Can sociological theory and/or labor market theory explain the workforce participation of people with disabilities receiving public benefits in the US?

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Contents

Chapter 1 Introduction

In this chapter, I describe the relevance of the dissertation topic to the social work profession in industrialized countries such as the US and UK, summarize the broader significance of the topic of disability and employment and show how the dissertation research will contribute to knowledge in the field. I also outline the structure of dissertation.

1.4 Social work involvement in workforce participation by people with disabilities

Over the last three decades, the social work profession in both the US and the UK has become increasingly concerned with the inclusion of people with disabilities in the workforce. Very broadly, social workers are employed to intervene with two groups of people with disabilities. The first group consists of those who receive community support services because of significant difficulties in performing 'activities of daily living', such as self-care or interacting with others. Such social work involvement is primarily related to people with developmental disabilities or mental illness. The second group consists of those who may not have such severe limitations but who receive public disability benefits and are seen by benefit administration agencies as having the potential to enter employment. In the UK, the Department of Work and Pensions (DWP) criteria for eligibility for the 'Employment and Support Allowance' involve having, for a minimum of seven months, a 'specific bodily or mental disease, illness or disablement' that results in a certain minimum score in 'an assessment of physical, mental health and cognitive functions considered within a range of activities' (Disability Alliance, 2014). Of those meeting the disability criteria, recipients also deemed as capable, with support, of obtaining paid work must participate in vocational programs, which often employ social workers. In the US, the

Social Security Administration (SSA) has similar criteria for disability benefits, although the level of functioning must have existed for 12 months or more, and the assessed 'functions' are described in terms of work activities, rather than any activities. The SSA does not have, as yet, requirements to participate in vocational programs. However, under the Ticket to Work and Work Incentives Improvement Act of 1999, recipients are encouraged to use their 'Ticket To Work' to obtain employment support services from a range of SSA-approved 'Employment Networks' (ENs), which are compensated on an outcome basis by SSA. As of April 2014, 13.5 million 'Tickets' had been issued, 317,000 beneficiaries had assigned their ticket to an EN, and 654 ENs had been approved. Some of these ENs have social workers as part of their staff.

These roles for social workers have developed under the influence of governmental policies that relate to the two groups described above. The first influence can be broadly categorized as 'de-institutionalization.' The shift from asylums and other residential establishments, designed to isolate those in institutions from the rest of society, to 'care in the community' has meant that the employment opportunities (paid and unpaid) that the institutions provided for 'inmates' and residents are no longer available (Sigelman, Roeder, & Sigelman, 1982). Beginning the late 1970s, US and UK governmental policy has increasingly adopted the principle that people with disabilities should be integrated into the general labor market. The main programmatic vehicle for this policy has been 'supported employment', through which social workers and others provide on-the-job coaching, individualized case management, assistance in job-searching, benefits counseling, and assisted negotiation with employers (Bond, Wehman, & Wittenberg, 2005).

At about the same time as the change in values and programs noted above, a second policy trend has exerted influence over the practice of social workers. 'Welfare to work' policies began to be applied to single mothers in the US in the 1980s. It has since expanded in many countries to include more groups such as youth, older workers, and people with disabilities, and to become progressively more coercive. It now includes compulsory 'work-readiness' interviews, requirements for evidence of job applications and withdrawal of benefit for non-compliance. Programs funded by SSA and DWP have provided such incentives as motivational workshops, financial inducements, career counseling and individual casework to encourage people with disabilities to enter paid work. Social workers have been involved both as advocates for people who have been subject to these benefit program changes and as employees of the programs themselves, specifically charged with promoting employment.

The research presented in this dissertation is designed to inform social work practice in the two fields described above by exploring the factors that may influence workforce participation by people with disabilities who receive public disability benefits. While the research uses a US dataset, the literature that informs the research is drawn from the US and the UK (and, to a lesser extent, Canada) in order to make best use of existing knowledge from industrialized countries facing similar issues of inequality and social exclusion, and sharing a common language.

1.4 Significance of problem area

Beyond its relevance to social work, the workforce participation rate of people with disabilities is important in several respects.

In terms of economic well-being, for people with disabilities, in both industrialized and agrarian economies, and among those with cash benefit systems and those without, lack of access to employment opportunities for people with disabilities is highly correlated with relative poverty (Beresford, 1996). Even in the US, which has relatively high social insurance benefits, approximately 50% of women who receive the earnings-related SSDI benefit are below 150% of the poverty level, and 25% are below 100% (Haveman, 2000).

On the broader issue of social inclusion, disengagement from the workforce is associated not only with economic disadvantage, but with what Sen (2000) calls the 'relational failure' and 'capability deprivation' that characterize his definition of social exclusion. Sen writes:

"A person stuck in a state of unemployment, even when materially supported by social insurance, does not get to exercise much freedom of decision, and attitudinal studies have brought out the extent to which this loss of freedom is seen by many unemployed people as a central deprivation. Unemployment can be a major causal factor predisposing people to social exclusion." (p.19)

A review of the literature on health and employment (Bartley, 1994) describes many studies that have demonstrated the deleterious effects of unemployment on health, although these also reveal

many mediating factors such as social isolation and relative poverty. A recent analysis of data from the British National Household Survey (Bartley, Sacker, & Clarke, 2004) concluded "unemployment and economic inactivity … had a powerful effect on illness incidence" and "secure employment increases the likelihood of recovery" (p.501).

The final area of significance related to workforce participation by people with disabilities is its effects on public expenditure. A simple analysis (described in Appendix 1.1) suggests that in 2006 the UK spent £15.2 billion on disability benefits that could potentially be affected by increased workforce participation by those with disabilities. A similar analysis (Appendix 1.2) shows that in the US, $107 billion was spent on disability benefits in 2005. The cost of the disability benefits included above is 3.9% of central government expenditure in the UK and 3.8% in the US. However, while it is clear that spending on government benefits for people with disabilities is significant, it is not clear how much actual savings would be gained through increasing the employment of people with disability benefit recipients, given that, even if an increase could be achieved, it would probably result in some new expenditures. For example, substantially increased employment among people with disabilities could require increased support services, and some individuals with disabilities who secured employment may displace other individuals, who may then require additional government programs and expenditures (Bartik, 1999). Further consideration of such issues, and some relevant literature, is reported in Appendix 1.3.

1.4 Contributions of dissertation

Research to date has approached the topic of disability and employment from the perspective of either economic or sociological theory. Through access to a particularly rich dataset, the research reported here uses both perspectives to try to understand workforce participation decisions by people with disabilities receiving state benefits. This Wisconsin dataset was collected over a two year period and includes not only information about benefits and earnings, which allow tests of predictions of labor market theory, but also demographic and attitudinal information, which allow tests of the impact of sociological constructs. Government disability benefit policies in the US and UK, and in other industrialized countries, are often, explicitly or implicitly, founded on economic and sociological theory, for example in their efforts to 'make work pay', 'increase expectations' and mandate social support through 'job clubs.' Such policies are directed at a section of the disability benefit population who are seen as able and willing to work but currently held back by poor financial incentives or a social environment that does not support employment.

The sample used here is highly relevant to the development of current government policies. First, it consists of disability benefit recipients who have stated a wish to work or to work more. Second, it includes data that have the potential to act as measures of constructs from both economic and sociological theory. Third, it is of sufficient size (n = 1166) to allow tests of multiple factors that play a part in individuals' employment decisions. Much prior research on sociological factors has used qualitative methods that result in highly nuanced understandings of the experience of people with disabilities in the workplace, but with limited predictive potential.

Some research on sociological factors has used survey methodologies with potentially broader applicability, but with small samples and specific disabilities that limit their relevance to much of the disability benefit population. Prior research using the perspective of labor market theory has tended to use very large data sets that include the whole disability benefit population, rather than focusing on those who are 'work-oriented', to use Livermore's phrase (Livermore, 2009). The research reported in this dissertation will contribute to knowledge, and to social work practice, in this field by exploring the relationship between going to work, or staying in work, and specific economic and social factors affecting disability benefit recipients who are motivated to work. While the results of the research are most relevant to one state in the US, they may indicate further directions for research in other states and countries that have similar disability benefits and support services, and similar economic systems.

1.4 Structure of the dissertation

In chapter 2, the context of the study is discussed, previous literature reviewed and the questions for the study more precisely defined. In chapter 3, two theoretical perspectives that have informed the literature on workforce participation by people with disabilities are described, research that uses each of these theoretical perspectives to understand workforce participation is analyzed, and the hypotheses that this study addresses are described. Chapter 4 describes the methods and models used, the dataset and the choice of variables included. Chapters 5 and 6 present the results. Chapter 7 analyzes the results, notes the limitations of the analyses, draws conclusions related to the dissertation question and relevant public policy, and considers implications for further research.

Chapter 2 Defining the topic and current knowledge

This chapter analyzes the definitional issues related to the dissertation topic, then describes issues in assessing trends in workforce participation by people with disabilities in the US and UK. This is followed by a description of the main benefits for people with disabilities in the US and UK and a summary of current knowledge about workforce participation among people with disabilities.

2.1 Definitional issues

2.1.1 Definition of 'disability'

The definition of the term 'disability' is the terrain for a continuing debate among scholars, policy makers and advocates. This debate is reflected in every aspect of the study of disability and society, not least that of workforce participation. I first discuss the extent to which the definition of disability is exclusively about individual characteristics, then discuss whether self-reports are valid measures of disability. I include a discussion of the challenges of making comparisons either over time in the same country, or internationally, based on statistics that use diverse definitions of key terms.

Until the 1960s, disability was typically defined medically by the single criterion of an individual condition of illness or abnormality. Following Nagi (1965), this approach was challenged, and predominantly replaced, by a multi-dimensional definition that included an individual condition

or impairment, a restriction in normal activities and a disadvantage in the fulfillment of a desired social role. The 1980 World Health Organization International Classification of Functioning, Disability and Health (ICF) institutionalized this approach (World Health Organization, 1980), in an enduring definition that continued to be used well after the ICF definition was revised, including in WHO publications (Andrews & Faulkner, 2004), perhaps indicating institutional resistance to social perspectives on disability. The 1980 ICF definition is: “Any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner, or within the range, considered to be normal for a human being. The term disability reflects the consequences of impairment in terms of functional performance and activity by the individual. Disabilities thus represent disturbances at the level of the person” (p.22).

Concurrently, a competing approach to definition emerged, broadly described as the 'social model of disability.’ This approach focused on the social structures that produce exclusion of some people who are 'differently-abled.’ Oliver (1991) describes such a definition as a reaction to an approach that seems to "reify the notions of physical normality and normal social roles" (p.134). This perspective has been incorporated to some degree into a revision of the WHO classification (World Health Organization, 2001), which takes into account “the social aspects of disability and provides a mechanism to document the impact of the social and physical environment on a person's functioning" (Leonardi, Bickenbach, Ustun, Kostanjsek, & Chatterji, 2006) (p.1220). In this, disability is defined as ‘a difficulty in functioning at the body, person, or societal levels, in one or more life domains, as experienced by an individual with a health condition in interaction with contextual factors.’ While incorporating ‘contextual factors’, this retains an individual conception of disability, rather than describing ‘disabling’ social structures.

Mashaw and Reno (1996) point out that how disability is defined depends on the purpose for which the term is being used. Epidemiological surveys, by their nature individually focused, have followed the lead of the WHO definition. The Canadian Survey on Disability (CSD), the federal government's source of disability data, explicitly adopts the WHO language, using a definition of disability that includes anyone who reports being "sometimes", "often" or "always" limited in their daily activities due to a long-term condition or health problem, as well as anyone who reported being "rarely" limited if they were also unable to do certain tasks or could only do them with a lot of difficulty (Statistics Canada, 2014). In the UK, the Labour Force Survey uses a threefold definition consisting of impairment (loss or abnormality), disability (lack of normal ability) and handicap (resulting role-limiting disadvantage) (ONS, 2011). Surveys attempt to assess prevalence under this sort of definition through 'self-report', by asking respondents if they experience a condition that limits their activities, often specifying work activity. In the US, the Panel Study of Income Dynamics (SRC, 2014) asks: 'Do you have any physical or nervous condition that limits the amount or type of work that you can do?'

The validity of self-report in assessing prevalence and work limitations has been the subject of much debate. Currie and Madrian (1999), in their analysis of the effect of health on labor market activity, conclude that "estimates...may be very sensitive to the measure of health used and to the way in which the estimation procedure takes account of potential measurement error" (p.318). Kreider (2000) proposes a model for estimating bias in self-report of disability that uses reporting by employed workers to control for bias in reporting by unemployed workers, and concludes that the latter 'over-report' disability. Kreider has also developed (Kreider & Pepper,

2007) a model that “formalizes assumptions that appear to share broad consensus in the literature”, and finds that “non-workers appear to systematically over-report disability”(p.432).

Other studies have shown that self-report is highly correlated with clinical estimates of health and disability (Stern, 1989), and that self-report may in fact often underestimate ill-health (Bound & Burkhauser, 1999). A Dutch econometric study (Boot, Heijmans, van der Gulden, & Rijken, 2008) concludes that “illness perceptions are significantly associated with work disability in the chronically ill. Self-reported health is more strongly associated with work disability than the assessment of health status by the physician” (p.13). Norrefalk and Svensson (2014), examining assessments of chronic pain, conclude that there is “strong evidence of underestimation of the patients’ problems and variability in the professionals’ ICF-classifications” (p.1). In conclusion, it seems that there is not yet a consensus about the validity of measures of disability relying on self-report in comparison to other means of assessment.

Surveys vary in the limitations they specify, the age groups for which they report results, the duration of the limitation, and the implied severity of the conditions about which they ask. Such factors make comparisons between the results of different surveys difficult. For example, Burkhauser and Daly (1996) analyzed three US surveys to estimate the working age disabled population, and concluded that the Panel Study of Income Dynamics (PSID) "is a reasonable source of data for studying the effects of disability on working age adults" (p.64). This survey results in an estimate for the 25 to 61 age group of men of 9.2% and 10.6% of women responding positively in both 1988 and 1989 to the question specified on p.3 above: "Do you have any nervous or physical condition that limits the type or amount of work you can do?" In

Canada, the CSD produces a similar estimate of 10.1 % of the population aged 15-64, using the definition described above, at a single point in time rather than two. In the UK, there are a number of similar surveys designed to measure disability, and again they do not report on the same individuals over consecutive years. For example, the 2002 UK General Household Survey (GHS, 2002) estimated that 15% of the age 18-64 population has a "limiting long-standing illness or disability that restricted activity in the 14 days prior to the survey." This higher rate than that found in the US PSID survey and the Canadian CSD could accurately reflect population differences, or it could be an overestimate because it is a 'two-week' measure rather than over two consecutive years, or because the UK question does not specify a work restriction, or because of the inclusion of people in the 61 to 64 age group. On the other hand, the stipulation of a "limiting long-standing illness or disability" could be seen as more restrictive than that of "any nervous or physical condition", implying that the higher UK estimate from the GHS can be seen as an underestimate.

In conclusion, the significant differences between surveys in defining and operationalizing the concept of 'disability' may result in differing survey findings over time and internationally about the prevalence of disability not being substantive, but definitional. Researchers in the field of disability and work rely heavily on survey data to test hypotheses about the factors involved in determining employment rates. As is demonstrated in the discussion below on trends in employment, differences in results between studies can revolve around the appropriateness of the definitions used by different surveys.

The disability concept relevant to the population of interest for this paper follows that articulated in the WHO (2001) International Classification of Functioning, Disability, and Health (ICF), which, as noted above, defines disability as 'a difficulty in functioning at the body, person, or societal levels, in one or more life domains, as experienced by an individual with a health condition in interaction with contextual factors.' Thus, in this dissertation, I will use a definition that includes both individual factors and contextual factors. Following this WHO classification, the disability concept that is relevant to a discussion of work and disability is 'the negative aspects of the interaction between an individual with a health condition and the range of work environments and expectations in a given society that might limit participation in work.' 'Working age', for the purposes of this paper, is from the age at which people are allowed to work full time up to the retirement age. The populations described in chapter 1 with which social workers are involved are subsets of the 'PSID-defined' population of people with disabilities, in that they have disabilities that are limiting to the degree that they either are defined as 'unemployed' and entitled to disability benefits, or need community support services.

2.1.2 Definition of 'public disability benefit recipient'

Much of the research and political interest in employment levels among people with disabilities arises from governmental concerns about the numbers receiving public disability benefits and the resulting public costs. The definition and use of the term 'public disability benefit recipient', particularly in making cross-national comparisons, presents considerable challenges.

The definitions of disability used in public policy for determining eligibility for public disability benefits are similar to those used in epidemiological surveys (a health condition, persisting over time, that limits valued activities) and reflect the same kinds of variation (in conditions, length of time present and type and severity of limitations) when operationalized. However, the eligibility criteria for benefits generally involve much greater limitations. The UK 'Employment and Support Allowance' criteria include, for example, if the person 'forgets or loses concentration to such an extent that overall day to day life cannot be successfully managed without receiving verbal prompting, given by someone else in the customer's presence…on a daily basis' (Disability Alliance, 2014). Disability benefits under the Canada Pension Plan are dependent on a 'mental or physical disability that is long-term and of indefinite duration, or is likely to result in death and that regularly stops you from doing any type of substantially gainful work' (Service Canada, 2014).

The same components of a persisting health condition that leads to a certain level of limitations in the performance of expected activities are present in the US eligibility criteria for cash disability benefits, although the duration of the condition and 'scoring' of limitations are currently different from those in the UK and Canada (in all three countries criteria have changed considerably over time, often in the context of politically-charged public debate). Some disability benefits have additional criteria related to the types of conditions and limitations, age or financial status. For example, in the UK, eligibility criteria for Disability Living Allowance (DLA) include: aged under 65; has needed help with personal care or had walking difficulties due to a physical or mental disability for three months; and the difficulty is likely to continue for at least another six months. Different levels of DLA payment are made to people depending on a

standardized assessment of personal care and walking difficulties. As an example of financial criteria, in the US, eligibility for SSDI is dependent on prior social security contributions. These wide variations in eligibility criteria must be considered when using benefit receipt as a proxy for outcomes such as disability rates or non-employment.

In making international comparisons among apparently similar countries such as those considered above, there are other differences that might impact the estimation of the number and cost of public disability benefit recipients. These include:

- The role of private disability insurance provision and the extent to which it can substitute for public benefits
- The availability of ‘non-disability’ benefits and the degree to which universal benefits make disability benefits unnecessary
- The eligibility criteria for benefits, and the extent to which disability benefits are awarded on the basis of partial disability, as opposed to using 'all or nothing' eligibility criteria
- The 'work incentives' in benefits systems, particularly the 'earnings offset' policies
- The availability of disability benefits for employed people with disabilities
- The availability of means-tested income maintenance benefits, both in the public welfare system, and, through tax credits, in the tax system for employed people
- The extent to which health care access is dependent on employment status and benefit status
- The extent and nature of the ‘informal’ economy
- The structure of housing benefits.

Consideration of this list of issues in relation to the benefit systems of Canada, the US and the UK illustrates the difficulty of making international comparisons of benefit recipient populations, or, often, of making comparisons over time in the same country. As a result, while the discussion in this dissertation will draw on research primarily from the US and the UK (and, to a lesser extent, Canada), the empirical examination in this dissertation will focus only on those receiving disability benefits in the US[1] rather than trying to combine, or to compare and contrast, information from the US and the UK.

2.1.3 Definition of 'workforce participation'

Significant definitional issues exist in measuring, and making comparisons between, workforce participation by populations of people with disabilities. For example, workforce participation could be measured by payment of social security contributions. However, certain sectors and certain levels of part-time employment may not be required to pay contributions in some periods of time and in some countries. In addition, this does not take account of the 'informal' economy, the size of which varies considerably between countries, and between states and regions within countries. Furthermore, in countries or sectors with agricultural economies that are based on village, clan or family groupings, work is not paid through wages in a labor market context, so it is problematic to define work as distinct from many of the activities which in industrial states are defined by economists as 'leisure.'

[1] I include participants in the Social Security Disability Insurance program and those receiving Supplemental Security Income benefits by virtue of their having a disability.

Another definitional issue arises over variations in the amount of employment or earnings required to count as meaningful employment. Indeed, it could be argued that a small amount of earnings should not be considered as employment. In this dissertation, I focus on *any* employment reported (by employers) in the state unemployment insurance (UI) system within a calendar quarter, given that even a small amount of earnings can indicate that the person is looking for work and participating in the labor market. (As will be described in the context of more detailed consideration of this issue (see chapter 4, footnote 6), sensitivity tests that use an alternative definition of employment lead to the same conclusions.)

To conclude this discussion of definitional issues, it is clear that in making comparisons between the results of studies on the subject of workforce participation by people receiving public disability benefits, careful attention must be paid to how such concepts as disability, public benefit recipient and workforce participation are defined and operationalized. Moreover, I will be clear about the way these terms and populations are used in the empirical explorations of this dissertation.

2.2 Employment policies, social insurance and income support for people with disabilities in the US and the UK

In this section, I outline some of the characteristics of social insurance, income support and employment services for people with disabilities in many 'affluent democracies' by describing the systems in the US and the UK. The comparison shows that there are considerable similarities in the development of social policies related to disability and employment in the two countries,

some long-standing and others more recent. The extent of 'welfare convergence' is the subject of much debate (Brady, Seeleib-Kaiser, & Jason, 2005), but in this limited policy area, there seem to be common threads in recent developments, including designing benefit rules to 'make work pay', increased expectations for rehabilitative efforts, privatization of 'back to work' services and increasing legislative mandates against discrimination. Conclusions drawn from the study reported in this dissertation may have applicability in the UK and other countries. Table 2.1 provides a comparative description of the main benefit programs and employment policies for people with disabilities in the US and UK, and is followed by an analysis of the features of each country's benefit programs.

