.44	62.696	9	10.4567	2.42820
		25 - 40	102	86.12	52.323	112	11.1009	4.79419
		41 - 55	108	84.88	52.793	110	11.8445	6.07844
		Older than 55	11	68.82	54.376	11	11.9064	3.57100
		Total	230	84.57	52.815	242	11.4516	5.30996
	Years 16 - 18	Less than 25	2	105.00	100.409	2	12.6850	2.38295
		25 - 40	29	76.93	52.157	29	18.1262	7.82537
		41 - 55	33	67.24	46.943	35	16.6760	10.44535
		Older than 55	3	49.33	52.386	3	15.6233	9.98056
		Total	67	71.76	50.366	69	17.1241	9.16469
	Total	Less than 25	53	77.04	49.151	56	9.0163	2.53792
		25 - 40	464	77.69	47.933	484	11.0880	5.06463
		41 - 55	475	74.58	52.483	493	10.7236	5.28790
		Older than 55	56	73.70	47.082	60	9.3543	3.98826
		Total	1048	76.04	50.020	1093	10.7224	5.04369
Total White	Grades 0 -11	Less than 25	7	78.00	48.727	7	10.3100	2.04321
		25 - 40	68	70.85	50.320	68	12.8538	10.80747
		41 - 55	96	62.84	45.444	96	14.4178	11.57772
		Older than 55	16	77.69	44.287	15	10.7240	7.89756
		Total	187	67.59	47.223	186	13.3935	10.84337
	Grade 12	Less than 25	97	69.66	41.277	97	9.8201	3.18029
		25 - 40	381	74.45	48.380	387	11.0695	4.49948
		41 - 55	403	75.32	52.036	409	11.3045	5.05386

Gender Ethnicity	Prior Educational Attainment	Years of Age	Weeks dislocated N	Weeks dislocated M	Weeks dislocated SD	Hourly reemployed wage N	Hourly reemployed wage M	Hourly reemployed wage SD
		Older than 55	69	63.10	47.150	73	10.4507	5.96840
		Total	950	73.51	49.265	966	10.9968	4.77127
	Year 13-15	Less than 25	24	77.71	57.051	24	11.8800	4.47298
		25 - 40	151	85.68	55.286	150	12.8272	6.31257
		41 - 55	192	77.23	50.406	198	14.0564	8.04971
		Older than 55	30	71.83	51.936	33	12.9921	7.49322
		Total	397	80.07	52.832	405	13.3855	7.23627
	Years 16 - 18	Less than 25	3	49.00	7.000	3	12.1000	3.00500
		25 - 40	65	64.71	42.313	65	19.7975	10.43319
		41 - 55	76	68.64	45.177	79	18.4409	10.20873
		Older than 55	25	66.16	42.733	25	21.8924	12.36868
		Total	169	66.41	43.168	172	19.3447	10.59151
	Total	Less than 25	131	71.11	44.360	131	10.2759	3.47092
		25 - 40	665	75.68	49.959	670	12.4909	7.00440
		41 - 55	767	73.57	50.322	782	13.1044	7.83709
		Older than 55	140	67.19	46.937	146	13.0124	8.88055
		Total	1703	73.68	49.489	1729	12.6446	7.40404
Total Hispanic, American Indian, Other Race	Grades 0 -11	25 - 40	1	12.00	.	1	10.0000	.
		41 - 55	7	65.14	41.136	7	11.9343	4.46858
		Older than 55	1	41.00	.	1	10.0000	.
		Total	9	56.56	40.150	9	11.5044	3.96279
	Grade 12	Less than 25	1	39.00	.	1	9.0000	.
		25 - 40	10	38.40	20.167	11	10.5255	3.20111
		41 - 55	13	59.46	34.775	13	11.0415	2.93675
		Older than 55	1	18.00	.	1	8.0000	.
		Total	25	48.56	30.121	26	10.6277	2.95202
	Year 13-15	25 - 40	6	54.83	57.829	7	13.4843	4.25636
		41 - 55	7	70.43	35.208	7	14.9414	10.04090
		Older than 55	1	94.00	.	1	9.0000	.
		Total	14	65.43	44.569	15	13.8653	7.30171
	Years 16 - 18	25 - 40	7	68.71	30.642	7	15.2671	8.05975
		41 - 55	4	47.25	26.700	5	16.0160	8.02892
		Older than 55	2	56.00	48.083	2	12.5900	2.46073
		Total	13	60.15	30.683	14	15.1521	7.18235
	Total	Less than 25	1	39.00	.	1	9.0000	.
		25 - 40	24	50.25	36.946	26	12.5785	5.33024
		41 - 55	31	61.65	34.524	32	12.8672	6.26096
		Older than 55	5	53.00	36.674	5	10.4360	2.42492
		Total	61	56.08	35.272	64	12.4995	5.61605
Total	Grades 0 -11	Less than 25	13	72.23	40.911	13	9.1285	2.08799
		25 - 40	136	70.88	49.764	137	11.9208	9.15868
		41 - 55	179	63.29	45.534	179	12.0245	9.17372