Table 2.1

Characteristics of public benefits , rehabilitation services and legislation related to people with disabilities

	US (January 2014)	UK (April 2014)
Out-of-work sickness benefits		
Name	None, unless employer provides, or unless covered by state Workers' Compensation (WC) program for workplace injuries	Statutory Sick Pay / *Employment and Support Allowance (ESA)*
Eligibility	Work related injury	Ave. earnings >£111 pw and medical certificate / *Medical certificate*
Length	4 days to indefinite	4 days to 28 weeks of sickness/ *Up to 13 weeks*
Weekly amount (single person)	Depends on wage level, nature of injury	£87.55 / *£72.40*
Benefit offset	n/a	n/a
Trial work period	n/a	n/a
Out-of-work, contributory disability benefits		
Name	Social Security Disability Income (SSDI)	Contributory ESA
Eligibility	Unable to engage in 'Substantial Gainful Activity' ('SGA') due to physical or mental impairment(s) which lasted or can be expected to last for not less than 12 months; enough SSDI work credits	Too ill to work due of sickness or disability for >13 weeks; 'Work Capability Assessment' results in assignment to 'Work-related Activity Group' (potential for work) or 'Support Group' (not able to work); enough National Insurance contributions
Weekly/monthly amount (single person)	Up to $2.642 per mo. Ave, payment: $1,148	Work-related Activity Group: £101.15 per wk (ends after 12 months) Support Group: £108.15 per wk (indefinite)

Benefit offset	Earnings up to $1,070 pm allowed w/o benefit reduction	Earnings up to £101 pw allowed, w/o benefit reduction
Trial work period	Each mo. > $770 is one of 9 TWP mos.	n/a
Out-of-work, means-tested disability benefits		
Name	Supplemental Security Income (SSI)	Income related ESA
Eligibility	Unable to engage in SGA due to physical or mental impairment(s) which has lasted or can be expected to last for not less than 12 months; low income and assets.	Too ill to work due of sickness or disability for >28 weeks; 'Work Capability Assessment' results in assignment to 'Work-related Activity Group' (able to work) or 'Support Group' (not able to work); low income and assets.
Weekly/monthly amount (single person)	$721 per mo. + any state supp.	Work-related Activity Group: £101.15 Support Group: £123.70
Benefit offset	$65pm, then $1 off for each $2 earned	Earnings up to £101 pw allowed, 1:1 deduction in benefit if over £20
Trial work period	n/a	n/a
In- or out-of-work, non-contributory, non-means tested benefits		
Name		Disability Living Allowance (DLA)
Eligibility		Needs help with personal care or walking difficulties due to a physical or mental disability for three months & need or difficulty is likely to continue for > six months
Weekly/monthly amount (single person)		Three levels, up to £138.05 pw
Benefit offset		Earnings of any amount allowed
Trial work period		n/a
In-work tax credits		
Name	Earned Income Tax Credits	Working Tax Credit
Eligibility	Low earnings	Low income; extra if disabled
Weekly/ monthly amount (single person)	Up to $28 per mo. (substantially higher if dependents)	Up to £133.27 pw (substantially higher if dependents)
Benefit offset	n/a	n/a
Trial work period	n/a	n/a
In- or out- of-work housing benefits		
Name	Section 8 Housing Benefit	Housing and Council Tax Benefit
Eligibility	Low income; disabled by SSDI/SSI criteria	Low income
Weekly/ monthly amount(single person)	Rent minus one third of income	Rent minus income in excess of means-tested benefit level
Benefit offset	n/a	£5 pw
Trial work period	1 year before earnings affect benefit	n/a
In- or out- of-work medical coverage		
Name	Medicare/*Medical Assistance/* MA Buy-in	National Health Service
Eligibility	Receiving SSDI > 2 years / *Receiving SSI /* State specific, more generous income criteria, some work activity requirement and often payment of premium required	n/a
Weekly/ mnthly amount (single person)	n/a	n/a
Benefit offset	n/a, apart from some states' MA Buy-in	n/a
Trial work period	n/a	n/a

Rehabilitation services		
Name	Department of Vocational Rehabilitation/*Ticket to Work 'Employment Networks'*	Department of Work and Pensions/ '*Work Programme' providers*
Eligibility	Any disability depending on 'Order of Selection' / *Receiving SSDI/SSI*	Job seeking/*Receives any out of work benefit*
Services	Any service that assists entry to employment/ *Any service resulting in 'Milestones'*	Limited advice and services/ *'Innovative and personalised approach to help an individual back to work' resulting in regional increases in employment rates.*
Conditions	Voluntary participation	Benefits conditional on compliance with DWP 'advisors'
Disability discrimination law		
Name	Americans with Disabilities Act 1990 (and subsequent amendments)	Equality Act 2010
Definition of disability	'Has, or has a record of, or is regarded as having, a physical or mental impairment that substantially limits one or more of his/her major life activities'	'Physical or mental impairment which has a substantial and long-term adverse effect on the ability to carry out normal day- to- day activities'
Provisions	Prohibits discrimination on the basis of disability in employment by organizations w >15 employees; mandates 'reasonable accommodations.'	Prohibits discrimination on the basis of disability in employment by any organization; mandates 'reasonable accommodations.'
Incentives for employers to hire people with disabilities		
Programs	Work Opportunity Tax Credit, the Welfare-to-Work Tax Credit, the Veterans Job Training Act, Disabled Access Credit, IRC Section 144, Architectural / Transportation Tax Deduction, IRC Section 190, the Mentor-Protégé Program, SSA Employment Network Cash Provision.	Work Choice, Access to Work
Amount	Up to $20,000 over 60 months	Up to £2,275 if employed over 30 hours pw for >26 weeks.

There are no US public benefits for sickness-related work absence or regulations that govern sick pay offered by employers; employers vary greatly in whether they offer payments for sickness absence. Levels of the contributory federal disability benefit (Social Security Disability Income) are dependent on previous covered earnings ('work credits'), and, unlike UK contributory benefits, can be quite high ($2,642 pm) for people with a record of high earnings, despite the progressive nature of the calculation. The means-tested benefit (Supplemental Security Income) is a federal benefit ($721 pm) that is 'topped up' by some states, and requires recipients to spend down assets to virtually nil. Section 8 Housing Benefit and public housing pay a portion of the cost of rent for people with disabilities on low income. Tax credits (up to $330 pa for an

individual) can either be paid through the regular payroll system, or can be claimed as a refund at the end of a tax year. Work incentives are similar to UK benefits. For contributory benefits, the beneficiary can earn up to $1,070 pm without the level of benefit being affected, but with greater earnings the entire benefit ends, apart from a 9 month 'trial work period.' For means-tested benefits, the payment is reduced by $1 for every $2 earned per month over $85 (or more if the recipient has impairment-related work expenses or a 'plan for achieving self-support'). If an effort to work is unsuccessful within 5 years of leaving benefits, an individual can return to the previous level of benefit. SSA is conducting trials of changes to benefit rules relating to earnings that increase net income from working. Changes in legislation have attempted to mandate equal opportunities in all aspects of employment. Rehabilitative services have over the last decade been contracted out to private providers, with payment by outcomes.

UK benefits for people who are too sick or disabled to work include mandated employer-provided Statutory Sick Pay (SSP) for the first six months and contributory Employment and Support Allowance (ESA) and means-tested ESA for those out of work for longer than six months or not eligible for SSP. After 13 weeks, ESA recipients receive a higher level of payment and are allocated to either the 'Work Activity Group', for whom benefits are contingent on compliance with an 'advisor's' conditions such as attendance at interviews, or the 'Support Group', for people with more severe disabilities who are not expected to be able to work. Other than the level of permitted assets, contributory ESA differs from means-tested ESA in that it is lower for those in the support group and ends after 12 months. Disability Living Allowance is solely dependent on type and severity of disability rather than on employment status, contributions or assets. There is also a system of tax credits by which anyone in employment

over 16 hours pw, but on low pay, receives the credit directly in their wage, and those with disabilities receive a higher level of credits (up to £138 pw for an individual). Housing Benefit covers the full cost of rent for anyone with income at or below the Income Support level, above which the benefit gradually reduces. The work incentives related to ESA allow £20 pw of earnings with no benefit reduction, and £101 pw with no reduction if it is 'permitted work', i.e., not lasting more than 52 weeks, or longer if it has a rehabilitative component. ESA ends if the recipient works 16 hours pw at which point the person is entitled to tax credits. Recipients can return to the same level of benefit if their attempt to work is unsuccessful. The present coalition government is implementing multiple changes to the benefit system, the most radical being the creation of 'Universal Credit', which is designed to replace five means tested benefits, including ESA, and to always 'make work pay' at any level of earnings. Changes in legislation have attempted to mandate equal opportunities in all aspects of employment. Rehabilitative services have over the last decade been contracted out to private providers, with payment by outcomes.

There are considerable long-standing similarities between the benefits systems of the US and UK, the primary long-term differences being the presence of mandated short-term sick pay in the UK and the importance of health insurance in the US. As noted above, more recent commonalities in the development of the two countries' disability and employment policies can be seen in attempts to increase financial incentives to work, raise expectations for rehabilitative efforts, legislate for equal treatment by employers and incentivize private providers to move people off benefits. Differences in current developments can be seen in UK governments' use of conditionality, or 'benefit withdrawal', to enforce efforts to find work, and in the drastic erosion of the value of UK contributory benefits.

2.3 Workforce participation trends in the US and UK

Trends in workforce participation by people with disabilities impact issues of recurrent political concern, such as the percentage of the population who are economically active and the numbers receiving public benefits.[2] In this section, these trends in the US and UK are examined. There are long-standing and continuing debates in both countries about the nature and causes of an apparent decline in workforce participation by people with disabilities in the US since the 1980s, and a longer term decline in the workforce participation rate of older men, and an increase in the number of people receiving disability benefits in both countries. This debate is explored in more detail in the context of labor market theory in chapter 3. Fears, whether well-founded or not, about increasing numbers of disability benefit recipients have led to some of the recent changes in policies described in the last section designed to increase employment by current recipients. The research described in this dissertation explores some possible factors that might impact benefit recipients' decisions about whether to try working, and to keep working.

In the US, the Current Population Survey (CPS) reports separately workforce participation by people aged 16-64 with disabilities who report a work limitation and those without disabilities (USCB, 2014). Among those who report work limitations, there appears to be steadily increasing rate of workforce participation in the 1980s, reaching a peak of 32.9% in 1989, followed by a steady decline, to 18 % in 2013. For the latter group, representing the population without

[2] For example, a New York Times commentator attributes the current slow growth in the US economy in part to the number of working age people who have withdrawn for the workforce. "Economic prosperity is... [partly]... determined by the number of workers. ..Part of the decline of… the share of adults with jobs… [is tied to}… the share of Americans claiming federal disability benefits, which rose sharply in recent years. Few of those people will return to the work force after receiving benefits." (Applebaum, 2014)

disabilities, the rate has been much more stable, rising from 75% in 1981 to 81% in 2001, since when it steadily declined, to 77% in 2013.

Burkhauser, Houtenville, and Wittenberg (2003) have argued that the increase in the proportion of people with disabilities not working is the result of a change in the 'economic and policy environment.' In a separate article, Burkhauser and a colleague (Burkhauser & Stapleton, 2004) specify this change to be the increased generosity of benefits, which they use as the basis for recommending a lowering of benefit levels and the introduction of compulsory elements to the benefits system.

The UK survey most equivalent in terms of disability questions to the CPS is the Labour Force Survey (LFS), in that it asks about impairments that limit paid work (ONS, 2011). The LFS estimates that of people of working age who met this disability standard in 2012, 46% were employed at least part-time (at least one hour of work in the reference week). This has changed very little since 2001, when it was 47%. This was an increase since the LFS survey for 1997 (40%), which in turn is an increase since 1984 (38%). The gap in workforce participation between people with disabilities and those without has reduced by 10 percentage points since 1997.

Burkhauser and colleagues (Burkhauser, Daly, Houtenville, & Nargis, 2002) conclude that, while point-in-time estimates may be hard to interpret, survey results over time will produce accurate estimates of trends. If so, the LFS results would indicate an opposite trend in the UK to that in the US, with an increase in the UK rate of employment between 1984 and 2001 among people

with disabilities. The generosity of disability benefits in the UK appears to have increased at least as much as in the US, with the numbers receiving benefits increasing from 690,000 in 1979 to 2,700,000 in 2002, during which time eligibility was broadened and benefit levels increased in line with inflation. While this would appear to contradict the type of explanation for the declining US employment rates that Stapleton and Burkhauser put forward (higher benefit rates and more generous eligibility criteria), this is a good example of the difficulties of drawing conclusions in this field, particularly when making international comparisons. In this instance, confounding issues may include: the definitions that the LFS used for disability has changed since 1997; the eligibility criteria for Incapacity Benefit in the UK became more restrictive in 1997; disability benefits in the UK do not require a separate application process from the preceding sickness benefit; and there are significant UK tax credits and other benefits for working people with and without disabilities that have been introduced in the period in question.

This cross-national comparison highlights some of the many factors that contribute to employment rates and rates of disability benefit receipt, from the characteristics of disability benefits in determining overall employment rates of people with disabilities, to the interaction of these with factors such as the changing pattern of types of disability and the availability and level of non-disability benefits.

2.4 Overview of current knowledge about factors associated with employment among people with disabilities

As described above in the discussion about trends in workforce participation, while some authors claim to have identified important factors involved in determining changes in workforce participation and benefit take-up, almost all such conclusions in the field are contested. However, there is consensus about the validity of some information from surveys and benefit data, and from evaluations of interventions and 'natural' changes in the field. In this section, I summarize the previous research on the factors that seem to be strongly associated with employment among people with disabilities. I discuss in turn health status, demographic characteristics, overall macroeconomic conditions, wages offered and required, targeted interventions, and social networks. In chapter 3, I provide more extensive discussion of two theoretical frameworks that have been used to explain the employment of people with disabilities, and use the research findings presented here in combination with the theoretical frameworks presented there to generate selected hypotheses about factors related to employment that will be tested empirically.

2.4.1 Health status and severity of disability. In a comprehensive review, Baldwin and Johnson (2001) conclude: "Health status is one of the most important predictors of labor force participation decisions." Types and severities of impairments influence employment outcomes. Berthoud (2006), analyzing UK data from the Health and Disability Survey (HDS) following up the 1996-97 Family Resources Survey (FRS), concluded that certain impairments (mental health, locomotor, intellectual), greater severity of impairment and greater numbers of impairments were associated with lower rates of employment. Particularly for people with onset in later life, there

is not usually a simple withdrawal from the labor market, but rather a variety of patterns of engagement and withdrawal that may last until retirement age and beyond and be related to the type of disability (Baldwin & Johnson, 2001). Kaye (2003) suggests that US data demonstrate that the changing 'mix' of disabilities in the population (for example, the greater prevalence of diabetes and obesity among younger people who also have other disabilities) is increasing the level of work limitations and therefore of unemployment among people with disabilities as a whole. However, there is a significant gap in knowledge about the relationship between types of disabilities and the kinds of factors that can lead to labor market success in the US and UK.

2.4.2 Individual, non-disability demographic characteristics. People who are in the lowest occupational social classes who are unemployed or economically inactive are more likely to experience a work limiting condition than those in higher classes, and less likely to return to work (Bartley et al., 2004). Greater age, lower education level, membership of a minority ethnic group, being female and having a non-working partner are all associated with lower employment rates for people with disabilities in the UK (Berthoud, 2006). Similarly, in the US, summarizing the conclusions of research on return to employment among claimants of workers' compensation, Baldwin and Johnson (2001) identified that older workers, African-Americans, women, and the less educated had a lower likelihood of returning to work. These factors reflect those found for the general population.

2.4.3 Overall macroeconomic conditions. In his cross-sectional study, Berthoud (2006) found that the employment rate of UK people with disabilities was more associated with local labor demand than that of non-disabled people, and that the employment rate of people with more

severe disabilities was more highly associated with local labor demand than those with less severe disabilities. Overall employment levels are associated not only with the likelihood of employment for people with disabilities, but also with the number of people receiving disability benefits; an earlier UK study of factors associated with benefit receipt (Disney & Webb, 1991), using a variety of econometric approaches, found that "the dominant variable, identified by all three methodologies, is unemployment: higher unemployment, both on a time-series and a cross-sectional basis, is associated with higher IVB.. [disability benefit] …receipt" (p.260). However, the authors of the study also point out that there seems to be a variable but significant 'time lag' to the effect and there are a number of intervening variables that can disrupt the relationship. Longitudinal studies in the US have shown that changes in overall employment rates for most age, race and gender groups have consistently had a greater impact on members of these groups who have disabilities (Yelin & Cisternas, 1996).

2.4.4 Labor market wage levels, benefit levels and reservation wages. These factors clearly have some influence over the workforce participation of both those with disabilities who receive benefits and those who do not, but there is a gap in knowledge, involving conflicting evidence, about the extent of the effects and how they vary among the population of people with disabilities. The methodological challenges involved in different approaches to estimating the importance of these factors are described below in chapter 3. The following examples, one from each of the US and UK, can illustrate the kinds of approach used to making these estimates. In the US, Mitra (2007), in a study based on survey results in SSA's New Beneficiary Data System (NBDS), reports that 13% of beneficiaries would accept a job that met their reservation wage requirements, with the important caveat that the job met other requirements related to their

disability. Of these, half would be prepared to accept a job that was 80% or less of their last wage before entering the SSDI program, a group that Mitra concludes "may potentially return to work if they search for jobs" (p.89). While this can be seen as a current best estimate, the calculation simply illustrates the many potential factors that could affect the reservation wage, including not only wage and benefit levels, but also the location, hours, accommodations and type of job. Given what Mitra sees as the importance of such factors for people with disabilities, she suggests using the concept of a reservation 'utility', rather than wage, that takes account of such factors. In the UK, Bell and Smith (2004) used a 1995 reduction in UK benefits caused by a move from relatively progressive wage-based benefits to flat rate benefits (which meant that the value of the benefit for older workers decreased, whereas for younger workers it remained relatively constant) to estimate elasticity. This produced an estimate of elasticity of workforce participation in relation to benefits of .26, with a higher rate of .63 for unskilled workers. Despite the fact that "Estimates of the benefit elasticity…are inconsistent across studies" (Baldwin & Johnson, 2001), it is clear that wage levels and benefit levels are factors that influence the employment decisions of people with disabilities.

2.4.5 Targeted interventions and accommodations. There is some evidence that targeted support to individuals with disabilities to retain or return to employment raises employment rates. The evidence comes from two main sources that relate to two quite different contexts. First, there are evaluations of the 'disability management' practices of companies, which have shown that lost workdays due to injury or disability can be reduced. For example, a study conducted by Hunt, Habeck, Van Tol, and Scully (1994) showed that companies using such practices had 7% fewer lost workdays. 'Disability management' practices included active case management, increased

medical interventions, changes in financial incentives, and company-wide support for the goal of reducing workdays lost. While this included some conditions (e.g., broken bones) which tended to be relatively short term whatever the ‘disability management practices’, it also included many of the conditions that can lead to long term exits from the labor market, such as back problems and depression. However, it excluded conditions acquired earlier in life, such as developmental disabilities and schizophrenia, which can lead to marginal labor market attachment with little access to secure full time jobs with companies that use such practices. Even so, concluding a review of these practices, Hunt, Habeck, Owens, and Vandergoot (1996) suggest that changing the conditions of work through “disability management offers a critically important mechanism for stemming the tide of individuals who leave employment unnecessarily and enter disability systems” (p.269). Second, there are evaluations of ‘supported employment’ approaches for people with disabilities who are unemployed and already receiving public disability benefits, a population that disability management programs do not affect. These have shown increases in the numbers of people returning to work. For example, there have been a considerable number of studies that evaluate the impact of certain services designed to increase the employment of people with serious mental illness who are clients of public mental health services in the US (Becker, Whitley, Bailey, & Drake, 2007; Bond, 2004; Bond et al., 2007; Bond et al., 2005; Cook, 2006; Drake, Bond, & Rapp, 2006). The results of randomized controlled trials have shown the effectiveness of the 'Individual Placement and Support' (IPS) model in helping people return to employment in comparison with ‘services as usual.’ The IPS principles are:

1. Services should be focused on the outcome of paid employment in integrated settings.
2. Eligibility should be based on the individual's preferences; anyone who chooses to work is given the help to do so.
3. Programs should involve rapid job search and minimal pre-vocational training.

4. Vocational programs should be integrated into the work of the clinical team that supports the individual in other domains such as housing, psychiatric treatment, and coordination of community supports.
5. Attention to client preferences and choice is important.
6. Support should be available permanently and tailored to the person's changing individual needs.
7. Benefits counseling should be provided to help people maximize in-work welfare benefits.

(Bond, 2004)

It is, however, difficult to specify which of the above conditions are responsible for the increased employment in either the 'disability management' condition or the supported employment condition. Such support is a 'package' of interventions, the effectiveness of which is measured by its impact on aggregate outcomes. It is it therefore difficult to assess the importance of specific factors, because, as one of the most published authors in this research field, Bond, states "…researchers have rarely experimentally evaluated the impact of specific principles in isolation" (Bond, 2004). However, research to identify the differential impact of these factors has built on such studies of 'black box' interventions. For example, Cook et al. (2005), reviewing the findings of the Employment Intervention Demonstration Project, a major multi-site randomized controlled trial of several model supported employment programs, concluded that "People with severe mental illness who received well-integrated and coordinated vocational and clinical services had significantly better employment outcomes than those who received non-integrated services" (p.2). This provides evidence of the value of point 4 above independent of the other components of the IPS 'package.'

Another significant example of a targeted intervention is provided by the Wisconsin Pathways to Independence project, which generated the data used in this investigation. The goal of the Wisconsin project, led by the state Department of Health and Family Services, was to remove barriers to employment for people in receipt of SSA disability benefits. The project evaluated the impact of interventions at the individual level, and of system changes, on the employment and earnings of SSDI beneficiaries and SSI recipients. Funded by the SSA and the Robert Wood Johnson Foundation and implemented between 1999 and 2003, the project aimed to remove multiple barriers to employment through:

- Changes to the financial work incentives in SSA benefits, primarily a waiver of SSI rules so that recipients would incur a smaller loss of benefit as their earnings increase, thereby increasing net income at certain levels of earnings.
- The provision of intensive benefits counseling by trained and supported dedicated staff with limited caseloads, so that people receiving benefits would be able to predict and maximize the financial returns to employment and to administer their finances without incurring penalties.
- The creation of a 'person-centered, team-based' process to support the return-to-work efforts of each participant. As Delin and Reither (2005) state: "WPTI sought to provide what its designers called a 'comprehensive access and assistance network' in order to reduce or overcome the multiple barriers that most persons with serious disabilities face in attempting to work" (p.17). The network, comprised of at least the participant, their DVR counselor, their Pathways employment specialist and their Pathways benefits counselor, develops a vocational goal, identifies barriers to achieving the goal, and identifies networks of people and resources that can support the employment goals of the participant.

The project involved partnerships between DHFS and multiple state, county and non-profit agencies, including 20 existing agencies contracted to provide employment support, benefits counseling and team facilitation.

The evaluation of the project had a quasi-experimental design that compared a group receiving the interventions and affected by the system changes with a comparison group that received 'services as usual.' Participants in both groups were Wisconsin residents between the ages of 18 and 64, SSDI beneficiaries and/or SSI recipients and, at the point of entry to the study, active clients of the state DVR who had a goal of employment or to 'increase their earnings and work effort with minimal harm to their interests and preferences.'

Participants in the 'treatment' group were resident in the catchment area of a contracted provider agency that served people with their primary condition, which had to be mental illness, Aids/HIV, a physical disability or a developmental disability. Enrolment in the treatment group could originate from a DVR counselor, from a staff of the provider agency or from the individual, and all of these were required to agree that enrolment was appropriate. The first enrolment took place in July, 1999. The number included in the analysis for the final report of the project (Delin & Reither, 2005) was 506, defined as all participants enrolled by September 30, 2001, who remained in the intervention a minimum of twenty-one months.

Enrolment in the comparison group was initiated by a letter of invitation in late 1999 that was sent from the project to every DVR client in the state who was receiving SSA disability benefits

and aged 18-64. They were invited to consent to the project in return for a small stipend. 610 were included in the analysis for the final report.

Data were gathered through a survey administered at enrolment and yearly thereafter for two years, reports from provider staff, state Unemployment Insurance administrative records, and SSA records.

Three analyses have been conducted so far using the PTI data, none of which have been published in academic journals. The first was reported in the 'WPTI Final Research Report Summary' to SSA (Delin & Reither, 2005), which assessed the impact of the intervention on employment status, earnings and total income (sum of earnings and benefits). The analysis compared these outcomes for intervention group participants with those for the comparison group. Using a difference-in-differences approach, the treatment group showed a net gain in predicted employment probability of 13% over the comparison group at the end of the first year and 12% at the end of the second year ($p < .001$). Net gains in predicted earnings for the treatment group compared to the comparison group were $216 over the first year and $361 over the second year ($p < .0001$). Net gain in predicted total income was $314 over the first year and $456 over the second year ($p < .01$). The greater gains in total income than in earnings are due, according to the Pathways evaluation, to "the members of the participant group being better able to maximize total income through a combination of earnings and benefits. This may be due in part to access to benefits counseling, which helps participants to utilize work incentives and optimize work and benefit levels" (Delin and Reither, 2005 p.139).

The evaluation report also explored the impact of disability type and benefit type on the employment status, earnings and total income of subgroups of the intervention group. Growth in employment rates was highest for participants with mental illness, followed by those with developmental disabilities, followed by those with physical disabilities. Growth in earnings, although with less pronounced differences, followed the same pattern. However, growth in total income was highest for those with physical disabilities. The analysis by benefit type showed that SSDI participants (regardless of whether they concurrently received SSI or only received SSDI) began with higher levels of employment, earnings and total income than SSI-only recipients, which remained the case throughout the study period, except for earnings, which were equivalent by the end. The evaluation also included a comparison between participants who used the SSI waiver (and consequently had more of their earnings disregarded) and comparison group members who would have met the waiver eligibility criteria had they been in the participant group. This showed that waiver users had higher levels of all three outcomes (employment, earnings, total income) than those eligible for the waiver but unable to receive it due to membership of the comparison group. However, it is important to note that waiver participants also received the other intervention components, so this analysis does not address the independent effect of the waiver.

The second study by Delin and Reither (2006) attempted to identify intervention participant attributes and conditions that are associated with higher employment and earnings. It used a method developed by Wu, Cancian, and Meyer (2008) that allocated participants to either a group that was ‘more successful’ in terms of employment outcomes or a group that was ‘less successful.’ The analysis then examined some of the variables that were found in the first

analysis reported above to have had an impact on earnings and employment for participants relative to the comparison group and among subgroups of the participants. Those 17 variables that had a bivariate relationship meeting a significance level of .2 with the 'more successful' and 'less successful' dependent variables were used as control variables in binary logistic regression models with the 'more successful/less successful' category as the dependent variables. Significant factors related to 'more successful' outcomes were found to be longer previous employment history, mental health and developmental disabilities rather than physical disabilities, receipt of SSDI rather than only SSI, and participation in the Medicaid Buy-in and the SSI Waiver.

In the third analysis of the Pathways data, Drew (2008) explored how far neighborhood characteristics were related to self-rated health, employment and income in a sample composed of both the participant and comparison groups. First, bivariate relationships were examined between community characteristics, as measured by census data about zip codes, and the residuals left after controlling for individual-level predictors. Second, an 'exploratory spatial data analysis' was conducted of the average standardized residuals by zip code from individual-level regression results. No association was found between zip code characteristics and the outcome measures used.

No analysis has been undertaken that focused on the individual level variables using the combined sample of the intervention and the comparison groups, as this study attempts.

In conclusion, while it is clear that disability management and supported employment programs can make a significant difference to the employment prospects of people with disabilities, there are many gaps in knowledge concerning which specific practices work, under which conditions and with whom.

2.4.6 Social network characteristics. A meta-analysis of research on the relationship between social support and 'rehabilitation related outcomes' by Chronister, Chou, Frain, and Cardoso (2008) found that perceived satisfaction with social support (as opposed to perceived availability of social support or received social support) had a significant relationship with employment with an effect size of medium magnitude. (Perceived satisfaction involves appraisal of supportive functions received, and typically involves evaluating past received supportive behaviors.) Stapleton, Nowak, and Livermore (2001) reported that focus groups with 284 people with significant disabilities with onset prior to substantial employment who had achieved success in employment (>30 hours pw at minimum wage) ranked family/peer support as second only to access to health care among a list of 16 possible supports in helping them find and maintain employment. Several recent studies have demonstrated that family and peer support and high expectations are related to successful entry to work for young adults with significant disabilities, for example by Carter, Austin, and Trainor (2012).

2.5 Summary of factors related to employment and rationale for research question

It is evident from the existing literature on workforce participation by people with disabilities that there are a wide variety of hypotheses about its determinants, involving factors that contribute to the above findings. Such factors include benefit system rules relating to earnings, the changing labor market, wage rates, changing patterns of disability, inflexibility in making workplace accommodations, medical and rehabilitative services' effectiveness, stated expectations in services, and the eligibility rules of benefits systems. Many of these factors can be categorized into two types, those that are more relevant to labor supply theory and those that are more relevant to sociological theory. Thus far, research has generally focused on one type of factor or the other, rather than looking at both simultaneously. New research is needed that considers both types of explanations together.

Social workers and others who are concerned to facilitate workforce participation by people with disabilities have designed 'employment interventions' that are partly inspired by hypotheses involving the above factors and use the explanations on which they are based to inform their strategies. The evaluation of the impact of the factors targeted by 'employment interventions' might offer a means to conduct research into these hypotheses. Research to date has treated this kind of intervention as a 'black box' without attempting to discriminate among the effects of its components, or how they interact. Some of these interventions have attempted to change financial incentives for employment, knowledge about incentives, and support for the worker role, without exploring the separate components. Research that examines the extent to which

each of these components is linked to going to work or sustaining work has the potential to improve the effectiveness of disability policies.

The research question for this study is: "Can sociological theory and/or labor market theory explain the workforce participation of people with disabilities receiving public benefits in the US?" The study uses a unique Wisconsin data set from the Wisconsin Pathways to Independence State Partnership Initiative, described above.

The main contribution of the study is to empirically test both economic and sociological theory; in the past these perspectives have generally been tested in separate analyses. In addition, of particular value is the population that the sample represents. People with disabilities who are public disability benefit recipients, and who wish to work or to work more, is exactly the group for whom much social work practice and current public policy aims to promote workforce participation. Furthermore, the dataset is particularly rich, combining information gathered over time about the financial, employment, demographic and attitudinal characteristics of 1,166 people with disabilities. Finally, because this study is of a single state, other policy factors will be held constant, allowing for a more precise test of the two perspectives.

Chapter 3 Theory and hypotheses

This chapter will describe two theoretical perspectives that have informed some of the literature on workforce participation by people with disabilities. The first of these is sociological theory, specifically that relating to satisfaction with social support, social network range and social role expectations concerning employment. The second is the theory of labor markets based on neo-classical economics, specifically that relating to labor supply. Hypotheses for the research study will be specified in relation to each theoretical perspective.

3.1 Sociological theory applied to workforce participation

While the relationship between social factors and workforce participation has been extensively researched, this relationship for people with disabilities has received little attention. A 2008 meta-analysis (Chronister et al., 2008) identified just four studies that evaluate the impact of perceived availability of social support, received supportive behaviors or satisfaction with social support on employment outcomes, involving 276 subjects with traumatic brain injury, spinal cord injury or physical disabilities generally. Researchers using economic models have concluded that greater focus on social factors is needed. For example, in the context of a literature review of US and UK economic research into disability benefit receipt, McVicar (2008) concludes:

> "Finally, further research might also explore the role of social interaction - an issue that has received little attention in this context to date - in driving disability benefit rolls." (p.135)

McVicar gives no elaboration of this conclusion, but does note that UK programs to reduce claimant numbers "combine increased help and expectation/monitoring of job search with efforts to 'make work pay'" (p.134). Similarly, an econometric study by Brown, Roberts, and Taylor (2010) using panel study data, concludes that while health is important in determining whether people decide to be active in the labor market, for those in the labor market, contradicting previous research, health does not have an effect on the probability of being unemployed, or on market wages, or on the reservation wage. The authors suggest that to encourage people with health conditions who have left active labor market participation to re-enter the labor market, the state should encourage, via primary care practitioners, the social role expectation that they should be looking for work and that employment is possible for them. Again, the UK economist Berthoud (2006) has put forward the hypothesis that the increase in the proportion of people with disabilities who say they are permanently unable to work "is a clear sign of the emergence of disability as an economic identity; the acceptance of 'I am disabled' as an appropriate economic role", leading to a "vicious circle of disability disadvantage" (p.67). Based on such writings, it seems that some researchers conducting studies of workforce of participation based on labor market theory or on health status are concluding that more complete explanations of workforce participation by people with disabilities must involve factors drawn from other theoretical perspectives, and that a focus on social relationships and influence may have explanatory yields.

Research on job seeking among the general population suggests that social networks influence success in finding employment. In a meta-analysis of research on job seeking, Kanfer, Wanberg, and Kantrowitz (2001), found social support (defined as 'Perceptions of instrumental and emotional support from others in terms of their usefulness in coping with stressful events') to be

significantly associated with job search success in the 3 studies identified. In a recent literature review , Wanberg (2012), focusing on the transmission of job information rather than social support through networks, concludes "Work in the past decade has continued to show that a substantial proportion of job seekers secure jobs through social networks, not only in the United States, but around the world" (p.379), citing a figure of 44% for the US. In this study, I take up the social network perspective (sometimes framed as 'social support' or 'social capital') and social role theory as potential predictors of the labor market participation of people with disabilities and as alternative accounts to those based on financial incentives to work or on health status.

3.1.1 Social network theory

An important distinction can be drawn between social networks as a collective asset and the social networks of an individual. While all major scholars in the field see social networks as produced and maintained by interacting individuals, different emphases are placed on the structural and individual perspectives.

Social network theory from the structural perspective

Putnam (1995), among others, analyses social networks ('social capital') primarily from the structural perspective as a collective asset. He defines social capital as "features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (p. 67). Elsewhere, he claims that this conceptualization of social

capital implies that “social networks have value” in themselves, not just as a function of individuals’ use of networks and that “social capital refers to the collective value of all social networks" (Putnam, 2008). Social capital as a collective asset can be seen as analogous to financial or human capital. Kadushin (2012) cites as an example of social capital ‘investment’ that “high voluntary organization participation increases voter turnout” (p.162). Coleman (1990) includes the structural perspective in that he uses social capital as a tool to both “import the economists' principle of rational action for use in the analysis of social systems proper…and to do so without discarding social organization in the process” (p.97). He understands social capital as “not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors - whether persons or corporate actors within the structure” (p.98). Efforts to define social capital must distinguish between the phenomenon itself (defined for example, as social networks characterized by ‘trust’ or ‘reciprocity’) and its outcome (defined, for example, as ‘civic engagement’). Portes (1998) accepts the possibility of conceptualizing social capital as “a structural property of large aggregates”, but criticizes Putnam for tautological arguments in “the intellectual journey that transformed social capital from an individual property into a feature of cities and countries” (p.20). Lin (2001) argues that Putnam’s claim ‘social networks have value’ is so abstract as to be meaningless. Fisher (2005) goes further and rejects the use of social capital as a valid sociological concept, concluding that the way the term ‘social capital’ is used implies that it is simply “everything psychological and sociological about a person” (p.157). For Lin, social capital can only be understood in terms of “its roots in individual interactions and networking”, and, if divorced from these roots, becomes “merely another trendy term” (2001, p.9). He distinguishes social capital from such concepts as culture, norms and trust. The tensions

between different understandings and uses of the terms ‘social network’ and ‘social capital’ continue to generate controversy and innovation (Fuhse & Mützel, 2011; Knox, Savage, & Harvey, 2006). While accepting that ‘social capital’ may be productively studied from the structural perspective, in this study I will utilize features of social networks at the individual level of analysis. The dissertation question, "Can sociological and/or labor market theory explain the workforce participation of people with disabilities receiving public benefits in the US?” is concerned, in part, with how social capital can ‘facilitate certain actions of actors’ (to use Coleman’s term), in this case entering employment. An answer to this question requires that the individual’s experience of, and access to, social networks is analyzed.

Social network theory from the individual perspective

Lin, Cook, and Burt (2001) and others see ‘individual interactions and networking’ as both conferring benefit for a whole society and generating individual advantage. The relationship between various characteristics of individuals’ social networks and individual outcomes has been widely studied. Kadushin (2012), taking again the analogy of financial investment, cites as examples of individual social capital investment that certain characteristics of an individual’s networks can lead to better health and upward mobility. Studies of networks at the individual level have made much use of the distinction between functions of contacts, and, in particular, between ‘bridging’ and ‘bonding’, to use Putnam’s (2000) terminology. ‘Bridging’ refers to contacts between individuals from diverse social groups that do not otherwise have many contacts. ‘Bonding’ refers to contacts within a group that has many contacts between its members. Other terms for similarly contrasting types of contact have been used by researchers.

Granovetter (1983) describes the connections of an individual with 'acquaintances' in a 'low-density' network (in which many of the possible relational interconnections are absent) as 'weak ties', in contrast to the 'strong ties' that connect 'friends' in a 'dense' network (in which many of the possible lines are present), or a 'clique' (in which all possible ties are present). Giuffre (2013) points out that Granovetter argues that "bridges will always be weak ties…because if two actors share a strong tie, they will draw in their other strong relations and will eventually form a clique." Coleman (1988) conceptualizes networks as exhibiting 'closure', by which he means connections among the members, as opposed to an 'open structure.' 'Closure' creates what Coleman understands as 'social capital', in such forms as trust and norms, by allowing members to sanction each other. Burt (2001) introduced the term 'structural holes' to characterize networks that have many 'disconnected segments.' Such 'holes', Burt suggests, create social capital in that individuals can use the 'holes' to their advantage by 'brokering' information between segments, a role that can be equated to 'bridging' and that would be redundant in 'closed' networks. In this study, while acknowledging the potential for 'bridging' contacts to be important in the workforce participation of people with disabilities and making use of the available data on social network range, I will also be exploring some elements of 'bonding', particularly in examining the impact of social support and social role expectations on entry to employment.

Social support

One of the characteristics of 'bonding' or 'closed networks' that has been identified in the literature is that such networks are more likely to generate 'social support.' Social support has

been shown to have beneficial effects for multiple outcomes, both as a main effect and as a moderating effect on stress. Attempting to clarify definitions of individual social support, researchers have proposed two dimensions, structural and functional. The structural dimension refers to the number, frequency and type of contacts that an individual has and the characteristics of the networks in which those contacts occur (density, fungibility, etc.). The functional dimension is the content of the support, which Wellman and Frank (2001) see as consisting of "emotional aid, material aid, information, companionship, and a sense of belonging" (p.233). Further distinctions are made (Chronister et al., 2008) between satisfaction with support (B. R. Sarason et al., 1991) social support that is received (Dunkel-Schetter & Bennett, 1990) and the perceived availability of support (Barrera, 1986). Kadushin (2012) points to two broad individual level concepts used in the literature on social support: the perception that friends, relatives or community feel positive towards one and a count of those who an individual considers would provide practical or other support. He also identifies in the literature a further dimension to the conceptualization of social support, that of the social capital of the network within which an individual is embedded.

In the field of disability and employment, research has focused on individuals' social support rather than the characteristics of networks, analyzing the impact of the three types of social support described above: satisfaction with support, received supportive behaviors, and perceived availability. In a meta-analysis of studies of the relationship of social support and a range of rehabilitation-related outcomes, including employment, Chronister et al. (2008) conclude that only satisfaction has been shown to have a significant relationship to employment, "accounting for 7% of the variance in employment" (p.26). 'Satisfaction', of course, may or may not be

related to support actually received. Research indicates that only a proportion of perceived support is explained by objective measures of supportive behaviors (Dunkel-Schetter & Bennett, 1990) and the same may be true of satisfaction, suggesting that it is a distinct psychological construct. I.G. Sarason, Sarason, and Shearin (1986), reflecting on instruments to measure satisfaction, suggest that it may be related to the quality of early relationships. Whatever the psychological correlates, this study will explore the relationship of workforce participation by people with disabilities to their expressed degree of satisfaction with the social support they receive. It is possible that different sub-groups of people with disabilities may be more or less responsive to the satisfaction they feel towards their close networks. For example, it is possible that people with developmental disabilities may be more dependent on their close networks in a wider variety of domains, so that the employment consequences of the level of satisfaction with those networks may be more pronounced.

The study will test the following hypothesis generated by social network theory related to satisfaction with social support:

- Satisfaction with close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.

Network range

Lin, Woelfel, and Light (1985) see social support as inherent to closed networks, concluding that "the degree of access to and use of strong and homophilous ties are indicators of social support" (p. 249). Haines and Hurlbert (1992) acknowledge the importance of strong, homophilous ties in

providing social support, particularly 'expressive' or emotional support, but argue that 'range', defined as "the extent to which actors' interpersonal environments connect them with diverse sets of other actors" (p256), is important in instrumental activities such as job searching. Greater range in a person's network provides access to information that having a closed, homophilous network does not necessarily involve, because the contacts may be 'redundant' in terms of offering new information. Similarly, Wellman and Frank (2001) conclude that "social capital comes contingently from a variety of persons, ties and networks, rather than stably from a single, solidary group" (p.234). Haines and Hurlbert argue that network size can nevertheless be seen as a component of range, in that "the homogeneity of alters' attributes tends to decline as the number of persons in a network increases" (p.256). Network size can therefore be seen as contributing to diversity and in turn to range. The characteristics of network relationships (e.g., weak/strong; bridging/bonding) may have different effects depending on the context. While Granovetter's (1983) work showed the importance of weak ties in successful job seeking by white professional and managerial US males, subsequent research suggests that both access to 'productive' social networks, and the types of network that promote finding employment, vary by class, country, ethnicity, and gender (Hurlbert, Beggs, & Haines, 2001). The significance of the range of contacts within networks may vary according to the context. Density, diversity and size of networks may have different effects depending on the type of organization and the type of job involved. Based on studies of network effects in different employment contexts, Haley-Lock (2007) concludes that "organizational, workforce, and task characteristics are contextual qualifiers of the effects of networks on the employment experience" (p.685). Evidence from qualitative studies of the employment experiences of people with disabilities suggests that greater range in social networks leads to increased employment (Innes et al., 2010). Such lines of

research suggest that job-seeking individuals can gain from, and be influenced by, different configurations of network connections, depending on the context. Greater 'range' and number of contacts in an individuals' networks will tend to bestow greater advantages.

The study will test the following hypothesis generated by social network theory related to network range

- Range of networks is positively related to employment status for people with disabilities who wish to enter or maintain employment

3.1.2 Social role theory

The influence of social role expectations has been the theme of much of the sociological literature on workforce participation by people with disabilities. The premises of social role theory are that individuals are a collection of social roles, social roles contain rules of behavior (norms), and roles are defined in relation to other roles through social processes that are beyond the control of individuals. These basic premises have been elaborated to produce a range of concepts that can be used to analyze individual behavior and social processes. The concept of 'role conflict' describes situations that occur routinely in most societies. For example, an individual may be expected by family members to fulfill the role of caretaker to aging parents, but is encouraged by work colleagues to pursue their career. The concept of 'identity' describes a combination of roles that an individual actively takes on and that changes over time, for example

as a person goes through life stages, career changes and family circumstances. Turner (1986) offers an overview of several other concepts, including anomie (lack of clear role expectations) and deviance (failure to fulfill certain roles), that are important in different formulations of role theory.

Specific role performance is seen as arising both from individuals acting on the basis of their constructed or given identity, and from the social situation itself, in which certain roles are 'embedded' (Granovetter, 1985). An individual who constructs or adopts a given identity may be said to have 'internalized' a role that is embedded in their social context. Social contexts are sometimes unambiguous in their role content (for example, those of participants at a wedding), sometimes involve choice or conflict (for example, a commercial transaction among friends), and sometimes involve decision and negotiation (for example, work expectations for people with a health condition). However they are experienced, social networks are a strong force in determining identity. Podolny and Baron (1997), referring to the work of Coleman and Wellman, stress the significance of networks: "Both literatures see informal network ties as the primary bases of social identity, conveying a sense of personal belonging within a collectivity and clear normative expectations associated with one's role" (p.674). They go on to describe how "a dense, redundant network of ties is often a precondition for… internalizing a clear and consistent set of expectations and values in order to be effective in one's role" (p.676). To whatever degree, close social networks 'confirm identity' (Wellman & Frank, 2001).

'Sick' vs. 'worker' roles

In relation to disability and employment, the theory has been developed to include the concept of the 'sick role', which from its earliest versions included expectations regarding employment (Crossley, 1998; T. Parsons, 1951). Parsons suggested four characteristics of the role: relief from certain social duties, including work, which is validated by the medical professions; the sick person cannot get well by will or decision; help for the condition is sought and advice followed; and the condition is seen as undesirable and its relief or ending, including a return to work, is desired.

There has been much criticism of aspects of Parson's formulation of the sick role concept, particularly of his apparent view that the 'sick' identity is both stable and 'functional' for the broader society (Jackson, 1998; Quah, 2007; Young, 2004). Alternative formulations have posited multiple, rapidly changing identities, whereby societal expectations of people with disabilities often become contested or unclear. Such circumstances can lead to the 'sick' person being seen as deviant, or experiencing a state of anomie which can lead to depression and loss of motivation. Theorists using a symbolic interactionist approach have emphasized individual agency in mediating and creating roles, and in actively constructing identities. Charmaz (1987), for example, chronicles the way in which people with physical disabilities have their 'selves' challenged through their interactions with others, leading to a 'loss of self.' For some of the people she studied, this loss was followed by a creative process that resulted in 'reconstituted identities.' Charmaz posits a 'hierarchy of identities' available to people with illnesses as they seek to appear 'normal' and avoid stigma. As Nettleton (2013) concludes in reviewing

Charmaz's work, "sense of self and personal identity will vary over time and with various stages of the illness career" (p.83). Nixon and Renwick (2003) in a study of people with AIDS/HIV and their 'struggle over the decision to return to work', explicitly utilize both Charmaz's framework and Parson's formulation of the sick role in the context of a "multifaceted approach" deliberately representing "theoretical eclecticism in the sociology of health and illness" (p.1276). Through semi-structured interviews, the investigators identified two main themes from the results of the interviews. First, the struggle with two societal prescriptions, on the one hand that people with HIV/AIDS should not work because of the risks involved, and on the other that people in general should work. Second, the construction of identity "as the participants reconstruct how they see themselves in light of their shifting health experiences" (p.1278). Pinder (1995) found strong evidence of this active 'reconstruction' in the responses of people with disabilities to societal expectations of their work role. She reports that her extensive interviews with two people about their employment history after the onset of severe arthritis revealed the significance of the fluctuating nature of their disability and the uncertainty about their role that this engendered in their colleagues. However, she also observed the freedom of maneuver that each was able to exercise in negotiating their fates in the face of organizational demands and the social roles of worker and disabled person. However, despite this 'agency' that they were able to exercise and the relatively well-paid and senior positions that they began with, Pinder's subjects' struggles were defined by the role expectations of their employers, co-workers and family and friends. Reviewing "current sociological interest in and research on the relationship between illness and identity", Lively and Smith (2011) observe that "Recent studies have focused on how individuals strive to maintain their sense of self in spite of illness" (p.505).

Mechanic, who has written extensively about 'illness behavior', including employment decisions, uses structural sociological theory in the context of other approaches (Mechanic, 1995) to understand the 'longitudinal process' involved:

> "Illness behavior is, of course, a longitudinal process involving interactions between personal history, social situations, and the opportunities and constraints of community institutions and social norms. Studying the process requires strategies that offer views of different components of the process." (p.1213)

The basic premise that workforce participation decisions are influenced by the expectations inherent in roles within a specific social structure (albeit changing, pluralistic and highly conflicted) remains. Social role theory applied to decision making about workforce participation by people with disabilities has many formulations, but they share the assumption that people take account of the expectations of others in making such decisions. Put simply, and in contrast to the premises of the neo-classical economic perspective, "Most of us live up (or down) to the beliefs and expectations held by others" (Roets, et al, 2007, p.273) . This study will explore the relationship between how a sample of people with disabilities perceive the role expectations held in their close social networks and their workforce participation. Because the sample consists of individuals with disabilities who have stated their intention to work or to work more, and can therefore be said to have internalized a 'worker' role, the study will focus on their perception of how consistently their close, dense social networks support the worker role that they have internalized, that is, how far these networks 'confirm their identity', to use Wellman's and Frank's (2000) phrase. It is assumed that when ego's internalized role matches his or her perception of the role expectations projected by external networks, "ego is likely to face a well-

defined and consistent normative milieu within which to pursue his or her interests" (Podolny and Baron, 1997, p.676), and such consistency will lead to a higher likelihood of employment. The study will test the following hypotheses related to social role theory:

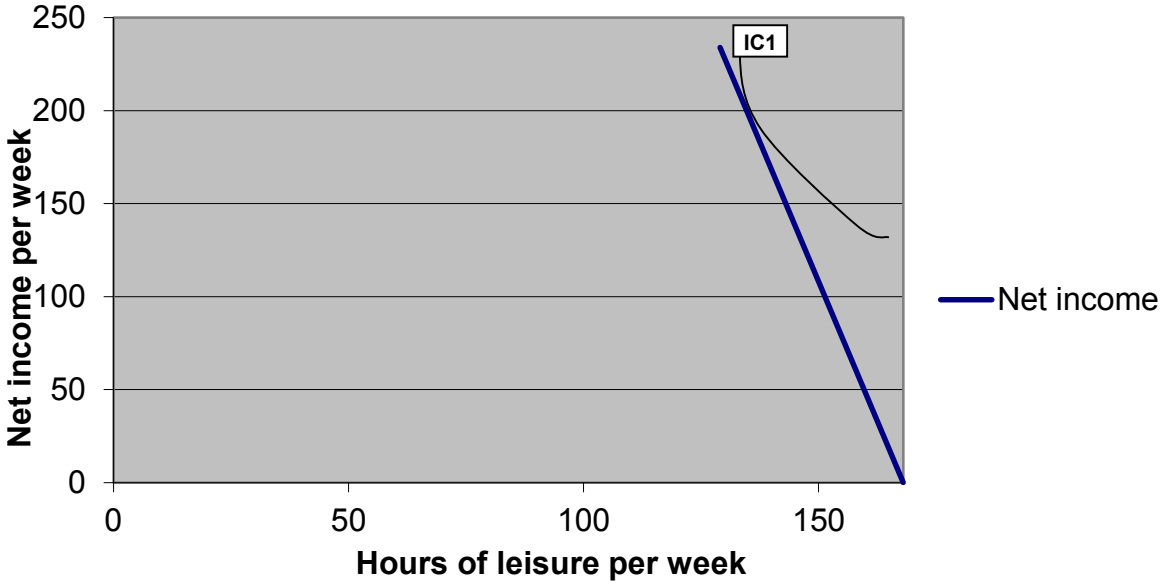
- Perceived consistency in the role expectations for employment held by close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.