Gender Ethnicity	Prior Educational Attainment	Years of Age	Weeks dislocated N	Weeks dislocated M	Weeks dislocated SD	Hourly reemployed wage N	Hourly reemployed wage M	Hourly reemployed wage SD
		Older than 55	27	68.85	42.777	27	10.3422	6.85823
		Total	355	66.95	46.820	356	11.7512	8.85301
	Grade 12	Less than 25	135	70.93	42.556	138	9.5143	3.02260
		25 - 40	677	73.65	46.719	693	10.8884	4.34271
		41 - 55	694	74.36	52.514	713	10.8318	4.51179
		Older than 55	105	68.55	46.903	112	9.7071	5.19782
		Total	1611	73.39	48.977	1656	10.6697	4.40644
	Year 13-15	Less than 25	33	79.00	57.677	33	11.4918	4.03347
		25 - 40	262	84.58	54.151	272	12.1683	5.73726
		41 - 55	311	79.67	50.799	319	13.3083	7.48651
		Older than 55	45	72.38	50.720	48	12.5565	6.49219
		Total	651	81.11	52.511	672	12.7040	6.62933
	Years 16 - 18	Less than 25	5	71.40	59.041	5	12.3340	2.45709
		25 - 40	115	67.22	43.512	116	19.9153	9.91626
		41 - 55	126	67.40	44.628	132	18.1595	10.04840
		Older than 55	35	64.00	42.431	35	19.6417	11.36862
		Total	281	66.97	43.931	288	18.9457	10.11777
	Total	Less than 25	186	72.46	45.613	189	9.9077	3.25365
		25 - 40	1190	75.12	48.748	1218	12.1501	6.58625
		41 - 55	1310	73.44	50.700	1343	12.2992	7.06214
		Older than 55	212	68.65	46.292	222	11.9667	7.76309
		Total	2898	73.71	49.280	2972	12.0612	6.76568

VITA

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Education

Ph.D.	Community College Leadership, December 2006 Old Dominion University, Norfolk, Virginia
Master's of Science	Vocational Technical Education, August 1979 Virginia Polytechnic Institute & State University, Blacksburg, Virginia.
Bachelor's of Science	Business Education, May 1974 Averett College, Danville, Virginia

Professional History

Virginia Cooperative Extension, Virginia Tech and Virginia State University
Community Viability Specialist, October 2005 through Present

- Work with Extension agents in field offices and with other campus-based faculty in Extension and Virginia Tech and Virginia State University.
- Assess community needs,
- Facilitate the design of a community-based plan of action,
- Determine appropriate delivery methods, and
- Assist local communities in identifying resources available from Virginia Tech and Virginia State University as well as through other non-governmental, state, and federal agencies.

Danville Community College

Director of Institutional Advancement Danville Community College & Executive Director of the Educational Foundation, Inc. January 1998 to October 2005

Professor Administrative Systems Technology, September 1977 - December 1997

Program Coordinator for the Center for Business, Industry, and Government, June 1995 - December 1997

- Develop programs and grant proposals for achieving the strategic goals of Danville Community College.
- Manage and develop operational materials for the DCC Educational Foundation, Inc., and its Board of Directors.
- Served as a member of the President's Staff and the College Management Team.
- Developed a liaison relationship with the three area school divisions, designed and conducted surveys of educators within service region, and coordinated training for educators, businesses, and industries.
- Developed, marketed, and taught numerous courses and workshops.
- Chaired numerous college committees and chaired the 1993-1995 Institutional Self-Study for the Southern Association of Colleges and Schools.