3.2 Neo-classical economic theory of the labor market

The neo-classical economic theory of labor markets seeks to explain labor supply, the job search process and labor demand. The basic assumptions within this theory are, as in any branch of neo-classical economics, utility-maximizing individuals with stable preferences and profit-maximizing firms. The focus here will be on the theory of labor supply. This states that the number of hours individuals will work (i.e., supply labor) is determined by their preference for 'leisure' compared to net income (it is assumed that there is no utility in work other than the net income that derives from work). Individuals must decide how much of their time to spend on earning (and thus ability to purchase) and how much on all other activities, including non-paid work, self-care, household duties, etc., as illustrated in Figure 3.1. The wage rate will determine the slope of the line signifying the trade-off between leisure and income – the budget constraint. The indifference curve IC1 represents an individual's preferences between leisure and income. The individual will choose a mix of work and leisure at the point on the budget constraint line

that is at a tangent to their most 'favorable' indifference curve, the point which represents the maximum utility within that constraint (King, 1990).

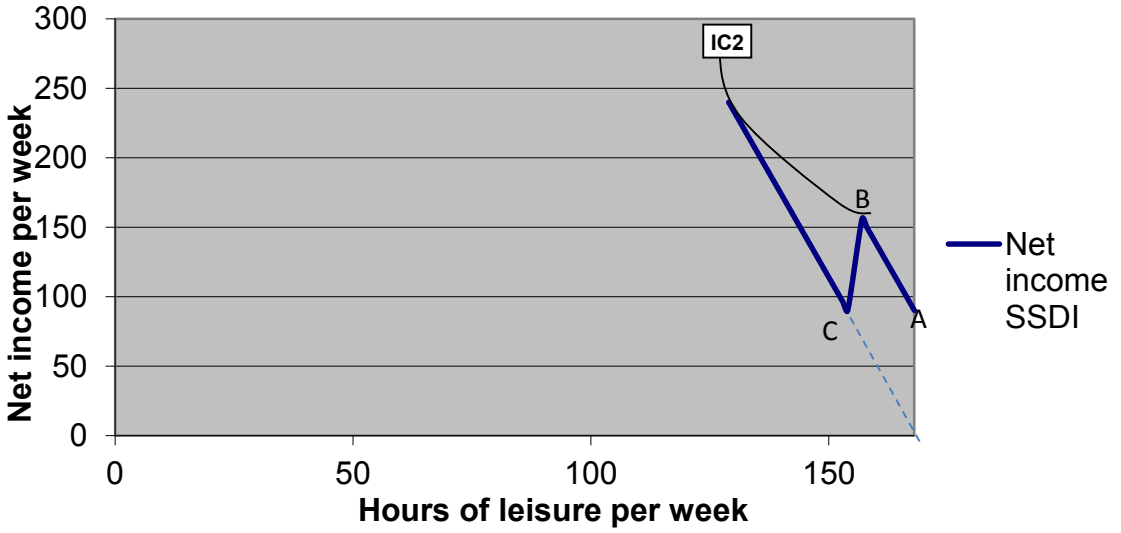
Figure 3.1 ***Labor supply - No benefits in calculation of net income***



3.2.1 The labor supply of people receiving disability benefits

The budget line takes a slightly different form in the case of people with disabilities receiving disability benefits (or any individual with unearned income), in that they will have an income to spend on purchases even if they do not work. For most benefits, that component of their income will decline or cease if they work to earn income. The return in total income for working more hours may even be negative for some patterns of benefits and earnings at some points on the budget constraint line. This pattern is illustrated in Figure 3.2.

Figure 3.2 ***Labor supply for SSDI beneficiaries IC2***



The figure represents the labor-leisure calculation for many people with disabilities who receive benefits that are conditional on earned income being below a certain level, above which the entitlement to benefit stops and net income is reduced by the amount of the benefit. (This describes SSDI in the US.) The figure shows a benefit of $90 per week, an example amount of income available if there are no hours of work (full leisure), and shown by point A on the figure. In this example, individuals can earn a small amount without losing benefits, so hours of work then increase net income at the wage rate. This continues until earnings reach the 'Substantial Gainful Activity' level ($170 pw), where individuals lose all disability benefit income, and their income includes only the amount of earnings. In the case represented above, the budget constraint line increases from point A until point B, when this individual is no longer eligible for benefits, and drops in income to point C (a point on the original constraint for a person without benefits, comparable to Figure 3.1 The budget constraint is at a tangent to the IC2 indifference curve of the individual at two points, indicating the common experience that to make it worth

progressing from a few hours per week of work, this person receiving disability benefits may make the decision to work nearly full time, at which point they would be indifferent between the two combinations of leisure time and income.

Even in this simplified framework, people with disabilities may not seek employment. One reason might be that the wages they would be offered are so low that not working and receiving benefits would always dominate. Low wages may occur because people with disabilities are less productive, or employers may have a prejudice that they are.

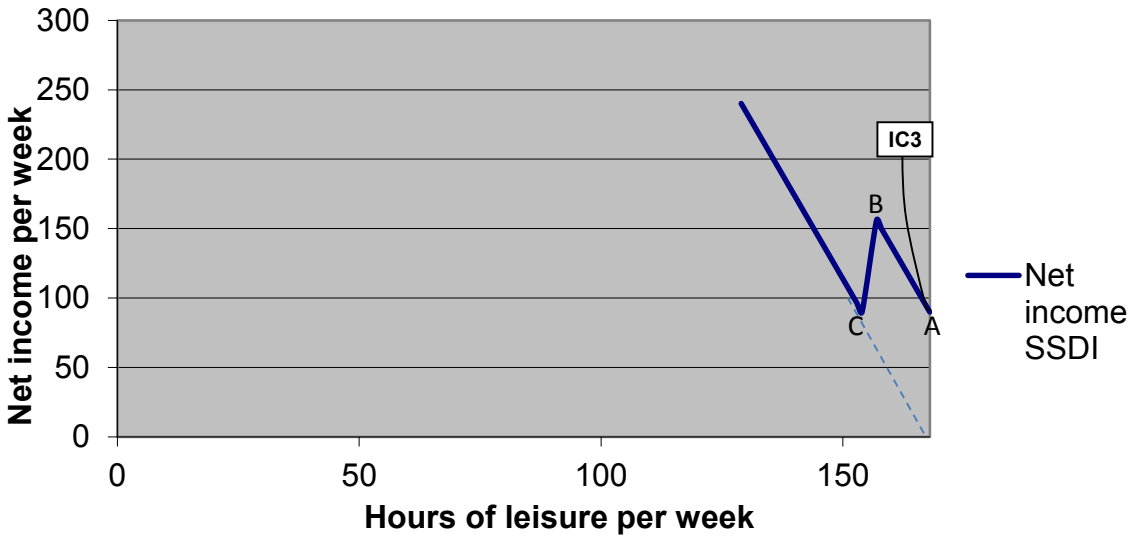
Other factors outside the simplified framework (but still within an overall economic perspective) may also be important. Individuals with disabilities may have higher out of pocket expenses in getting to or performing at work, for example, due to special transportation costs or the need for job coaching that make the net income from working less. Hours of leisure may be more valued by people with disabilities because much of their 'leisure' is taken up with various aspects of self-care and medical treatment. Similarly, some neo-classical economists (Chirikos, 1993) have postulated that because life expectancy is shorter for many people with disabilities, leisure hours will be more highly valued. Some commentators (Thornton, Zietzer, Bruyère, Golden, & Houtenville, 2003) have also identified that the supply of labor by people with disabilities is more susceptible to market information deficiencies than that of others, given the need for complex information such as the impact of earnings on benefits and the costs of special transportation and supports. Such deficiencies might lead people with disabilities to make more uninformed and 'inefficient' decisions, for example, not working when in fact they could have greater utility out of working, simply because that is the safer decision if they are unable to

understand the complex relationship between earnings and benefits. Surveys have shown that fewer the 20% of benefit recipients are aware of how earnings impact benefits (Thornton et al., 2003). Subjective understanding of this impact may be of greater importance than the actual impact in determining employment outcomes.

Different sub-groups of people with disabilities may respond differently to benefits rules. For example, people with developmental disabilities may find it particularly difficult to understand how earnings affect net income, and therefore they may be less responsive to the factors that labor market theory identifies. Again, people with physical disabilities may have much higher transportation costs and value leisure more highly because of the higher time that self-care tasks take for them, factors which could increase their reservation wage.

Given perfect information, the utility maximizing person with a disability will supply an amount of labor at which the income from the last hour is valued the same as an extra hour of leisure. However, this may mean that zero hours of labor is supplied in the case of the same budget constraint considered in Figure 3.2 and another individual represented by the IC3 indifference curve in Figure 3.3, who elects to work no hours because of their benefit income at that point (A).

Figure 3.3 ***Labor supply for SSDI beneficiaries IC3***

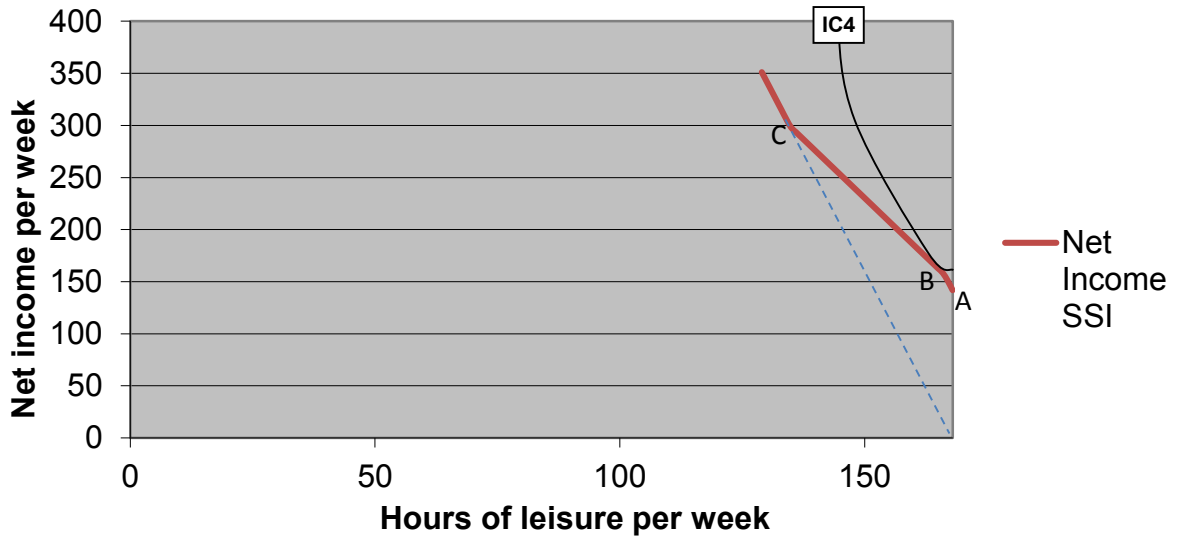


Another complication for people with disabilities can be the unavailability of employment for less than full time. This can necessitate them opting for 'corner solutions' that mean they work zero hours when they might have supplied a few hours of labor at the prevailing wage if such jobs were available.

To illustrate the varied patterns of financial incentives that different benefit programs involve, Figure 3.4 shows the budget constraint line for Supplemental Security Income, a means tested benefit that provides a maximum federal benefit for those without other income of $142 per week, shown on the figure as point A. The benefit is not affected by up to $15 pw in earnings, so in this range (before point B), the budget constraint is parallel to the budget line for non-recipients (i.e., all earnings increase net income). However, any amount of earnings over this level leads to a reduction in benefit of 50% of the additional earnings, causing the slope of the budget constraint to decrease until SSI benefit eligibility ends at about $297pw in earnings for

this individual (shown on the Figure as point C, where the budget constraint meets the constraint for an individual without benefits). The person represented by IC4 chooses to earn no more than $15 pw. If the 'benefit offset' occurred at a higher earnings level, the person would have been able to achieve a higher utility than that implied by IC4 by working more. Labor supply theory applied to disability benefit recipients would predict different rates of entry to the workforce and different preferences for earnings levels depending on the rules that govern treatment of earnings in each type of benefit.

Figure 3.4 ***Labor supply - SSI beneficiaries IC4***



The economic processes involved in job seeking in labor market theory revolve around the concept of the 'reservation wage', that is, the minimum wage that a job seeker will accept to enter a particular job at a point in time. The reservation wage for an individual will vary according to their preference for a particular job, other job offers or perceived potential offers (i.e., the state of the labor market as seen by the job seeker), and their need for income, which

will be partly determined by other income and by their assets and how far they are prepared to spend them (Fallon & Verry, 1988). Over time, it is assumed that the reservation wage will decrease as job seekers spend their assets. For many people with disabilities, a significant factor in their job search will be the availability of disability benefits, and how far they are affected by earnings. The reservation wage will be higher for someone who receives a disability-related income, especially if it will end if they work. In addition, the job seeker with a disability may have additional costs related to the job search itself, for example the longer time it may take them to travel to or communicate with firms. The 'compensating differentials' perspective (Kilbourne, Farkas, Beron, Weir, & England, 1994) includes the 'disutility' of the performance of a particular job (for example, onerous physical demands) in the analysis of whether a job is accepted. This may be different from the general population for many people with disabilities. Job flexibility, health insurance, predictability of hours and other factors might affect the desirability of jobs for people with disabilities, as they do for the general population (Lambert & Haley-Lock, 2004; Lambert, Haley-Lock, & Henly, 2012).

3.2.2 Research on labor supply theory applied to people receiving disability benefits

One of the key implications of this framework is that greater generosity of disability benefits, either through increases to the level of benefits or through broader eligibility criteria, causes lower labor force participation. To the extent that this is confirmed by research results, it may indicate the extent to which existing benefit recipients are likely to respond to financial incentives in (re-)entering the workforce. Many studies using labor supply theory attempt to

estimate the elasticity of labor supply in response to changes in social security benefit levels (de Jong, Haveman, & Wolfe, 1988; Haveman, de Jong, & Wolfe, 1991; Haveman & Wolfe, 1984; D. Parsons, 1980a, 1980b; Slade, 1984). Many of these studies have been focused on measuring benefit levels in terms of the replacement rate (net benefits divided by net wage). However, in the US, early studies produced widely differing estimates, from the .63 (that is, a 10% increase in the replacement rate decreases the percentage in the labor force by 6.3%) found in Parsons (1980a), to the .21 found in Haveman & Wolfe (1984). Several reviews (Bound & Burkhauser, 1999; Haveman & Wolfe, 2000; Livermore, Stapleton, Nowak, Wittenberg, & Eiseman, 2000) have attempted to summarize the conclusions and further questions that have been generated by these and other studies. One of the problems identified (Leonard's "central unavoidable problem" (1986, p.92)) is that of imputing the replacement rate, when the 'unobserved' state (the employment status and wage of a DI beneficiary if they had not entered the DI program) is subject to many hard-to-estimate determinants that may introduce systematic bias, such as the value of Medicare coverage if a disability transfer recipient or the value of fringe benefits if a labor force participant (Haveman & Wolfe, 2000). Bound, Lindner, and Waidmann (2014) use a different approach to estimate the impact of disability insurance on workforce participation, by proposing that the workforce participation rates of rejected applicants could be taken as an upper bound for the counterfactual, that is, the unobserved rates of recipients, if they had not become recipients. In earlier estimates using this approach (Bound, 1989), Bound estimated that, given that DI beneficiaries made up 4.2% of the male population aged 45-55 at the time of the surveys, that if the upper limit for the employment rate of DI beneficiaries if they were not DI beneficiaries is the same as that for rejected applicants (50%), then the existence of the DI program can only account for 2.1% of the non-participation in the labor force of this age group.

As there was a 5.3 percentage point drop in labor force participation by the age group from 1955 to 1980, the DI program can only account for, at most, 40% of this drop. For the 55-64 age group, Bound calculated that the equivalent figure was 25%. Using more recent data from 1990-2004, however, Bound et al (2014) conclude "Broadly, therefore, we see no evidence that men with work limitations left the workforce during this period because of an increase in the availability of alternative sources of income." (p.13). However, his conclusions are based on the debatable assumption that the workforce participation rate of rejected applicants is the upper limit for DI beneficiaries. His study demonstrates how challenging it can be to draw definitive conclusions from econometric studies when there are multiple hypotheses to explain findings and when it is not possible to manipulate the labor market in a controlled, experimental manner.

Gruber (2000) attempts to avoid Leonard's 'unavoidable problem' by making use of a natural experiment created by two changes in the public disability insurance (DI) program rates in Canada. Using a 'difference in differences' regression model involving the first change and an 'instrumental variables model' involving the second, Gruber estimates the elasticity of nonparticipation in relation to benefits as 0.36 and .28 respectively. However, even though this approach seems to overcome Leonard's 'central unavoidable problem', there remain several areas of doubt concerning the validity of these estimates, including the co-occurrence of other benefit system changes and the short period of time used in the analyses. Gruber's study and others that use a labor supply theory perspective illustrate the impact of benefit levels on decisions to leave the workforce. As shown in the comments of Burkhauser and Stapleton in section 2.2, some economists suggest that in order to encourage people to return to the workforce, benefit levels should be reduced.

15 years ago, Bound and Burkhauser (1999) identified the following promising research paths using labor supply theory:

- The use of longitudinal data that allows identification of disability status and applications for disability benefits.
- The greater inclusion of younger workers in studies, given that most studies to date have used samples of workers over 40.
- The initiation of behavioral impact studies in other developed countries.
- The greater use of benefits systems change impact studies.

Some of these paths have been pursued. A study by Moore (2014) provides an example of the last of them. Taking advantage of a change in benefit eligibility, Moore analyzed the employment histories of DI recipients with alcohol and drug addictions, who were terminated from SSDI in 1996. Overall, 20% found employment, with a 50% higher employment rate among those who had been receiving benefits for 2.5 to 3 years compared to those receiving benefits for less than a year, which Moore suggests is evidence that receiving benefits increases employability. This illustrates both the importance not only of conducting systems change impact studies, but also the value of testing novel hypotheses and of including analyses by sub-groups within the disability population as a whole, in this case of those with longer experience of receiving benefits. (While Moore does not suggest this, it is possible that not just time receiving benefits, but greater experience of employment while receiving benefits may lead to increased employment because the impact of economic incentives on net income is better understood.)

The economic perspective provides insight into other factors that should be related to workforce participation, not just the level of disability benefits. Livermore, et al., (2000) highlight firm-specific variables and emphasize the value of methodologies that study successful uninterrupted employment and return to work by people with disabilities. Haveman and Wolfe (2000) suggest using methodologies that pilot and evaluate policy initiatives, including temporary and partial disability benefits to improve work incentives, earnings tax credits and requirements that make benefits contingent on the unavailability of jobs.

Stapleton and Burkhauser (2003a) suggest the evaluation of pilot disability benefits programs that follow the example of the 1996 PRWORA provisions and provide intensive employment support and an earned income tax credit, along with work requirements. An evaluation in the UK of a state-agency program that includes the first two of these provisions and also contains a modified work requirement of participation in rehabilitation programs had some positive results after 18 months (Bewley, Dorsett, & Haile, 2007). People claiming benefits who received the interventions had moderately increased employment (7.3%) compared to matched controls who did not.[3] However, results for the expansion of the program to areas serving three times as many claimants did not demonstrate any impact on employment, earnings or benefit receipt (Bewley, Dorsett, & Haile, 2009). Furthermore, an evaluation of the further expansion of the program, but

[3] There was no significant difference in benefit receipt or earnings, however, indicating that the participants still suffered considerable labor market disadvantage This study of the UK DWP Pathways to Work project, like many similar studies of the impact of employment interventions, encountered the problem that the proportion of people who returned to work is small. Detecting significant effects on a binary dependent variable, 'employed/not employed', may be more likely than on a continuous dependent variable, 'earnings', for which the differences may be relatively small. While earnings of the experimental group increased and benefit receipt decreased more than the control group, the effects were not statistically significant. As the authors state: "the estimates… (of earnings)…are subject to a large degree of imprecision arising from the small number of observations for which take-home pay could be observed" (p.52).

with the services contracted to private providers, showed the same lack of impact (Knight et al., 2013). This UK program has some commonalities with the 'supported employment' approaches described above in chapter 2, section 2.5.5, and the evaluations suggest that, at best, success is highly dependent on effective program implementation.

3.2.3 Labor supply and labor demand related to people with disabilities

Such programs as these have prompted debate among scholars, policy specialists and advocates in the disability field that reflects the debate referred to above over the definition of disability. Some have argued (Barnes & Baldwin, 1999; Oliver, 1991) that the focus on individual behavioral variables, such as the replacement wage, motivation to work and rehabilitation efforts, ignores the societal barriers to employment and other aspects of relevance to full inclusion, such as macroeconomic factors, physical accommodations and attitudes. Econometric research on the effects of the Americans with Disabilities Act (Stapleton, Goodman, & Houtenville, 2003) and the changing nature of the workplace illustrate how structural variables that affect broad labor market conditions, including demand for labor, may impact the employment of people with disabilities. Elsby and Shapiro (2012), use a labor demand and supply model that "combines the evidence on wage growth and the returns to experience … to show that much of the increase in non-employment among low-skilled males in the United States since 1970 and around half of the increase in aggregate male non-employment can be explained by the model" (p.1408). Bound et al (2014) conclude that "…there is substantial evidence that there has been a secular decline in the demand of those with no more than a high school education in the U.S. economy… It seems plausible that these trends would have made it

particularly difficult for men with substantial health limitations to find gainful employment" (p.14). In summary, a substantial amount of research on the employment of people with disabilities has been conducted within an economic framework. The body of research shows some support for the financial returns to work as being important in labor market decisions for this group, and that changes in the demand for labor may have limited the employment opportunities for many people with disabilities. It also suggests that the precise level of financial rewards from work may not be known to disability benefit recipients because of the complex ways that benefit programs treat earnings.

This study will test the following hypotheses about the labor supply of people with disabilities generated by neo-classical economic theory:

- Individuals with disabilities who have the potential to gain higher net income by working are more likely to enter employment, and remain in employment.
- Individuals with disabilities who believe they are knowledgeable about the potential financial rewards of work, and believe that the actual impact of earnings on their net income is positive, are more likely to enter employment and remain in employment.

3.3 Summary of hypotheses

This study draws on both sociological theory and labor market theory, bringing these two perspectives together. Based on the review of these theories, this study tests the following hypotheses:

I. Satisfaction with close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment

II. Range of networks is positively related to employment status for people with disabilities who wish to enter or maintain employment

III. Perceived consistency in the role expectations for employment held by close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.

IV. Individuals with disabilities who wish to enter employment who have the potential to gain higher net income by working are more likely to enter employment.

V. Individuals with disabilities who wish to enter or maintain employment who believe they are knowledgeable about the potential financial rewards of work, and believe that the actual impact of earnings on their net income is positive, are more likely to be employed.

Chapter 4: Description of dataset and of methods.

This dissertation investigates factors associated with beginning employment (Chapter 5) and with leaving employment (versus staying in work, Chapter 6) for individuals with disabilities, exploring satisfaction with social support, network range, social role perceptions, actual financial incentives and perceived financial incentives. In this chapter, I present information on the dataset, statistical methods (survival analysis and logit analysis) and variables used in the dissertation.

4.3 Source of dataset:

The proposed investigation uses a unique and particularly rich Wisconsin dataset from the Wisconsin Pathways to Independence State Partnership Initiative. Described in more detail in chapter 2 above, Wisconsin Pathways to Independence served people with disabilities who received federal Social Security Administration (SSA) benefits (either Social Security Disability Income, SSDI, or Supplemental Security Income, SSI, or both) and who were current clients of the state Division of Vocational Rehabilitation (DVR)[4] with a goal of employment. The project involved the collection of demographic, attitudinal, financial, employment and labor market data.

[4] Each state has a DVR, funded through the federal Rehabilitation Services Administration, which provides employment-related services for individuals with disabilities, giving priority to individuals who have significant disabilities. The requirement that WPTI participants are clients of DVR was waived near the end of the project because of the closure of Wisconsin DVR to new clients. However, this was after the data collection period for the analysis in this proposal.

4.3 Description and rationale for methods and models

Because the study explores the factors involved in entry to employment and those involved in leaving employment, separate analyses are conducted for those not working (Chapter 5) and for those working at baseline (Chapter 6). For those not working at baseline, the dependent variable is any employment in any of the quarters of the two years after enrolment. For those working at baseline, the dependent variable is earnings in every quarter in the two years following enrolment.

Both types of analysis use the same variables representing satisfaction with social support, network range, and social role perception constructs. The financial incentives variables differ. Two measures of actual incentives (the 'Difference' variable and the 'Benefit status' variable) are not included in the analyses for those employed at baseline, but perceived incentives are used in both analyses (descriptions of these variables and the rationale for this approach are described in section 4.3.4 below). Control variables are measured identically in both analyses, except to the extent that the smaller samples in some sub-group analyses mean that some variables with less differentiation have various categories combined.

The analyses in Chapter 5 examine those unemployed at enrollment, investigating whether they begin working, using unemployment insurance (UI) data as an indicator of employment. The first analysis explores the issue of the transition to employment through the construction of a life table that examines the time until individuals begin working. A supplementary analysis compares the time to employment among those not working at enrollment to the time to employment for

another sample – those employed at enrollment who stop working. Survival times to the first transition for those in the different categories of the social and financial independent variables described above will be compared. Such analyses provide a test of the effect of the independent variables, based on time to employment. The Wilcoxon-Gehan test indicates whether the survival times for categories of the independent variables are different.

The main analysis of beginning to work uses a logistic regression model of moving to employment at any point in the data observation period. As described above, while sociological theory predicts that satisfaction with social support, the range of the individual's social network and social support for a worker role will have an impact, economic theory predicts that actual financial incentives and perception of financial incentives will have an impact. The models in this chapter provide empirical tests of these theories, controlling for a variety of demographic and other variables.

The analyses in chapter 6, focused on staying in work versus moving out of employment, follow a similar pattern. I begin with life tables and survival analyses exploring the time until an individual no longer has employment for a full quarter. Again survival analyses are compared for those with different categories of the key variables. I then conduct logit regression analyses that examine whether someone stayed in employment for all quarters, using the key independent variables as described as well as several demographic and other control variables.

In the logit regression analyses, I am primarily interested in the relationship between the independent and dependent variables and testing the hypotheses for the research, rather than model fit.

Table 4.1 below describes the main analyses included in the study.

Table 4.1
Models and Independent Variables for 'Going to Work' and 'Staying in Work' Analyses

	Independent Variables from Sociological Perspective			Independent Variables from Economic Perspective		
	Satisfaction with Social Support	Social Network Range	Social Support for Worker Role	Difference in Total Income from Earnings of $750/quarter	SSI/SSDI Status	Perceived Financial Gain
Chapter 5: Going to Work (analysis of those unemployed at baseline)						
Life Tables (examining transition to first quarter with employment)	X	X	X	X		X
Logistic Regression (examining whether individual had any quarter with earnings in next 7-8 quarters)	X	X	X	X	X	X
Chapter 6: Staying in Work (analysis of those employed at baseline)						
Life Tables (examining transition to first quarter without employment)	X	X	X			X
Logistic Regression (examining whether individual had any quarter without earnings in next 7-8 quarters)	X	X	X			X

In addition to the main analyses on the whole sample, subgroups thought to be particularly important will be analyzed separately. First, recall that the data come from an intervention (intensive benefits counselling, an SSI waiver for some of the time, and a 'team-based' approach that brought together the services of several agencies), intended to increase the employment of people with disabilities, and I am using both the intervention group and the comparison (DVR 'services as usual') group in the main analyses. The evaluation of the Pathways project found that the two conditions had different impacts on employment outcomes. Financial incentives and social support may have different effects for the intervention group and the comparison group, suggesting that either a series of interactions be included or separate analyses conducted. Separate analyses of the intervention group and the comparison group are conducted as the most flexible model.

Second, the primary disability groups identified in the Pathways sample (physical disabilities including HIV, mental health conditions and developmental disabilities) may respond differently to the social and financial factors explored in the study. As noted in section 2.5.1 above, there is a significant gap in knowledge about the relationship between types of disability and employment outcomes. However, there is some evidence from the US and UK that type of disability is a factor in predicting employment outcomes (Baldwin & Johnson, 2001; Berthoud, 2006), in particular that people with psychiatric and developmental disabilities have poorer employment outcomes. Type of disability may interact with financial incentives and social factors to produce different outcomes for the groups. For example, for people with physical disabilities, physical barriers to employment may prevent financial factors from having any effect unless physical accommodations are simultaneously made, or unless the person has

particularly supportive close networks that help them overcome personal care and transportation barriers. Again, people with developmental disabilities or some mental health conditions may be less able to understand how financial incentives in benefits programs affect their income. Separate analyses of the disability groups identified in the dataset are therefore conducted.

Third, it is known that 'Years of employment' (included as a control variable) is the best predictor of future employment for a wide variety of populations (Catty et al., 2008). In addition, employment since starting benefits may be an important factor given that those who have tried working since they began receiving benefits might have very different patterns & correlates (for example, they might know more about how much of their benefit they actually lose by working). Subgroup analyses for those with employment of more than 30 days since disability benefits began and no such prior employment are conducted[5].

Finally, SSI recipients and SSDI beneficiaries have different patterns of work incentives and different characteristics[6]. Comparable statistics about workforce participation by each group are difficult to obtain. The most appropriate data for the samples used in this study are reported by Livermore (2009). She estimated that 'work-oriented' beneficiaries (i.e., those who are interested in or expect to work) comprise approximately 20% of the total. Of these, 49% of SSDI-only, 51% of concurrent SSDI and SSI and 37 % of SSI-only beneficiaries worked in one or more years over a four year period. In order to understand further the relationship between financial

[5] Unlike the other sub-groups, the 'Employed> or < 30 days' subgroups are based on a survey question and have a high number of missing cases (208).

[6] It should be noted that in Wisconsin, as in a few other states at the time, both SSI and SSDI recipients had access to a generous Medicaid 'buy-in' program, under which employed recipients and former recipients could easily pay for Medicaid coverage, with the amount based on their income. Consequently, the difference in health care coverage for SSI and SSDI recipients was less than in most other states, and the fear of losing health care was less of a dis-incentive to going to work for people with disabilities in Wisconsin.

incentives, benefit status and entry to employment, sub-group analyses of the SSI (with or without additional SSDI) and SSDI-only sub-groups are conducted for those unemployed at enrolment (actual financial incentives are not used as an independent variable for those employed at enrolment).

An analysis of earnings would also be interesting if it were feasible. Given the high proportion of participants who had no employment, there may be a sample selection problem in estimating the effect of variables on earnings. The Heckman selection correction (Heckman, 1976) provides a means of correcting for this. However, Heckman's method has been criticized on various grounds (Puhani, 2000), and generally requires an identifying assumption – a variable that affects employment, but not earnings, given employment. The lack of an acceptable identifying variable in this dataset makes this approach of limited value. The dissertation will focus on employment; an examination of earnings is left to future research.

Consideration was also given to the inclusion of the pattern of entries to and exits from employment as a dependent variable. To try to capture the consistency of employment, three categories of employment status could have been used for the dependent variable: consistently employed vs sporadically employed vs. unemployed. For the two years after enrolment, these could be defined as: employed in each quarter vs. employed in 1-7 quarters vs. not employed in any quarter. A problem with such an approach is that it would count, for example, employed in 2 quarters as 'sporadic' even though it may represent a beginning or end of a continuous period of employment. Research suggests that for many groups, entry to employment is initially sporadic, and that this does not necessarily indicate failure to engage in the labor market in the longer term

(Ben-Galim, Lanning, & Krasnowski, 2011). Both sporadic employment and consistent employment represent fulfilment of the person's expressed wish to enter and remain in the labor market, which are the key outcomes for the analyses in this study. Therefore, 'any employment / no employment' and 'employed in every quarter / not employed in every quarter' will remain the primary dependent variables.

The use of interaction terms to explore the combined effects of key independent variables was considered. However, this was not pursued because it would have gone beyond the hypotheses that guide the study, and because exploratory use of interaction terms did not lead to statistically significant results. In addition, sub-group analyses were conducted, acting to some extent as a substitute for using interaction terms.

Consideration was also given to testing the financial incentive and sociological variables independently, with three basic models, one including only social support variables, a second including only financial incentives, and a third including both. However, when the models were run it was evident that there was no gain in terms of the effects that were detected and therefore only the model with all independent variables was included.

4.3 Description and rationale for samples and variables used

The dataset contains records for 1166 project participants from the intervention (556) and comparison (610) groups[7]. These represent the entire comparison group and those intervention group participants who had enrolled between 01/06/99, the start of the project, and 09/30/01. It should be noted that the intervention itself is not of primary interest for this proposal, even though, as described in chapter 2, section 2.5.5, the intervention was shown to have a positive impact on employment and on earnings. This study aims to evaluate the impact of social network factors and financial incentives on employment, controlling for intervention/comparison group status, using data that were gathered in the course of the original project.

The data that are available for the 1166 project participants are drawn from project records, participant surveys, state and federal administrative records and service provider records. Project records data, which include items such as enrolment and disenrollment dates and service provider information, are available on all participants (both intervention and comparison groups). The results of three participant surveys, which include demographic, attitudinal and health information, are available, although, depending on the specific item and year, there are varying degrees of completion. The survey, known as the 'Employment Barriers Survey', was developed by the Oregon Health Policy Institute and has been used to gather data on individuals with disabilities in multiple studies in the US (Hanes, Edlund, & Maher, 2002). Of all 1166 project participants, 1065 completed at least one of the annual surveys, 527 from the intervention group

[7] The data set is held by the University of Wisconsin-Stout, where the evaluation staff who worked on the PTI project are employed. An agreement is in place that allows the author to use the data for the purposes described here. The research has been approved by the University of Wisconsin-Madison Social and Behavioral Sciences IRB.

and 538 from the comparison group. As can be seen in Appendix 4.1, there are three reasons why no survey was attempted with some individuals: disenrollment, the end of the data collection period, and death. Members of the intervention group could disenroll from the intervention, and 22 did so (while no more surveys were attempted for these, permission for collection of administrative data was not withdrawn). Another reason for non-completion of the second follow-up survey is that 59 individuals were enrolled for less than 24 months, and would therefore only have had the chance to complete the enrolment and the first follow up survey. An additional 23 members died during the two years after enrolment. However, the majority of non-completed surveys were not due to disenrollment, the end of the data collection, or death, but simple non-response. About two-thirds of those for whom a first follow-up survey was attempted completed the follow-up, and about half of those for whom the second follow-up survey was attempted completed it. Those not completing the first follow-up were still eligible for the second; 44 of those who failed to complete the first follow up survey went on to complete the second follow up survey. These low completion rates for the follow-up surveys contribute to the decision that the analysis will use the enrollment survey only, accepting that some data, such as 'living arrangement' and 'perception of financial incentives', may become outdated over the data collection period, and this may occur before changes in employment status.

State and federal administrative record data are available for all participants. The first source is state records of the unemployment insurance (UI) program, in which employers report quarterly gross earnings. Earnings from self-employment are not included, nor are records for out-of-state employers or some government employment. The 1166 records are available for both intervention (556) and comparison (610) group members, from the beginning of 1997 until July

2003. Given that the last enrolments were in the quarter ending September 30, 2001, complete UI data are available for the seven quarters after the quarter of enrolment. The second source is the records of the Social Security Administration, which include monthly SSDI and SSI benefit payments, years of work experience, date of disability onset, gender and race. Again, these records are available for all participants from the beginning of 1997 until July, 2003. The third source is DVR records and Disability Determination Office records, which are available on all participants and used to confirm some demographic and disability information. In addition, information has been abstracted from service provider records, available only for intervention-group members following enrolment. Information includes changes in the employment and pre-tax earnings of participants. These have the potential advantage over administrative records of including information on self-employment and casual work.

Very broadly, in the data as a whole (Appendix 4.2), the participants are 52% male, 76% white, 20% married or with a domestic partner, 32% living alone, and 40% with education beyond high school. In terms of the distribution of disabilities, 29% have a developmental disability, 31% a mental illness and 40% a physical disability, including HIV/AIDS. As is expected, those employed at enrollment differ from those not employed. Those employed at enrollment included a higher percentage of people with MH disabilities, a lower percentage with physical disabilities/HIV, a higher percentage who completed high school and a higher percentage with better health.

4.4 Samples

Because the study explores the factors involved in entry to employment and those involved in leaving employment, separate analyses are conducted for those not working and for those working at enrollment. Working at enrollment is defined as any reported UI earnings in the quarter of enrolment. The sample for analyses of entry into employment is based on the 735 individuals not working at enrollment; the sample for analyses of leaving employment is based on the 431 individuals working at enrollment. These complete samples are used for the life tables, since they can incorporate cases with varying amounts of data (for example, individuals who die or who start in the last quarter of enrollment so there are fewer quarters that are observed after enrollment). For the multivariate analyses of going to work and staying in work, I use a smaller sample, cases with at least 7 quarters of post-enrollment earnings data, and cases with full information about primary disability, totaling 718 for the going to work analysis and 429 for the staying in work analysis. For categorical variables with missing data, cases with missing values were included in the logit regression analyses and a dummy variable created to denote missing information. For continuous variables with missing data, the mean value across all cases was imputed and a dummy variable denoting that the variable had been missing was created. In addition, in some models, there were some categories of variables that had very small *n*s, or had high collinearity with other variables. Where this occurred the category was combined with similar categories (e.g., those who 'Strongly Disagreed' were combined with those who 'Disagreed'). If the high collinearity occurred with one of the variables denoting missing information, the missing cases were omitted from that analysis (reducing the *n*).[8] See Appendix

[8] For example, in the analysis of 'going to work' for the sub-group of physical disability, in the question about perceptions of financial gain from working, the categories of 'Strongly disagree' and 'Disagree' had small ns, and

4.3 for an analysis of missing data and a fuller description of the strategy for dealing with missing data.

4.5 Dependent variables: Entering and leaving employment

The dependent variable of entering employment (results reported in chapter 5 'Going to work') will be measured for those not working at enrollment by whether they had any earnings in any calendar quarter between the first quarter after enrolment and the end of the seventh or eighth quarter after enrolment.[9] (For the 88 people who enrolled late in the period for which data are available (January 1, 1999, to June 30, 2003) so that they do not have eight post-enrolment quarters, entering employment is measured as any employment in the seven quarters after enrolment. The 15 who died before the end of the seventh quarter after enrolment are excluded from the analysis.) Both the UI records and the service provider records have information on employment. As might be expected, the provider-reported data show a higher employment rate (because they can include informal employment, self-employment and employment through employers not reporting to the UI system). The difference between employment based on UI records and service provider records grew during the project from four percentage points at entry

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there were 41 cases missing information on this variable, with the missing indicator highly correlated with other variables. The solution was to create a single variable reflecting whether the individual 'Disagreed' or 'Strongly disagreed,' and to exclude the cases missing information on this question from the analysis.

[9]Some individuals had very low earnings. 1.8% of participants had earnings of less than $60 in the enrolment quarter (35.2% had earnings greater than $59). Consideration was given to excluding from the definition of 'employed' those with earnings below a very small amount. Possible 'cut-off' levels considered were $60 per quarter (i.e., less than an hour of work per week) and $66.95 per quarter (i.e., 1 hour of employment per week at the 1997-2006 minimum wage of $5.15). Potential problems with such an attempt to exclude minimal workforce participation were identified as, first, any amount >$0, it could be argued, represents a decision to enter employment, and second, this approach could miss the start or end, or a short period, of more substantial employment, or where individuals have worked only first or last week of quarter for 10 hours. The numbers who earn under $60 are small (21 in the enrolment quarter) and approximately half of those who earn >$0<$60 in the enrolment quarter move on to higher earnings in the following year. I have conducted selected analyses in which earnings must be greater than $59 per quarter to count as 'employed.' The substantive conclusions were the same as those reported in chapters 5 and 6 below. Given these considerations, it was considered appropriate to include any level of earnings as evidence of employment.

to 11 percentage points after six quarters (Delin and Reither, 2005, p.141). However, the fact that this provider-reported data are limited to the 556 cases in the intervention group outweighs the value of its possibly more complete measure of employment status.

Including the comparison group in the analysis will allow for an increased ability to detect relationships (because of the larger sample size) and greater variation in some of the independent variables. In addition, the UI data have the virtue of a well-established process for gathering the data, whereas the provider-reported data collection system may have had greater inconsistency in its implementation. The wider literature on this topic supports the use of UI data rather than survey data. Addressing a similar comparison, between UI data and worker-reported data, Wallace and Haveman (2006) conclude "UI is preferred to survey data for monitoring labor market outcomes and tracking the economic wellbeing of welfare-affected populations" (p.752).

The quarterly UI data are available for the entire sample from the first quarter of 1997 to the end of the second quarter of 2003. As noted above, data are available for each person who enrolled before the end of the third quarter of 2001, and therefore complete UI data are available for everyone enrolled in the project for seven quarters after the enrolment quarter.

In the analyses of leaving employment (results reported in chapter 6 'Staying in work'), I operationalize leaving employment as having a full calendar quarter without earnings in the 8 quarters following the enrolment quarter, according to the UI records. (Again, for those who enrolled late so that they do not have 8 quarters, I consider seven quarters.) This does not capture all job loss, but it does capture a more significant period without employment. Some

employment in each quarter can be seen as a strong indicator of successful workforce participation for those employed at baseline. This means that the analysis of leaving employment is the same as an analysis of continuing to be employed in every quarter after enrolment. Again the UI records are superior to other sources of information about employment.

4.6 Satisfaction with social support, social network range and social role expectations

The data set contains items that are used here as proxies for sociological constructs reviewed in section 3.2 above. These items are from the enrolment and follow up surveys. They were formulated by staff of the Oregon Health Policy Institute and have been included in a number of disability and employment studies (Hanes, Edlund, & Maher, 2002). In brief, I include the following variables in both the 'Going to work' and the 'Staying in work' analyses: a three-item scale on satisfaction with social support; an indicator of the range of social networks (living arrangement); and a question about the level of support of family and friends for working. In this section I provide more detail on these variables and the final preferred operationalizations.

'Satisfaction with social support' (in Chronister et al's (2008) classification of social support definitions described in chapter 3 above) is measured in this study using a variable derived from three items in the Employment Barriers Survey. The variable is a Likert scale based on three items, under the general question 'How are you feeling?' These are:

- Overall, I have a good relationship with members of my family
- I have an active social life

- I am happy with my current living situation

Data were gathered at enrolment only. Responses to the three items have been aggregated in the data available to the researcher; responses to the separate items are not available. 152 of the 1166 did not answer at least one of the questions, so no data on the variable are available for these. The three items are very similar in structure to items in questionnaires measuring subjective satisfaction with social support reported in the literature (Irwin G. Sarason, Sarason, Shearin, & Pierce, 1987) , including those for people with disabilities (Greenley, Greenberg, & Brown, 1997), in that items define an area of social support and ask how far the respondent is satisfied with the support that they receive in that area on a Likert scale. It differs from some scales (I.G. Sarason, Levine, Basham, & Sarason, 1983) in that it does not ask respondents to specify an individual who supported them in a particular domain. Evidence suggests considerable correlation in satisfaction with multiple friend and family sources (Lawrence, Gardner, & Callan, 2007). Some 'satisfaction with social support' questionnaires place more emphasis on the instrumental value of social connections, specifying supportive functions, as in the question 'Whom can you really count on to listen to you when you need to talk?' Given that the measure used in the survey was chosen to be deliberately brief and easy to administer, it includes satisfaction with 'overall' support from family, friends and household members, rather than elaborating specific examples of support. The questions were taken from a five-item 'Subjective Quality of Life' scale developed by the Research Committee of the International Association of Psychosocial Rehabilitation Services (IAPSRS/HSRI, 1995). The two excluded items ('overall, I am satisfied with my life' and 'I am in good physical health') were not related to social support. The test-retest reliability correlation for the five-item scale is .85 and the coefficient alpha is .75 (Arns, Rogers, Cook, Mowbray, & et al., 2001). While the three-item scale has not been

separately tested, it is taken directly from the Human Service Research Institute-commissioned scale that was rigorously developed and tested, and is very similar to other scales that have been used to measure satisfaction with social support. When using this continuous variable in survival analyses, it will be collapsed into a dichotomous form based on the median value of 3.33[10].

- Network range

'Social network range' is measured in this study by responses to the survey question 'With whom do you live?' Only enrolment data are available. This 'living arrangement' question includes the response categories of: (1) alone, (2) spouse or significant other, (3) adult friend or friends, (4) other family members, (5) parents, (6) other adults (live-in attendant, group home, nursing home, adult foster care, other adults who are not friends) and (7) other[11]. As noted in chapter 3, greater 'range' in social networks can be indicated by both the diversity and, indirectly, the number of connections. Living arrangement can affect both these, adding to the number of potential contacts and to the diversity of those contacts, enabling individuals to access more networks through the 'weak ties' that diversity involves. The social connections that living arrangement brings will be relatively consistent over time, in contrast to other possible measures of range such as friendship networks or employment networks (especially given the higher job turnover rate of the sample). Living with family members in particular may offer diversity in terms of age and occupation, which will in turn affect the ability of the individual to 'bridge' to

[10] The median value was chosen from among the 13 possible values because there were no outliers or 'tails' and the median offers the most equal groups, and in view of the absence of any more compelling rationale for an alternative dichotomy.

[11] Four individuals' whose response to the marital status question is 'married' or 'domestic partner' made no response to the living arrangement question and are coded as 'missing.' I re-code these types of cases 'living with spouse or significant other'.

multiple other networks. ‘Alone’ indicates more limited range in the respondent’s social network while the other categories indicate a wider range. Living alone has been used as a proxy for number of social connections in studies of social isolation, particularly among the elderly (Cornwell & Waite, 2009). As Knipscheer, Dykstra, Gierveld, and Tilburg (1995) conclude “Living arrangements strongly determine the opportunities … for engaging in social interaction” (p.10) .

Bearing in mind Burt’s and Wellman and Frank’s remarks, reported on p.13 above, defining range as involving networks beyond a ‘single, solidary group’, an exception to this may be ‘living with adult friends’, which, while indicating wider range than ‘alone’, may also indicate more limited access to wider social networks than living with family members or carers, who may provide access to diverse networks outside the person’s close friendship networks.

A potential endogeneity issue is that some living arrangement categories might also imply roles that compete with that of employment (e.g., the categories of ‘spouse or significant other’, ‘parents’ and ‘other family’). The hypothesized positive relationship between employment and wider network range in terms of living with family may be negated by the tendency of people who live with family to adopt caring or domestic roles that make employment less likely. However, all individuals in the treatment and comparison groups declared a wish to work or to work more, thereby indicating that they had to some extent resolved such potential role conflicts and adopted a ‘worker’ role. A further potential problem could be that certain categories imply differing levels of independent living abilities. The category of living in an institutional setting or with a live-in attendant could, in addition to indicating wider social network range, also be

associated with additional barriers to independence and, potentially, employment. The category of living alone could instead imply that the individual has fewer barriers to independence, compared to all the other categories. In addition, living in a staffed group situation may imply greater presence of support services, which may imply expectations or requirements for employment or work-like activities. In the absence of variables that would control for independent living abilities and service characteristics, there is little that can be done to address this potential problem, other than take the issue into consideration in interpreting the results.

To explore the effect of range of social networks as measured by these different living arrangements, the variable is coded for the logit regression analysis using all 7 categories, rather than collapsing it into a binary variable with the categories 'Alone' and 'Living with others', although in the survival analysis, both sets of categories are used.

The extent to which social role expectations in close, dense networks confirm a 'worker identity' can be measured in this study by survey questions included in the initial survey and in the survey taken yearly thereafter. The initial, 'enrolment', survey asked, only for those participants who had been employed or self-employed for more than 30 days at the same job since they began collecting Social Security benefits, "There are many factors that affect a person's ability to get and stay at a job. During the time of your most recent job, did you have the support of your family and friends?", to which the respondent could reply 'Always' (4), 'Usually' (3), 'Sometimes' (2) or 'Never' (1). About half of the respondents to the enrolment survey did not answer this question because they had not worked since receiving benefits. The two subsequent, follow-up, surveys asked a slightly different question of all participants, "In terms of factors that affect a person's ability to get and keep a job, during the last 12 months did you have the support

of your family and friends?" with the same reply categories. The first follow-up survey had a much lower proportion of individuals who did not answer the question (2.6%) because it applied to all those completing the survey; however, only 769 completed the survey.

The questions are consistent with current instruments used to measure social support for employment by workers with disabilities. For example, Lysaght, Fabrigar, Larmour-Trode, Stewart, and Friesen (2012) report on the development and validation of a scale used to examine perceived social support for individuals' work role from family and friends, co-workers and supervisors. It includes the item 'My friends and family showed they supported me', with level of agreement rated on a 5-point scale. The very high value (.954) of Cronbach's alpha for the total scale indicates high correlation between individual items, suggesting that the use of individual items is valid.

It is possible that answers to either of the two survey questions may be influenced by current employment status, in that an employed person may regard the support of family and friends for their employment more positively if they have successfully obtained or maintained a job at the time of the survey, and *vice versa*. An advantage of using responses to the question from the enrolment survey is that the participants will have had experience of the degree of support for a worker role among their friends and family while they were actually in a job, whereas those from the follow-up survey will include participants who may not have been employed during the 12 months in question, or indeed at any time. This 'practical experience' of the strength of support for a worker role may make the responses more valid. A disadvantage of using responses to the enrolment survey question is that they could be based on perceptions of support for employment

that occurred many years prior to the time of completing the survey and that no longer apply. However, it is not known how many years prior the experience was, nor is it known whether this factor actually influences satisfaction ratings. A disadvantage of using responses from the follow-up survey is that they cannot be used in analyses that include a dependent variable of employment status in the first four quarters after enrolment, because this could involve 'reverse causality', i.e., employment success might cause positive reporting of social support for the worker role. Taking into consideration this disadvantage, which involves loss of consistency and comparability between analyses, this study will only use the results of the enrolment survey measure of social role expectations.

The four categories of response can be 'collapsed' in a number of ways. To reflect the construct of role conflict as described above (section 3.2), those who replied they "always" felt supported could be compared to the other categories to indicate the absence of any role conflict within their dense, closed networks. This binary approach yields a fairly equal distribution of responses in each category (Appendix 4.2). Alternatively, it could be argued that those who responded that they "never" felt supported indicate such a strong level of role conflict that they should be analyzed independently. However, this only applies to less than 5% of survey respondents. As another alternative, which maximizes the available variation, the four categories can be coded separately and seen as representing an ordinal variable. In this study, the last option is used, both to represent the concept of degrees of support for the role of worker and to maintain the available variability.

A potential problem was identified with this variable in models involving those unemployed at baseline, in that 'Social support for employment since benefits began' is nested within another variable, 'Employed 30 days or more since starting benefits' The solution chosen was to combine the latter variable into the former, 'Social support for employment since benefits began', with five categories, 'Always' [which was the reference category], 'Usually', 'Sometimes', 'Never' and 'Not employed >30 days in one job since benefits began.'

4.7 Financial incentives

In addressing the hypothesis 'Individuals with disabilities who have the potential to gain higher net income by working are more likely to enter employment', and to distinguish between individuals who had greater and lesser financial incentives to enter employment, the dataset contains information from which one relevant variable can be derived and it offers two others. This section describes these three variables (the estimated increase in income from a given increase in earnings, the particular benefits received, and perceived financial incentives).

First, individuals face very different rules about the extent to which earnings will affect their benefit levels (and thus their total, net income), so those who would lose more income from benefits by working can be compared to those who would lose less. For example, those who only received SSDI would lose no benefits at lower levels of earnings; however, those whose earnings exceeded the level of "Substantial Gainful Activity" (SGA) [12], about $740/month in

[12] If earnings exceed SGA for more than the 'Trial Work Period' (TWP) of nine months (plus a 3 month 'Grace Period') in a 5 year period, SSDI will be eliminated. An 'Extended Period of Eligibility' (EPE) lasts three years

2001, would lose all benefits. As another example, SSI recipients who earn under $85/month would lose no benefits from this low level of earnings; however, those who earn between $85 and around $1,100/month would lose $1 in benefits for each $2 earned. One way to capture these various incentives is to identify the actual level of earnings at enrolment and then calculate how income would be affected if an additional $250/month ($750/quarter) were earned[13]. This calculation, and the assumptions underlying it, are described in Appendix 4.4.

The effect on quarterly total income of the potential change in wages in the quarter of enrolment is shown in Appendix 4.2, under 'Continuous variables' and 'Difference in Total Income w $750 Earnings increase.' ('Total Income' is composed of wages, SSDI, SSI, State SSI Supplement and food stamps, before taxes.) This independent variable can potentially be used to predict change in employment over time, rather than absolute levels at any point in time. It is best suited as a proxy for the likelihood that someone will begin working or will begin working more; it is not appropriate for predicting whether individuals will work less or will stop working. The difference ranges from a loss of nearly $2,500/quarter (for those currently receiving a substantial SSDI benefit who would go over the SGA threshold with an increase in earnings) to a gain of $750 (for those currently receiving SSDI but without earnings). For the 735 individuals unemployed at enrollment, $750 in earnings would result in:

following the TWP, after which, if earnings exceed SGA in any month, SSDI will no longer be paid even if they fall again below SGA, unless the person applies for 'Expedited Reinstatement', which reinstates SSDI for 6 months while SSA conduct a medical review SSDI continues as long as earnings are below the SGA level ($740 per month). In this illustration, it is assumed that the person is in the EPE.

[13] $250/month is arbitrary, but is about minimum wage times 10 hours/week. The idea is to estimate the income response to a small but realistic change in earnings brought about by entering a part-time job or increasing hours in an existing job.

- A $750 increase in total income, for the 286 individuals assessed as receiving SSDI only (no SSI or FS) and who would be under SGA with the additional earnings, and the 22 individuals assessed as receiving no benefit at all[14]
- A $503 increase in total income, for the 236 individuals receiving SSI only (no SSDI and no FS)
- A $473 increase in total income, for the 110 individuals receiving SSI and SSDI (no FS)
- Varied amounts for the 81 remaining cases (11.1% of those unemployed at enrollment), ranging from $3 to $748, depending on the amount of SSI, if they have SSDI or other unearned income as well as SSI, and on whether they are entitled to and claim FS. For example, one individual in the study would gain only $3 from the gain in earnings of $750 because $239 in SSI and $508 in 'non-grandfathered'[15] State SSI Supplement would be lost.

Of those unemployed at enrolment, none are predicted to suffer a loss in total income,[16] while 42% would gain the full amount of the wage increase. This estimate of the effect of a $750 per quarter increase in earnings on total income (the 'Difference' variable) will be used in this study as an independent variable to assess the impact of financial incentives on the likelihood of those

[14] While there are 90 who received neither SSDI nor SSI payments in the enrolment quarter, the 'Difference' variable was estimated on the basis of 'adjusted' entitlement to benefits, which is the benefit that the person would have received if adjusted to earnings in the same quarter, based on information about benefit receipt between January 1, 1997 and June 30, 2003, ignoring prior over-payments and delays in a adjusting to earnings levels. However, the 'adjusted' entitlements did not reveal the benefit status of 22 individuals. It was assumed that they did not receive any benefit in the enrolment quarter and therefore gained the full amount of the earnings increase.

[15] In 1996, state SSI rules changed for new recipients so that when federal SSI ended due to earnings, state SSI also ended. Federal SSI ends when earnings reach $1127 – 1147. Those receiving State SSI, but no federal payment, in November 1995, were 'grandfathered' and allowed to continue to receive state SSI in the absence of a federal payment.

[16] Note that the only individuals whose total income could decrease in this simple construction are those already working, since these are the only individuals who could lose more in benefits than they gain in earnings.

unemployed at enrolment entering employment. When used in survival analyses, this continuous variable will be collapsed into a dichotomous form based on whether the increase in total income was $750 or less than $750 (given that $750 is the mode and that the group receiving this amount has a clear and substantial financial incentive compared to the rest, whose benefits will be reduced). The 'Difference' variable is not included in the analyses for those employed at baseline because it measures the effect of a hypothetical increase in earnings, which would not be expected to affect maintenance in employment. It might have been possible to develop a variable that represented the impact on total income of losing the full amount earned at enrolment, so that a similar variable could be used in the analysis of staying in work, but it would have involved making many more assumptions about eligibility for benefits than the 'Difference' variable, because there would have been fewer indications of eligibility (earnings might cause non-receipt of a benefit that the person would have been entitled to had earnings been lower). The decision was made not to attempt to use such a variable at this time.

Second, a potential measure of financial incentive is benefit status itself, that is, whether the person is eligible for SSI or SSDI or both, given that they present very different work incentives. However, the implications of these work incentive structures vary according to the amounts of the benefits and other unearned income, the amount of earnings, and assets. Simply categorizing people as eligible for SSI or SSDI or both does not imply a clear financial (dis-) incentive unless a level of potential earnings is specified. The 'Difference' variable described above provides a more accurate measure of financial incentive resulting from a $750 per quarter increase in earnings than benefit status alone would. However, the 'Difference' variable has the obvious disadvantage that it represents only one level of earnings, even though the relative effect of

earnings on total income differs across earnings levels according to the benefits received. The relative incentives for those with job offers paying other than $750 per quarter may be very different. For example, while potential earnings of $750 per quarter for someone receiving SSI would imply different financial incentives from someone receiving only SSDI, potential earnings of $255 or $3,300 per quarter would imply the same financial incentives for both. [17] (Earnings of $255/quarter are low enough that they would be totally disregarded in SSI, so both SSDI and SSI recipients would retain the full amount of earnings; earnings of $3,300/quarter are high enough that they would result in a total loss of benefits for either SSDI or SSI recipients and both would again retain the full amount of earnings.) Therefore, as an alternative to assuming a particular level of earnings, the pattern of an individual's benefit entitlement may be a better predictor of financial incentive across a range of potential earnings levels. The patterns of benefit receipt in the enrolment quarter (followed by the numbers of each in the group) are: SSI only (328, of which 53 are 'grandfathered'); concurrent SSI and SSDI (314, of which 106 are 'grandfathered'); and SSDI-only (434). (90 received no benefit payments in the enrolment quarter.) SSI consists of a federal amount and a state supplement, the amount of which varies between states. SSDI amounts vary greatly according to prior years of work and earnings levels. The variation in the impact of earnings on total income is shown in the range of scenarios described in Table 4.2, based on the above groups but with additional variation in the SSDI amount (with 2001 benefit levels for SSI and assuming no unearned income other than SSDI). The scenarios are illustrated graphically in Appendix 4.5

[17] Note that any SSI recipient will, if they lodge a claim with their County, receive Food Stamps, the value of which will vary with other income and family size.

Table 4.2
Effect of earnings on net income for 8 illustrative combinations of benefit type and amount

1	2	3	4
Example monthly income package	Range of monthly earnings where net income increases dollar-for-dollar	Range of monthly earnings where net income increases 50 cents for every dollar	Monthly earnings point where there is a loss of net income
1: SSI only; federal benefit of $531, State supplement of $84 ('non-grandfathered').	$0-85 $1147+	$85-1147	At $1147, state supplement of $84 is lost
2: SSI only; federal benefit of $531, State supplement of $84 ('grandfathered').	$0-85 $1147+	$85-1147	None (state supplement is retained at all levels of earnings)
3. SSDI of $50; federal SSI of $501; State SSI supplement of $84 ('non-grandfathered').	$0-65 $1127+	$65-1127	At $740, SSDI of $50 lost, but SSI increases so net loss of income is $29, compared to at earnings of $739. At $1127, state supplement of $84 lost.
4: SSDI of $500; federal SSI of $51; State SSI supplement of $84 ('non-grandfathered').	$0-65 $167-$739 $741+	$65-167	At $167, state supplement of $84 lost. At $740, SSDI of $500 is lost, but federal and state SSI starts again, so net loss of income is $211.50.
5. SSDI of $50; federal SSI of $501, State SSI supplement of $84 ('grandfathered').	$0-65 $1127+	$65-1127	At $740, SSDI of $50 lost, but SSI increases so net of loss income is $29, compared to earnings of $739.
6: SSDI of $500; federal SSI of $51, State supplement of $84 ('grandfathered').	$0-$65 $167-$739 $741+	$65-167	At $740, SSDI of $500 is lost, but federal SSI starts again, so net loss of income is $295.50, compared to earnings of $739.
7. SSDI of $50; no eligibility for SSI due to unearned income or assets.	$0-739 $741+		At $740, SSDI of $50 is lost.

8. SSDI of $2000; no eligibility for SSI due to unearned income or assets.	$0-739 $741+	At $740, SSDI of $2000 is lost

The above table illustrates three patterns of financial incentives (represented by three different slopes in the graph in Appendix 4.5):

1. Each additional dollar of earnings results in a dollar of increased total income.
2. Each additional dollar of earnings results in 50c of increased total income.
3. An additional dollar at earnings results in decreased total income of the amount of SSDI or 'non-grandfathered' SSI, minus $1.

For example, case 1 receives SSI only. The first $85/month of earnings is disregarded, so in this range, net income increases by one dollar for every dollar of earnings (column 2). After $85, for every dollar of earnings, SSI federal benefits decline by 50 cents, so every dollar of earnings results in an increase of 50 cents in net income once the loss of benefits is considered (column 3). If this individual were to earn $1147, they would no longer be eligible for federal SSI, so they would lose the state supplement as well (column 4), and at earnings higher than this, no benefits would decline (column 2). Case 2 is similar, but does not lose state supplement. Cases 7 and 8 are also straightforward. Individuals who receive SSDI and are not eligible for SSI receive a dollar increase in net income with every dollar of earnings until the SGA level ($740/month), shown in column 2. At the SGA point they (eventually) lose all SSDI, so income drops (column 4). After this point they again fully benefit from earnings (column 2). Cases 3, 4, 5 and 6, involving 'concurrent' SSI and SSDI recipients, are a little more complex, mainly in the way that SSI can end and then start again as SSDI payments end.

As can be seen from the table, and from the graph, benefit recipients can experience two or three of these patterns of financial incentives as their earnings increase. There can be as few as two changes in incentives (in the case of '2', 'grandfathered' SSI only recipients) and as many as 6 (in the case of '4', those with SSDI of 610 and non-grandfathered SSI).

In considering how these patterns of benefits might be used as indicators of varying financial incentives that apply over different levels of earnings, the most appropriate differentiation for the purposes of this analysis is between those who are eligible for SSI, for whom benefits are reduced after earnings reach $85 per month ($65 if they also receive SSDI), and those who only receive SSDI, for whom benefits remain the same until earnings reach $740 per month, when they are terminated. So for SSI recipients, over a large portion of the range of earnings, total income is increased by only half of marginal earnings, whereas for SSDI beneficiaries, it increases by the whole amount of marginal earnings[18]. A potential problem with using this categorization of benefit eligibility as a measure of financial incentive is that there may be other ways in which SSI recipients and SSDI-only beneficiaries vary systematically. One known difference is in social security contributions, and, indirectly, work experience. Despite this disadvantage, 'Benefit status' as an independent variable offers an alternative perspective on financial incentives to the 'Difference' variable and is used in the base model for the unemployed 'going to work', both as an alternative and in combination with the 'Difference'

[18] The WPTI evaluation took another approach to differentiating between benefit groups by combining SSDI only and concurrent beneficiaries, on the grounds that SSDI beneficiaries are subject to 'more stringent rules …which place more limitations on beneficiaries' work activity' (Delin and Reither, 2005, p.187). This may have been appropriate for the evaluation, which investigated the impact of the intervention on employment status and earnings. This analysis is concerned with decisions about whether to enter work, which is assumed to be initially part-time, for which SSDI-only beneficiaries gain the full amount of their earnings, or to leave work. For SSI-only or concurrent beneficiaries the potential gain in total income is moderated by changes in the level of SSI.

variable. Based on the results of this, consideration will be given to using the 'Benefit status' variable in other models for unemployed at enrolment.

It would be possible to use current 'benefit status' in the analysis of staying in work, either as an independent variable representing financial incentives to stay in work, or as a control variable, representing characteristics of SSDI-only beneficiaries versus those eligible for means-tested benefits, primarily SSI. However, identifying benefit status for those working is not as accurate as for those unemployed, because it does not tell us what the benefit status would be if an individual were to lose their job. For example, some may not be receiving SSI or Food Stamps, or SSDI, *because* of their level of earnings, although if they lost their job they would be able to receive these benefits, and the data are not precise in identifying this potential eligibility. A test was conducted using the base model for employed at enrolment, and adding the variable described above indicating any SSI receipt over the whole period for which data are available (i.e., eligible for means tested benefits) versus SSDI only receipt. The variable was not significant in the analysis and there was no substantive difference in the significance of the other variables. Given both the unreliability of current benefit payment status as an indicator of potential eligibility and the results of the above test, current benefit status is not used in the analysis of loss of employment.

Third, all individuals were asked, in the baseline survey only, to rate their agreement with the statement 'working will increase my income', using five response categories, 1 being 'strongly disagree' and 5 'strongly agree.' This subjective rating potentially offers the most direct indicator of perceived financial incentives. Note that individuals may not have accurate

knowledge of how their income would change; this variable measures perceptions of incentives, rather than the actual incentives themselves (the bivariate correlation coefficient between the responses to the survey question and 'difference' variable is not significant[19]). As described above, the item was developed by the Oregon Health Policy Institute and used in multiple employment studies. However, no information is available about how far reliability and validity have been tested. This study will use this 'Perceived financial incentive' measure as an independent variable in both the analysis of going to work and the analysis of staying in work, using the full variability in the five response categories to assess its impact on employment status.

In summary, I plan to measure financial incentives in three ways: the marginal change in total income arising from a designated increase in earnings; whether the person is eligible for SSI, or only SSDI; and the perception of financial incentives. All measures will be used in the analysis of going to work, but only the last will be used in the analysis of staying in work.

4.8 Control variables

Control variables have been determined by previous research on the general population and on people with disabilities, and by the characteristics of the project that generated the dataset. The control variables used are: years of work; education; age; race; gender; treatment/comparison group; disability type; local labor market; self-reported health; and motivation to work. The

[19] This is consistent with the survey finding that only 20% of SSA disability benefit recipients are aware of work incentive provisions in benefit programs (Thornton et al., 2003).

frequencies, means and numbers missing for these in the whole sample, and in the samples for going to work and staying in work, are given in Appendix 4.2. Previous research shows that the most well-established predictor of employment among people with disabilities is prior work experience (Berthoud, 2006; Bond, 2004). A second well-established predictor is education level (Berthoud, 2006). Other demographic factors such as gender, race and age have consistently been shown to be significantly associated with employment in the general population and among people with disabilities. Following the approach used in much research on employment outcomes, age is limited to three categories (<25; 25-54; >54). While some studies show that psychiatric conditions have a greater negative impact on employment than other conditions, it is by no means a universal finding ((Berthoud, 2006; Mamun, O'Leary, Wittenburg, & Gregory, 2011). In the Pathways dataset, 'Disability type' has three categories (developmental disability, mental health condition and physical disability including AIDS/HIV) and will be used as a control variable. Severity of disability has been shown to have an impact in some studies. However, the finding is not consistent and the Pathways dataset does not include a variable that specifically measures this, although self-reported health could be regarded as a proxy for disability severity.

The 'Self-reported health' variable consists of five categories (excellent, very good, good, fair and poor) of responses to the question 'In general would you say your health is…?' It is treated as a categorical rather than an ordinal variable on the grounds that, when the variable is included in the models described above, the coefficients for 'good' and 'fair' do not consistently follow the same order as the categories.

The ‘Motivation to Work’ variable is based on the responses on a 5 point scale to the following statements:

1) The jobs I could get do not pay enough.

2) I have a career plan for myself.

3) There are many career options available to me.

4) A job can give me the opportunity to do work I think is important.

5) Work can give me the opportunity to gain more responsibility.

Information is only available on the scale, not the individual items. ‘Motivation to Work’ is treated as a continuous variable.

The ‘Local Labor Market’ variable is based on 7 counties or groups of counties (listed in each table in chapters 5 and 6) that were recognized by Wisconsin’s Department of Workforce Development at the time of data collection as relatively discrete labor market areas, and where WPTI provider agencies were located. Individuals in the sample who were not resident in these 7 areas, are coded as ‘Other’ for this variable.

4.9 Collinearity among variables:

Tests for collinearity were conducted on the complete set of variables and are shown in Appendix 4.6. Tolerance and VIM values were well within acceptable limits. However, Eigen values and condition index values indicated a possible problem between the ‘Satisfaction with social support’, ‘Motivation to work’ and ‘Self-reported health’ variables. These were addressed

at relevant points in the analyses by removing certain variables or combining categories of variables.

Chapter 5: Going to work: Results

This chapter is focused on 'Going to work.' I first present life tables of survival rates for unemployed individuals, comparing those unemployed at enrolment with those who were employed in the enrollment quarter but became unemployed afterwards. The chapter then focuses only on those unemployed at enrollment and presents two sets of results: (a) survival analyses on the timing of the first transition into employment during the two years after enrollment; and (b) logit regression models on entry to employment at any point in the two years after enrolment. The evidence that these results potentially provide for hypotheses I, II, III, IV and V will be described.

5.1 Survival analyses for transition to employment

Table 5.1 and Figure 5.1 below present results for a survival analysis for transition to employment by those unemployed at enrolment.

Table 5.1

Survival Analysis for First Transition for Unemployed at Enrolment:

Interval Start Time	Number Entering Interval	Number Censored during Interval	Number Exposed to Risk	Number Entering Employment	Proportion Entering Employment	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Hazard Rate	Std. Error of Hazard Rate
0	735	0	735.0	0	.00	1.00	.00	.00	.00
1	735	1	734.5	73	.10	.90	.01	.10	.01
2	661	1	660.5	48	.07	.84	.01	.08	.01
3	612	2	611.0	48	.08	.77	.02	.08	.01
4	562	1	561.5	35	.06	.72	.02	.06	.01
5	526	2	525.0	22	.04	.69	.02	.04	.01
6	502	2	501.0	11	.02	.68	.02	.02	.01
7	489	3	487.5	10	.02	.66	.02	.02	.01
8	476	29	461.5	11	.02	.65	.02	.02	.01
9	436	40	416.0	9	.02	.63	.02	.02	.01

Figure 5.1: *Plot of Survival Analysis for Unemployed at Enrolment, First Transition*

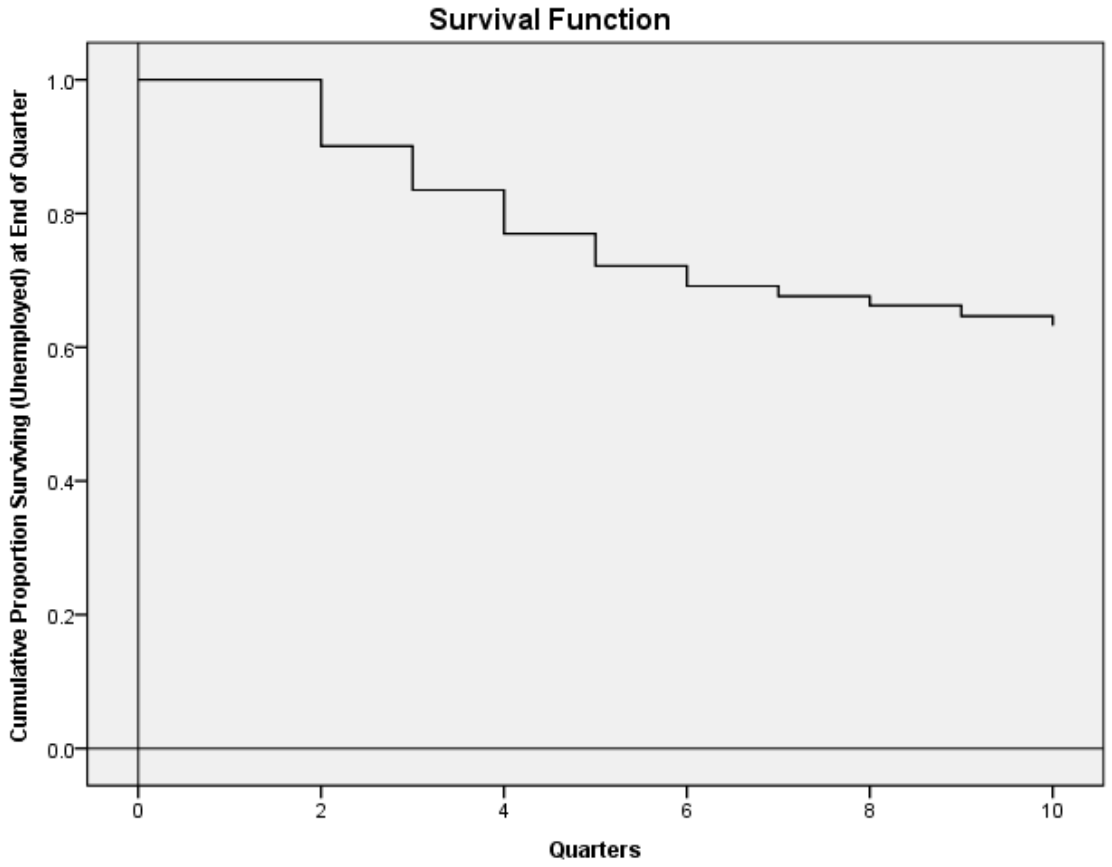


Table 5.2 and Figure 5.2 below present results for a survival analysis of those employed at enrolment for a second transition, into employment.

Table 5.2:

Survival Analysis for Second Transition for Employed at Enrolment:

Interval Start Time	Number Entering Interval	Number Censored during Interval	Number Exposed to Risk	Number of Entering Employment	Proportion Entering Employment	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Hazard Rate	Std. Error of Hazard Rate
0	218	0	218.0	0	.00	1.00	.00	.00	.00
1	218	23	206.5	54	.26	.74	.03	.30	.04
2	141	9	136.5	18	.13	.64	.03	.14	.03
3	114	6	111.0	11	.10	.58	.04	.10	.03
4	97	10	92.0	7	.08	.53	.04	.08	.03
5	80	10	75.0	4	.05	.51	.04	.05	.03
6	66	15	58.50	3	.05	.48	.04	.05	.03
7	48	12	42.0	3	.07	.45	.04	.07	.04

Figure 5.2: *Plot of Survival Analysis for Employed at Enrolment, Second Transition*

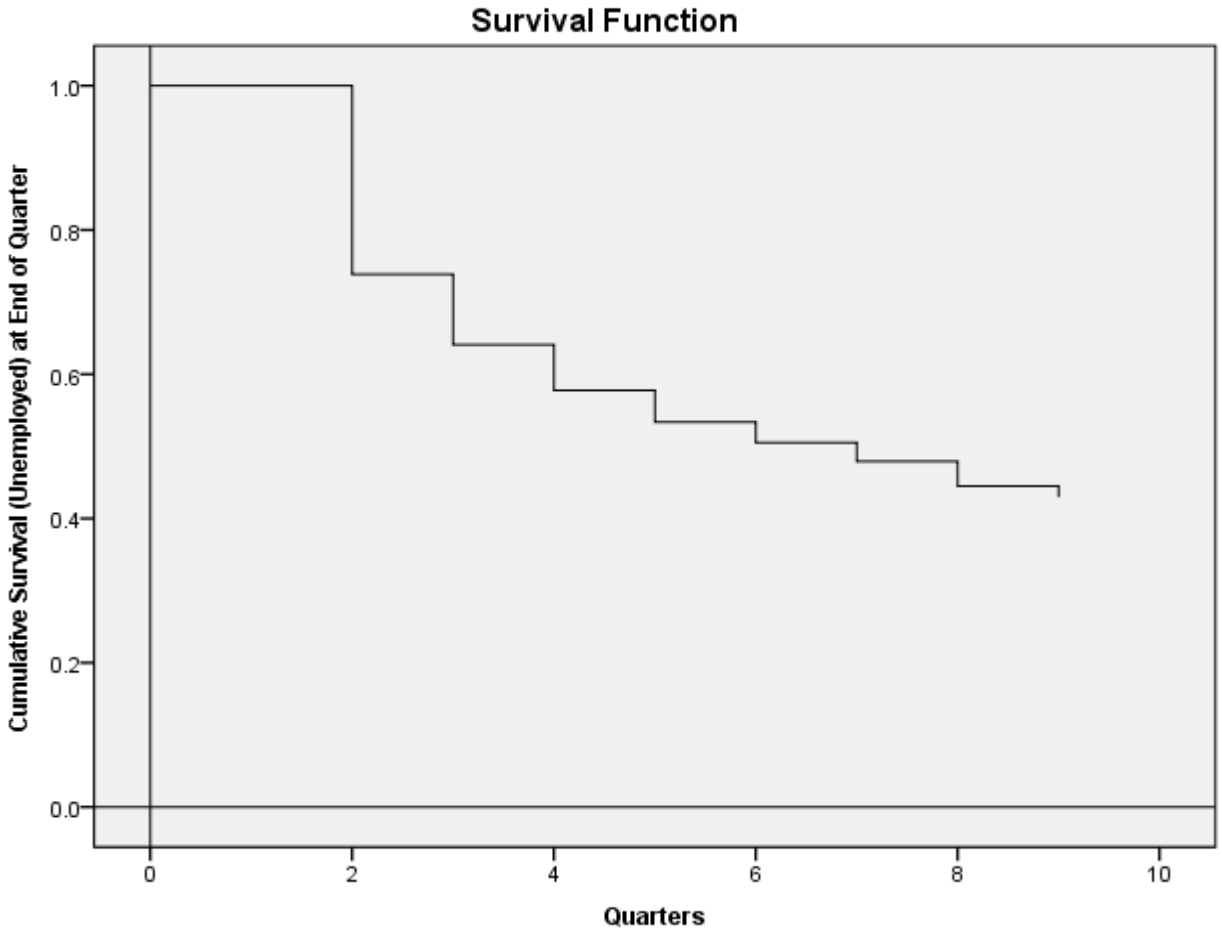


Table 5.1 and Figure 5.1 examine the transition to employment for those unemployed at enrolment. These show that the cumulative proportion still unemployed (surviving) in the fourth quarter after enrollment is .72, and by the ninth quarter is.63. Individuals are more likely to move into employment early than late in the period studied (i.e., the hazard rate goes down over time).

Table 5.2 and Figure 5.2 examine those employed at baseline who became unemployed during the observation period. These individuals transition to employment faster than those unemployed at enrolment: the cumulative proportion still unemployed at the end of the fourth

quarter is .53 (compared to .72 for those unemployed at enrollment). Their faster transitions back to employment can also be seen by comparing the hazard rates: the hazard rates are substantially higher in Table 5.2 than Table 5.1. Even more than those unemployed at enrolment, they are likely to move into employment early in the period.

Considering Table 5.1 and Table 5.2 together, the proportion moving into work, whether among those unemployed at baseline (Table 5.1) or those employed at baseline who became unemployed (Table 5.2), is low compared to the general population, highlighting the employment difficulties of people with disabilities. Comparing Table 5.1 and Table 5.2, it can be concluded that starting position matters. The 'risk' of gaining employment is higher for those employed at enrolment who have lost their job (55% by the end of the seventh quarter after they lost their job) than for those unemployed at enrolment (34% by the end of the seventh quarter after enrollment). Given that employment at enrolment can be seen as an indicator of more prior work experience compared to those unemployed at enrolment, these results from the 'Going to work' life tables support the frequent conclusion of studies of employment that the best predictor of future employment for those unemployed is past employment. However, for both groups, these figures also reflect the high rate of long-term unemployment in the sample when compared to the whole working age population, in that 63% of the 'unemployed at enrolment' group were still unemployed more than two years later (in 2001, only 10.2% of the unemployed in the whole working age population had been unemployed for over six months (BLS, 2001)).

5.2 Survival analysis by independent variables

For those unemployed at enrollment, I now examine the proportion surviving (that is, still unemployed) for various categories of the key independent variables. Table 5.3 shows the proportion still surviving (still unemployed) at the end of the ninth quarter after enrollment for various groups, and whether the groups differ in the time to employment (using the Wilcoxon Gehan statistic).

Table 5.3:
Factors Related to Time to Employment for Unemployed at Enrollment

	Variable category	Number at risk	Cumulative Proportion Surviving at End of Relative Quarter 9	Differences in time to employment (Wilcoxon Gehan Statistic)
Satisfaction with social support				
	Low (<3.34)	212	.63	.845 *p*=.358
	High (>3.33)	360	.59	
"With whom do you live?"				
Binary	Alone	225	.68	4.430 *p*=.035
	Not alone	417	.58	
7 categories	*Alone*	*225*	*.68*	6.683 *p*=.351 'Parents' at the p<.1 level (3.029, *p*=.082) and 'Other adults' at the p<.05(4.490, *p*=.034) are associated with earlier move to employment in pairwise comparisons with 'Alone'
	Spouse/Sig other	*153*	*.61*	
	Adult friend(s)	*25*	*.56*	
	Other family	*65*	*.59*	
	Parents	*111*	*.56*	
	Other adults	*54*	*.54*	
	Others	*12*	*.66*	
"Did you have the support of family and friends in your most recent job since starting benefits?"				
Binary	Not always	134	.54	1.279 *p*=.258
	Always	148	.63	
4 categories	*Never*	*22*	*.55*	1.807, *p*=.614 (No significant pairwise comparisons)
	Sometimes	*53*	*.57*	
	Usually	*59*	*.52*	

	Always	*148*	*.63*	
Difference in total income with $750 increase in earnings in RelQtr0				
	<$750	426	.62	.848 *p*=.357
	=$750	309	.65	
Benefit status				
	SSI eligibility	525	.62	.392 *p*=.531
	SSDI only eligibility	210	.66	
"What do you think of the statement 'working will increase my income'?"				
Binary	Not strongly agree	247	.63	.364 *p*=.546
	Strongly agree	398	.61	
5 categories	*Strongly disagree*	21	.76	7.967 *p*=.093 'Disagree' (n=16) is only category significantly associated with earlier move to employment in pairwise comparisons with 'Strongly disagree' [4.555, *p*=.033] and 'Not sure' [5.409, *p*=.020'].
	Disagree	16	.44	
	Not sure	82	.69	
	Agree	128	.60	
	Strongly agree	398	.61	

Most categories are not statistically different from each other in the time to employment. However, two categories of independent variables do show a significant association with earlier entry to employment. The first of these is 'Living with others' rather than 'Alone.' Living with others is an indicator of social network range, that is, these individuals have greater diversity in their network and a larger number of social connections. Those who live with their parents also have a shorter time to employment than those who live alone ($p < .1$).

The second category of independent variable associated with early entry to employment consists of those who responded 'Disagree' to the statement 'Working will increase my income', when compared to those who 'Strongly agree' or are 'Not sure.' This is contrary to expectations in

that those who believe that working will increase their income are assumed to be more likely to transition to employment. Note that the categories are not ordered in terms of survival times: but both 'Disagree strongly' and 'Strongly agree' had longer survival time than 'Disagree.' In addition to this inconsistency, the category of 'Disagree' had an *n* of only 16, the smallest of any category in the analysis. For these two reasons, drawing conclusions on the basis of this result requires further evidence.

In relation to the hypotheses described in chapter 3, the following conclusions can be drawn from the results of the survival analyses for those unemployed at enrolment:

Hypothesis I for this study states 'Satisfaction with close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.' The survival analysis for those unemployed provided no evidence that those who express satisfaction with their close networks entered employment sooner than others.

Hypothesis II states 'Range of networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.' There was evidence (p=.035) that those who have greater range in their social networks, in that they do not live alone, enter employment sooner. There was evidence (p=.034) that, in particular, those who live with other adults in group homes or care homes enter employment sooner than those who live alone. There was also some evidence (p=.082) that those who live with parents enter employment sooner than those living alone.

Hypothesis III states 'Perceived consistency in the role expectations for employment held by the close networks of people with disabilities who wish to enter or maintain employment is positively related to their employment status.' There was no evidence that those who perceive consistency in the role expectations for employment held by their close networks entered employment sooner than others.

Hypothesis IV states 'Individuals with disabilities who have the potential to gain higher net income by working are more likely to enter employment.' There was no evidence that a higher value for the 'Difference' variable is associated with earlier entry to employment. There was also no evidence that 'Benefit status' is associated with earlier entry to employment.

Hypothesis V states 'Individuals with disabilities who wish to enter or maintain employment who believe they are knowledgeable about the potential financial rewards of work, and believe that the actual impact of earnings on their net income is positive, are more likely to be employed.' There was no evidence that responses to the question 'What do you think of the statement 'Working will increase my income?'' are associated with earlier entry to employment, apart from the response category 'Disagree' which is, compared to 'Strongly disagree' and 'Not sure', positively associated with earlier entry, contrary to the direction indicated in the hypothesis. However, because of the small *n* for this category and the inconsistency of this result with those of the other categories in this question, it is not possible to draw conclusions about this variable category.

5.3 Multivariate logit regression analyses on any employment in two years after enrolment

Table 5.4 reports the results for three analyses that test the impact on employment in the two years following enrolment of all the independent variables for the whole group of unemployed at enrolment. As described in chapter 4, section 4.3.1, of the 735 unemployed at enrolment, 13 were not enrolled a minimum of 7 quarters after the enrolment quarter and four did not have information about primary disability. Therefore the number in the sample used here is 718. In addition, in some models, there were some categories of variables that had very small ns, or had high collinearity with other variables, which in some cases caused inflated SEs. Such cases are excluded. The key independent variables are 'Satisfaction with social support', 'Living arrangement', 'Social support for employment', 'Benefit status', 'Difference in total income with $750 increase in earnings' and 'Perception of financial gain.' The analyses differ only in the way in which financial incentives are measured. In the first analysis, the 'Difference' variable, based on the effect of a $750 per quarter increase in earnings on total income, is included. In the second, the 'Benefit status' variable, based on the pattern of benefit eligibility, replaces the 'Difference' variable. In the third, both are included. For categorical variables with more than two categories, the comparison category is shown in italics. The control variables described in chapter 4 are all included.

Table 5.4

Factors Related to Becoming Employed for those Unemployed at Enrollment; Alternative Variables Representing Financial Incentives

	Difference variable			Benefit status			Difference variable and benefit status		
	B	SE	Sig.	B	SE	Sig.	B	SE	Sig.
Satisfaction w Social Support	.020	.106		.017	.105		.018	.106	
Living arrangement: Alone									
Spouse or Sig Other	.770	.259	**	.828	.264	**	.830	.264	**
Adult Friend(s)	.209	.503		.176	.502		.204	.503	
Other Family	.631	.340	*p*=.064	.675	.340	*	.651	.341	*p*=.056
Parents	.992	.305	**	.993	.305	**	1.009	.306	**
Other Adults	.827	.365	*	.782	.363	*	.824	.366	*
Other	.089	.751		.154	.747		.128	.753	
Social support for empt since benefits began: Always									
Not empd since benefits began	.088	.245		.088	.244		.092	.245	
Never	.333	.556		.298	.557		.331	.558	
Sometimes	.176	.379		.177	.379		.168	.380	
Usually	.629	.370		.654	.370		.641	.371	
Benefit status - SSI				.596	.237	*	.395	.272	
Difference in Total Income w $750 Earnings Increase/100	-.169	.065	*				-.114	.075	
Working will increase my income: Strongly agree									
Strongly disagree	-.373	.598		-.411	.602		-.392	.601	
Disagree	1.318	.614	*	1.254	.609	*	1.282	.610	*
Not sure	-.287	.309		-.335	.309		-.314	.310	
Agree	.044	.254		.067	.254		.050	.254	
Treatment Group	.468	.222	*	.478	.222	*	.477	.223	*
Primary disability: Physical / HIV									
Mental illness	1.121	.244	***	1.151	.243	***	1.123	.244	***

Developmental disability	.501	.226	*	.497	.227	*	.491	.227	*
Labor market: Milwaukee, Waukesha, Ozaukee, Washington									
Racine, Kenosha, Walworth, Jefferson	-.271	.325		-.310	.327		-.312	.328	
Dane	-.028	.289		-.014	.289		-.040	.290	
Brown	.301	.525		.299	.524		.290	.526	
Winnebago, Outagamie, Calumet	-.409	.634		-.351	.636		-.392	.636	
La Crosse, Vernon	.688	.396		.775	.399		.727	.398	
Portage, Marathon, Wood	-.570	.495		-.561	.497		-.580	.497	
Other	-.451	.264		-.420	.262		-.454	.264	
Age: >54									
Age <25	1.819	.574	**	1.765	.574	**	1.802	.578	**
Age 25-54	1.563	.442	***	1.476	.442	**	1.539	.446	**
Gender - Male									
Female	-.030	.190		-.063	.191		-.053	.191	
Race - White									
Other	.024	.252		.037	.252		.005	.253	
Education: >HS									
<HS	-.149	.262		-.129	.261		-.160	.262	
=HS	.123	.217		.121	.217		.113	.218	
Years Employed At Enrollment	.068	.013	***	.069	.013	***	.073	.014	***
Self-reported health: Excellent									
Very good	-.198	.360		-.192	.361		-.203	.361	
Good	-.460	.342		-.456	.344		-.441	.344	
Fair	-.554	.349		-.522	.349		-.540	.350	
Poor	-1.269	.434	**	-1.262	.435	**	-1.265	.435	**
Motivation To Work	.382	.156	*	.384	.156	*	.388	.157	*
Constant	-4.389	1.314		-5.868	1.317		-5.111	1.410	
n	718			718			718		
-2 Log Likelihood	786.095***			786.279***			783.963***		

Notes: * = $p<.05$; ** = $p<.01$; *** = $p<.001$ (p values of >.05 and <.1 are shown where they may be of interest to the hypotheses)
Model controls for missing data in the following variables: Satisfaction with social support; Living arrangement; Perception of support for employment; Perception of financial gain; Education; Gender; Race; Self-reported health; Motivation to work.

Apart from the 'Difference' and 'Benefit status' variables, results are similar across the three analyses. Each of the independent variables will be considered in the order in which they appear in the table. 'Satisfaction with social support', as measured by the three-item scale described in chapter 4, has no significant relationship to employment in the two years following enrolment. Four categories of 'Living arrangement', measuring range of social networks, are significantly associated with increased likelihood of employment when compared to the category of living alone. The odds of entering employment for the unemployed sample living with family members (whether a spouse/significant other, parents, or other family) and living with 'Other adults' (i.e., living in a staffed group residential situation, rather than with 'Adult friends', which is a separate category), each an indication of greater social network 'range', are 1.9 to 2.7 times higher than the odds of those living alone. Living with 'Adult friends' does not have a significant association with entering employment compared to living alone. 'Social support for employment', measured by responses to the question 'During the time of your most recent job since starting benefits, did you have the support of your family and friends?', has no significant relationship to employment in the two years following enrolment for any of the categories of response.

As described in chapter 4 above, two independent variables are used to measure the concept of financial incentive, the first being a continuous variable representing the effect of a $750 per quarter increase in earnings on total income (the 'Difference' variable), and the second being a

dichotomous variable indicating whether the individual receives any SSI (compared to SSDI only). In the first analysis above, the 'Difference' variable is shown to have a significant and negative relationship to any employment in the two years after enrolment; that is, greater potential gain in total income from entering a part-time job earning $750 per quarter is associated with a lower likelihood of entering employment. In the second analysis, the 'Benefit status' of receiving SSI (those with generally lower work incentives to enter part-time work) is shown to have a significant and positive relationship to any employment in the two years after enrolment . The odds ratio value is 1.81, indicating that those unemployed at enrolment who received SSI were nearly twice as likely to enter employment as those receiving only SSDI. In the third analysis, both measures of financial incentive are included. Neither are significant at the p=.05 level. Recall that SSI participants lose benefits more quickly when going to work than do SSDI-only participants, so all these results appear to contradict theories that suggest that those with higher financial incentives (greater financial returns from working) will be more likely to enter employment. These unexpected results are discussed below in the context of the relevant hypotheses.

Because the two measures of financial incentive produced similar results, the decision to only include one of them in the sub-group analyses was taken. The 'Difference' variable was included because it gave a more accurate estimate of the variation in total income. Even though it applied to only one possible earnings level, for most individuals approximately the same pattern of total income returns from earnings would apply up to the SGA level of $740 per month in 2001, approximately the earnings from a half-time job at $8.50 per hour. As Table 4.2 in chapter 4 makes clear, for those receiving SSDI, net income increases by the same amount as earnings

until the SGA level. The pattern of incentives changes radically when earnings reach the SGA level in that they lose the entire amount of their benefit (once they have completed the Trial Work Period). Then, for each subsequent dollar in earnings, they return to the previous pattern of gaining a dollar of net income for each dollar earned. The earnings level at which net income again reaches the amount it was at $739 depends on the amount of the SSDI benefit. For those receiving SSI, the pattern of benefit decline is constant once the earnings disregard has been reached, so for most individuals the same benefit-reduction rate occurs up to $1129-$1149 in earnings per month, at which point SSI payments end and net income increases at the same rate as earnings. However, for concurrent beneficiaries (receiving both SSDI and SSI), the pattern of incentives over different earnings levels is more complex, as was described in Chapter 4, and depends on the amount of the individual's SSDI payment. In addition, financial incentives to enter work can change due to other means tested benefits, in particular the food stamp program. Using the 'Difference' variable, which produces much finer distinctions in the level of financial gain than the 'Benefit status' variable, is likely to produce more precise evidence of the impact of financial incentives.

Taking the other measure reflecting labor market theory, the results suggest that the perception of financial gain variable (i.e., responses to the statement 'Working will increase my income') is not associated with employment in the two years after enrolment, except for the positive association of the response category of 'Disagree' with employment, compared to the 'base' category of 'Strongly agree.' The effect is quite large, with an odds ratio of 3.7. However, the *n* is small at 16. This unexpected result is discussed below in the context of the relevant hypothesis.

Certain control variables have a highly significant relationship to entering employment and appear to have a large impact. Being in the treatment group, having a mental health or developmental disability (compared to a physical disability), having more years of pre-disability employment, being less than age 55, and having higher motivation to work are associated with entering employment, whereas reporting poor health (in contrast to those reporting excellent health) are associated with remaining unemployed. Several control variables do not have a significant relationship with going to work: treatment group, location, gender, race, and education. The absence of some of these relationships is particularly notable: local labor markets are thought to be related to employment patterns, and unemployment rates vary significantly by race and educational level in the overall population.

As described in Chapter 4, several sub-groups may show different relationships between employment and the key variables of social support, social network range, social role, and financial incentives. Because subgroups have fewer individuals than the whole sample, some adjustments had to be made in the operationalization of some variables.[20] Tables 5.5 through 5.7 show the results.

Table 5.5 below displays results for separate analyses of the two sub-groups of the unemployed at enrolment based on the 'Benefit status' variable, which are, first, those receiving SSI or both

[20]Small sample sizes resulted in high correlations for some variables. In some models, conceptually similar categories were combined; in other models, some observations had to be excluded, primarily because of small numbers of cases with missing data. See Appendix 4.3 for the treatment of missing data. Note also that the variables with mean-imputation for missing used the mean for all cases, rather than the cases within a particular subgroup.

SSI and SSDI, and, second, those receiving only SSDI. This sub-group analysis was originally planned in order to examine factors related to employment among a group of individuals with similar financial incentives. The base model results above provide an additional rationale: these analyses will help to further understand the unexpected result of the significant negative relationship between higher potential net income and entering employment by testing whether the finding held within the SSI eligible and SSDI-only eligible groups. A finding of no effect for the 'Difference' variable within these subgroups might indicate that the results of the base model reflected differences between the SSI and SSDI-only groups other than financial incentives.

Table 5.5

Factors Related to Becoming Employed: SSI-eligible and SSDI-only-eligible subgroups

	SSI-eligible			SSDI-only-eligible		
	B	SE	Sig.	B	SE	Sig.
Satisfaction w Social Support	-.032	.131		.208	.260	
Living arrangement: Alone						
Spouse or Sig Other	.804	.337	*	.959	.640	
Adult Friend(s)	.533	.590		-2.317	1.868	
Other Family	.608	.400		.884	.918	
Parents	.953	.349	**	1.649	.898	*p*=.066
Other Adults	.827	.419	*	3.211	1.192	**
Other	-.094	.939		1.947	1.669	
Social support for empt since benefits began: Always						
Not employed since benefits began	-.170	.305		.335	.618	
Never	.384	.666		1.175	1.693	
Sometimes	-.096	.453		2.612	1.223	*
Usually	.130	.439		2.357	1.204	*
Difference in Total Income w $750 Earnings Increase/100	-.110	.079		-.284	.489	

Working will increase my income: Strongly agree						
Missing	-.033	.778				
Strongly disagree	-.670	.779		.223	1.455	
Disagree	1.457	.749	*p*=.052	1.442	1.365	
Not sure	-.052	.355		-1.148	.946	
Agree	.233	.304		-.111	.630	
Treatment Group	.594	.263	*	-.129	.641	
Primary disability: Physical Disability / HIV						
Mental illness	1.025	.290	*	1.534	.649	*
Developmental disability	.497	.261	*p*=-.056	-.015	.749	
Labor market: Milwaukee, Waukesha, Ozaukee, Washington						
Racine, Kenosha, Walworth, Jefferson	-.463	.384		.217	.970	
Dane	-.351	.358		1.690	.701	*
Brown	-.445	.663		3.240	1.311	*
Winnebago, Outagamie, Calumet	-.612	.796		1.306	2.541	
La Crosse, Vernon	.417	.493		2.545	1.034	*
Portage, Marathon, Wood	-.326	.610		-.783	1.289	
Other	-.700	.324	*	.879	.676	
Age – Over 54						*
Under 25	1.446	.781	*p*=.064	1.771	2.895	
25-54	1.207	.671	*p*=.072	2.497	.887	**
Gender - Male						
Female	-.109	.230		.617	.488	
Race - white						
Other	-.003	.288		-.957	.874	
Education: >HS						
<HS	.058	.300		-3.743	1.534	*
=HS	.212	.266		.510	.536	
Years Employed At Enrollment	.072	.017	***	.146	.035	***
Self-reported health: Excellent						

	Very good	-.148	.406		-.736	1.145
	Good	-.456	.393		-.287	1.017
	Fair	-.326	.408		-1.004	1.034
	Poor	-1.040	.499	*	-1.696	1.294
Motivation To Work		.523	.193	**	.423	.387
	Constant	-3.822	1.417		-7.724	4.286
	n	515			178	
	-2 Log Likelihood	562.975***			148.819 ***	

Notes: * = $p<.05$; ** = $p<.01$; *** = $p<.001$ (p values of >.05 and <.1 are shown where they may be of interest to the hypotheses)

Model controls for missing data in the following variables: Satisfaction with social support; Living arrangement; Perception of support for employment; Perception of financial gain; Education; Gender; Race; Self-reported health; Motivation to work.

The results for the analyses of the sub-groups based on 'Benefit status' are similar to those for the whole group of those unemployed at enrolment, taking into consideration the lower *n* for each sub-group. 'Satisfaction with social support' has no significant association with entering employment. For the SSI sub-group, living with a spouse/significant other, living with parents and living with other adults in staffed group residences are all associated strongly with entering employment, compared to those living alone. For the SSDI only group, living with parents and living with other adults in staffed group residences are associated with entering employment, compared to living alone, although the association with living with parents is only marginally significant. There is little evidence that perceived support for the worker role is associated with entering employment for the SSI group. In the SSDI only group, contrary to the hypothesized relationship, 'Sometimes' or 'Usually' having support for the worker role appears to be more associated with entering employment than 'Always' having such support (the *n* for 'Sometimes', however, is only 10).

In neither of these sub-group analyses is the 'Difference' variable associated with entering employment; the relatively high standard error in the SSDI-only group is because there is little variation on this variable among those who receive SSDI only. The implications of this for the interpretation of the negative association between the 'Difference' variable and entering employment found in the analysis for the whole unemployed sample will be discussed below in terms of the relevant hypotheses. The association found in the base models including all those unemployed at enrolment of the 'Disagree' response category for 'Perception of financial gain' with higher entry to employment when compared to 'Strongly agree', is found in these sub-group analyses only for the SSI group, and again with a small *n*.

The same control variables were significant in each of these sub-group analyses as in the whole group analyses, but with weaker *p* values, as would be expected with the lower *n*'s. In contrast to the whole sample, entry to employment for the SSDI sub-group appears to be significantly influenced by differences between labor market areas and levels of education.

Table 5.6 below reports the results for the three disability sub-groups described in chapter 4, given that different health conditions may interact with financial incentives and social factors to produce different outcomes for the groups. For example, people with developmental disabilities may be less to responsive to financial incentives because they may find it harder to understand the relationship between benefits and net income. Again, they may be more responsive to the support of family and close friends for employment, because of the lifelong nature of the disability.

Table 5.6

Factors Related to Becoming Employed for those Unemployed at Enrollment; Primary Disability Sub-Groups

	Physical disability/ HIV			Mental illness			Developmental disability		
	B	SE	Sig.	B	SE	Sig.	B	SE	Sig.
Satisfaction w Social Support	.340	.192	*p*=.076	-.257	.210		-.151	.259	
Living arrangement: Alone									
Spouse or Sig Other	1.122	.428	**	.659	.640		1.070	.570	*
Adult Friend(s)	.423	.895		-.882	.909		-.701	1.196	
Other Family	.039	.597		1.572	.720	*	.842	.894	
Parents	1.208	.534	*	.783	.744		.868	.656	
Other Adults	.281	.769		1.447	.678	*	.182	.933	
Other	.018	.992					1.097	1.428	
Social support for empt since benefits began: Always									
Not employed since benefits began	1.124	.455	*	.247	.567		-1.335	.512	**
Never	2.324	1.262	*p*=.066	2.390	1.208	*	Combined w 'Sometimes'		
Sometimes	1.303	.951		.896	.691		-1.846	.800	*
Usually	1.849	.741	*	.720	.768		-.365	.781	
Difference in Total Income w $750 Earnings Increase (/100)	-.275	.111	*	-.078	.142		-.456	.172	*
Working will increase my income: Strongly agree									
Missing				-1.713	2.615		-1.635	1.320	
Strongly disagree	Combined w Disagree			Combined w Disagree			1.214	1.213	
Disagree	-.586	.916		.247	1.202		-1.261	2.095	
Not sure	-.266	.533		.384	.615		-.016	.644	
Agree	.188	.447		-.091	.507		.833	.564	
Treatment Group	-.084	.452		.681	.491		.867	.527	
Labor market: Milwaukee, Waukesha, Ozaukee, Washington									
Racine, Kenosha, Walworth, Jefferson	-.431	.592		.249	.758		-1.104	.678	
Dane	-.047	.493		.607	.564		-1.989	.789	*
Brown	1.025	.899		-1.034	1.444		.518	1.271	
Winnebago, Outagamie, Calumet	.355	1.140		.298	1.045				
La Crosse, Vernon	.785	.626		.657	.866		-.627	.838	
Portage, Marathon, Wood	-1.575	.935		Combined w 'Other'			1.338	1.262	
Other	-.729	.460		.495	.585		-1.370	.595	*
Age >54									

Age <25	1.319	1.127		Combined w '25-54'		1.970	1.194	
Age 25- 54	2.079	.863	*	.255	1.033	2.021	.937	*
Gender - Female	.114	.337		-.199	.424	-.213	.484	
Race - Not white	-.399	.434		.655	.601	-.275	.580	
Education: >HS								
<HS	-.297	.445		-.243	.541	.099	.649	
=HS	-.500	.391		.179	.470	.838	.495	
Years Employed At Enrollment	.074	.023	***	.064	.030	* .096	.034	**
Self-reported health: Excellent								
Very good	-.331	.641		.719	.899	-1.029	.734	
Good	-.525	.615		.688	.700	-1.778	.805	*
Fair	-.469	.667		.410	.687	-2.061	.808	*
Poor	-1.315	.813		-.956	.902	-2.517	.912	**
Motivation To Work	.110	.250		.886	.365	* .490	.368	
Constant	-3.844	2.129		-2.050	3.676	-.536	2.978	
n		269			174		199	
-2 Log Likelihood		282.436*			188.162		182.118**	

Notes: * = $p<.05$; ** = $p<.01$; *** = $p<.001$ (p values of >.05 and <.1 are shown where they may be of interest to the hypotheses)

Model controls for missing data in the following variables: Satisfaction with social support; Living arrangement; Perception of support for employment; Perception of financial gain; Education; Gender; Race; Self-reported health; Motivation to work.

The results for the above disability sub-groups provide insights into the results for the whole group of unemployed at enrolment. The finding of interest in relation to 'Satisfaction with social support', is that the PD/HIV group exhibits a marginally significant association between this variable and entry to employment. This is in contrast to the whole group of unemployed and to the mental illness and developmental disability sub-groups. This could reflect the possibly greater reliance of people with physical disabilities on close networks for a good standard of personal care and reliable transport to help make employment possible. In relation to the 'Living arrangement' variable, the three sub-groups each show a positive relationship between at least some of the categories that were significant in the basic model for all unemployed at enrolment and entry to employment, when compared to 'Living alone.' 'Spouse/significant other' and

'Parents' are significant for the PD/HIV group, 'Other family' and 'Other adults' (in staffed group residential settings) for the mental illness group and 'Spouse/significant other' for the developmental disabilities group. The results for the 'Perceived consistency in role expectations for employment in close networks' variable are unusual. For the PD/HIV group, those who 'Always' had the support of their network for employment are less likely to enter employment than other groups. Similarly, for the Mental Illness group, those who 'Never' had support are more likely to enter employment than those who 'Always' had support. In contrast, but consistent with the expected direction of the relationship, for the developmental disabilities group, the combined 'Never/Sometimes' categories are negatively associated with entry to employment compared to the 'Always' category (with an odds ratio of .158). This perhaps reflects the greater lifelong dependence of this group on family and close friends.

The strong negative association between the 'Difference' variable and entry to employment found in the basic model for all unemployed at enrolment is found in both the PD/HIV and developmental disabilities sub-groups. However, there is no such association in the mental illness group.

The control variables seem to have a similar impact to that in the analysis for the whole unemployed group.

Table 5.7 below reports the results for the 'Treatment' and 'Comparison' sub-groups, and for the 'Employed >30 days since starting benefits' and 'Not employed >30 days since starting benefits.' It might be expected that the treatment group, given their access to very high quality

benefits counselling, may be more responsive to economic incentives. Similarly, those employed more since starting benefits may be more aware of the impact of working on their net income.

Table 5.7

Factors Related to Becoming Employed; Treatment/Comparison and Employed / Not Employed >30 Days Since Starting Benefits Sub-Groups

	Treatment group			Comparison group			Empd>30 days since starting benefits			Not empd>30 days since starting benefits		
	B	SE	Sig.	B	SE	Sig.	B	SE	Sig.	B	SE	Sig.
Satisfaction w Social Support	.148	.159		-.126	.155		.131	.171		-.009	.171	
Living arrangement: Alone												
Spouse or Sig Other	.768	.364	*	1.078	.412	**	.438	.436		1.080	.397	**
Adult Friend(s)	.274	.816		.048	.730		-.426	.740		.119	.804	
Other Family	.236	.498		.995	.517	*p*=.054	.987	.560		.268	.529	
Parents	1.129	.417	**	1.014	.537	*p*=.059	1.090	.486	*	1.227	.502	**
Other Adults	.656	.614		1.080	.523	*	.627	.527		1.052	.610	*p*=.085
Other	-.338	.910		.879	1.709		1.707	1.713		-1.255	1.245	
Social support for empt since benefits began: Always												
Not employed since benefits began	-.046	.374		.374	.386							
Never	.766	.899		.265	.828		.501	.613				
Sometimes	-.637	.552		1.095	.569	*p*=.054	.126	.420				
Usually	-.119	.568		1.333	.550	*	.698	.428				
Difference in Total Income w $750 Earnings Increase (/100)	-.257	.096	**	-.133	.106		-.021	.118		-.252	.100	*
Working will increase my income: Strongly agree												
Strongly disagree	Combined w Disagree			-.020	.715		-1.389	1.161		.350	.922	
Disagree	-.903	1.244		1.531	.709	*	2.598	.973	**	.434	1.081	
Not sure	-.220	.460		-.165	.461		-.528	.556		-.225	.455	
Agree	.174	.380		-.159	.389		-.288	.424		.331	.390	
Treatment Group							.765	.376		.163	.381	
Primary disability: Physical Disability / HIV												
Mental illness	1.173	.404	**	1.020	.390	**	1.496	.401	***	.611	.427	
Developmental disability	.572	.349		.330	.393		.759	.381	*	-.016	.383	
Labor market: Milwaukee, Waukesha, Ozaukee, Washington												
Racine, Kenosha, Walworth, Jefferson	-.541	.585		-.541	.585		-.580	.542		-.214	.517	

Dane	-.068	.549		-.068	.549		.015	.482		.144	.452	
Brown	.395	.681		.395	.681		.980	.861		.354	.793	
Winnebago, Outagamie, Calumet	-.258	.737		-.258	.737		-.072	.915		-1.362	1.374	
La Crosse, Vernon	.442	.713		.442	.713		.630	.667		1.287	.643	*
Portage, Marathon, Wood	.307	.657		.307	.657		-.890	.904		-.547	.712	
Other	-.167	.394		-.167	.394		-.477	.446		-.428	.409	
Age – Over 54												
Under 25	1.809	.831	*	1.809	.831	*	2.011	.986	**	2.031	.931	*
25-54	1.444	.608	**	1.444	.608	*	1.978	.790		1.666	.693	*
Gender - Male												
Female	.262	.284		-.234	.293		-.059	.314		.260	.303	
Race - White												
Other	-.278	.339		.427	.453		-.803	.477		.470	.365	
Education: >HS												
<HS	-.164	.390		-.086	.417		.296	.457		-.935	.436	*
=HS	-.218	.312		.477	.351		.814	.382	*	-.496	.334	
Years Employed At Enrollment	.074	.019	***	.081	.022	***	.072	.022	**	.082	.021	***
Self-reported health: Excellent												
Very good	-.219	.490		.111	.616		.517	.573		-1.058	.576	*p*=.066
Good	-.426	.480		-.292	.554		.034	.533		-1.235	.547	*
Fair	-.453	.503		-.598	.551		.223	.567		-1.513	.543	**
Poor	-1.269	.647	*	-1.532	.652	*	-.104	.719		-2.845	.693	***
Missing	-.957	1.217		-.601	1.022		-1.933	1.257		-.795	1.239	
Motivation To Work	.157	.228		.811	.257	**	.329	.257		.485	.235	*
Constant	-3.320	1.938		-6.130	2.155		-7.001	1.972		-.876	1.799	
n		343			368			288			326	
-2 Log Likelihood		400.077**			348.521***			307.932***			332.578***	

Notes: * = $p<.05$; ** = $p<.01$; *** = $p<.001$ (p values of >.05 and <.1 are shown where they may be of interest to the hypotheses)

Model controls for missing data in the following variables: Satisfaction with social support; Living arrangement; Perception of support for employment; Perception of financial gain; Education; Gender; Race; Self-reported health; Motivation to work.

The results for the above sub-group analyses are similar to those for the whole 'unemployed at enrolment' group. 'Satisfaction with social support' is not significantly associated with entry to employment for any group. The same categories of 'Living arrangement' are generally

associated with employment when compared to 'Alone', although for those with experience of employment since starting benefits, only living with parents is significantly related to employment. 'Social support for employment' was not significantly associated with entry to employment, except that for the 'Comparison' sub-group, contrary to expectations, the category of 'Usually' was positively associated with employment when compared to the 'Always' category.

The 'Difference' variable is negatively associated with entry to employment for the 'Treatment' and 'Not employed since starting benefits' sub-groups. Similar to the base results, the 'Perceived financial gain' variable is only significant for the category 'Disagree', which, contrary to the hypothesized direction for the relationship, is positively associated with employment for the 'Comparison' and 'Employed since starting benefits' sub-groups.

The control variables have similar effects to those in the basic model for all those employed at enrolment, except that 'Motivation to work' is not significant for the 'Treatment' sub-group, and for the 'Not employed since starting benefits' sub-group, poor health seems to impact more negatively than for other sub-groups.

In relation to the hypotheses described in chapter 3, the implications of the results of the logit regression analyses for those unemployed at enrolment are discussed in turn below.

Hypothesis I states 'Satisfaction with close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.' There was no evidence

that satisfaction with social support at enrolment is related to employment in the following two years among the whole group of those unemployed at enrolment (Table 5.4) or among any of the sub-groups included in the analyses (Tables 5.5, 5.7), apart from some evidence (p=.083) for those with physical disabilities/HIV (Table 5.6).

Hypothesis II states 'Range of networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.' There was evidence that living with parents, spouse/significant other, other family and other adults in group or care homes (although not to those living with adult friends) is related to beginning employment, compared to those who live alone (Tables 5.4,5.5,5.6). This finding applies to all sub-groups, although less so to those who have had prior work experience since starting to receive benefits (Table 5.7).

Hypothesis III states 'Perceived consistency in the role expectations for employment held by the close networks of people with disabilities who wish to enter or maintain employment is positively related to their employment status.' There was no evidence that, in the two years after enrolment, for those unemployed at enrolment who were asked the question 'During the time of your most recent job, did you have the support of your family and friends?' (i.e., those who had worked more than 30 days since starting benefits), perceived consistency in role expectations for that past employment in close social networks is related to entering employment in the two years following enrolment (Table 5.4). However, the sub-group of those with developmental disabilities who 'Always' had the support of friends and family were significantly more likely to enter employment than those who 'Sometimes' or 'Never' did (Table 5.6). In partial contrast, those with physical disabilities/HIV who 'Usually' had support were more likely

to enter employment than those who 'Always' had support (Table 5.6). In addition, those receiving SSDI only and those in the comparison group who 'Sometimes' or 'Usually' had support were more likely to enter employment than those who 'Always' had support.

Hypothesis IV states 'Individuals with disabilities who wish to enter employment who have the potential to gain higher net income by working are more likely to enter employment.' There was no evidence that those who had higher financial incentives for employment were more likely to enter employment (Table 5.4). In fact, contrary to hypothesis IV, both of the independent variables used to measure financial incentives, the 'Difference' variable and 'Benefit status' variable, indicate that those with higher financial incentives were *less* likely to enter employment. When they are both entered into the same model, neither variable is significant at the $p<.05$ level. Controlling for SSI eligibility makes the proportion of variability that the 'Difference' variable explains not significant, while controlling for difference in total income still leaves the proportion of variability explained by SSI eligibility marginally significant. This might indicate that the finding of a negative association between financial incentives and entry to employment is due to other systematic differences between the SSI/DI groups than the financial incentive effects of SSI/DI receipt. However, any such conclusion based on the model with both variables included would need to be treated cautiously because of the high correlation between the two variables. The Spearman non-parametric coefficient is .618 and significant at the $p<.001$ level. Such high correlation may cause inaccuracy in estimates produced by the model, making interpretation problematic. Separate analyses of the SSI-eligible and SSDI-only groups are also problematic. While the difference variable is not significant using either sample, the variation of the difference variable in the SSDI-only group is slight (94% gain $750, with the rest distributed

between $331 and $ 748, due to changes in food stamp amounts), making it unlikely that any effect from the Difference variable would be detected in the analysis. However, variation in the difference variable in the SSI-eligible group is greater[21]. The finding that the Difference variable has no impact on entry to employment within this group is therefore potentially important evidence in terms of Hypothesis IV. It is also important in that it suggests that the finding of a negative association between financial incentives and entry to employment in the base model may have been due to other differences between the SSI and SSDI populations than the impact of earnings on benefits.

One possible difference between the SSI and SSDI groups is that the SSI treatment group had the prospect, and often the reality, of using the SSI waiver, which allowed a smaller reduction in SSI amount as earnings increase. The SSI waiver was not included in the calculations for the 'Difference' variable because it was not available until fairly late in the period studied (see Appendix 4.3, item 4, for additional detail). However, it was available for most SSI recipients in the treatment group for at least some of the two years after enrolment. Unlike the other rules concerning the effect of earnings on benefits, this was a new rule that SSI recipients in the treatment group would not have had time to accommodate in terms of their work activity prior to enrolment. Therefore, it may have greater impact than longer-standing rules. The 'treatment group' control variable in the relevant analyses for the whole 'unemployed at enrolment group' was significant, and the analysis of only the treatment sub-group resulted in a significant negative coefficient for the 'Difference' variable, whereas that for the comparison sub-group did

[21] 21% retain the full $750 per quarter earnings increase (because they receive only SSDI, even though they would be eligible to receive SSI if the SSDI ended), 45% gain by $503 (they receive only SSI), 21% gain by $473 (they receive SSI and some SSDI), with the remaining 13% distributed fairly evenly between gains of $3 and $746.

not (Table 5.7). In addition, the sub-group analysis of the SSI eligible group (Table 5.5) resulted in a statistically significant coefficient for the 'treatment group' variable. However, when a 'Treatment group/SSI-eligibility' interaction term was introduced into the base model, without the difference variable, the interaction term was not significant. These mixed results leave open the possibility that the SSI treatment group, experiencing a new incentive, had higher entry to employment. However, such an effect is difficult to separate from the possible effect of the treatment condition as a whole on the SSI group, and also the possible effect of service providers' expectations of the waiver (discussed below).

An attempt was made to avoid the above problems by comparing unemployed treatment group SSI recipients who had the waiver more available with those who had it less available. Recall that the waiver was available only from the second quarter of 2001, over two years after the first enrolments in the first quarter of 1999. An analysis was conducted using the unemployed at enrolment sample, including only SSI recipients who were in the treatment group, comparing those who enrolled in or after the second quarter of 2000 and therefore had at least a year of the two years studied with the waiver available to them, with those who enrolled before that quarter. The results are shown in Table 5.8.

Table 5.8

Factors Related to Becoming Employed; SSI waiver availability

	B	SE	Sig.
Started late –SSI waiver more available	.665	.485	
Satisfaction w Social Support	.286	.271	
Living arrangement: Alone			
Spouse or Sig Other	1.751	.686	*

Adult Friend(s)	.166	.698	
Other Family	1.203	.627	*P*=.055
Parents	1.776	1.092	
Social support for empt since benefits began: Always			
Not employed since benefits began	-1.836	.712	*
Never	-.265	1.587	
Sometimes	-1.706	1.020	*P*=.096
Usually	-1.634	.991	*P*=.096
Difference in Total Income w $750 Earnings Increase(/100)	-.065	.238	
Working will increase my income: Strongly agree			
Strongly disagree	Cmbnd w 'Not sure'		
Disagree	Cmbnd w 'Not sure'		
Not sure	.125	.651	
Agree	.508	.625	
Primary disability: Physical / HIV			
Mental illness	.664	.658	
Developmental disability	.394	.548	
Age <25	.134	.621	
Female	.304	.461	
Race-Other	.041	.507	
Education: >HS			
<HS	.086	.556	
=HS	-.411	.529	
Years Employed At Enrollment	.047	.036	
Self-reported health: Excellent			
Very good	-.367	.706	
Good	-.287	.715	
Fair	.373	.746	
Poor	.234	.903	
Motivation To Work	.109	.408	

Constant		-.824	3.252
	n		141
	-2 Log Likelihood		162.882

Notes: * = $p<.05$; ** = $p<.01$; *** = $p<.001$ (p values of >.05 and <.1 are shown where they may be of interest to the hypotheses)

Model controls for missing data in the following variables: Satisfaction with social support; Living arrangement; Perception of support for employment; Perception of financial gain; Education; Gender; Race; Self-reported health; Motivation to work.

While clearly the low *n* limited the power of the analysis, the result for the variable representing the availability of the SSI waiver was not significantly related to employment outcomes and does not provide evidence for the impact of higher potential net income on entry to employment.

Despite the problems with these analyses that attempt to isolate the effects of financial incentives and SSI/DI receipt on entry to employment, it is reasonable to explore further the possibility of other systematic differences between the SSI and SSDI groups, given the finding, contrary to labor market theory, of a negative effect of financial incentives on entry to employment, and the high correlation between the financial incentives variable and type of benefit eligibility.

One known difference between SSI and SSDI recipients is that the former are generally earlier in their 'employment careers.' (SSDI requires significant work history, except for the approximately 10% of SSDI beneficiaries who were disabled before the age of 22 and receive SSDI based on their parents' social security contributions). Prior research (Ben-Galim, Lanning et al, 2011) suggests that at the start of their 'employment careers', individuals have a higher turnover of jobs. This would imply that unemployed SSI recipients are more likely to become employed, even though their financial incentives may be lower, because they have less work

experience and are more likely to 'try out' employment. This is, however, not consistent with the finding that in all analyses, the 'Years of work experience' variable is highly significant and positively related to the likelihood of entering employment. The results of the analysis that includes the SSI/DI variable but not the 'Difference' variable (Table 5.4), indicate that SSI eligibility has a significant effect independent of 'Years of work experience.'

An alternative explanation could be that unemployed SSDI beneficiaries are older, a factor that is associated with detachment from the labor force and a significant predictor of less employment in the analyses presented here. To test this, analyses were conducted on only those aged under 55, and with 2 age categories (<25 and >24). These showed no change in the significance of the negative relationship between the 'Difference' variable and employment, providing no support for this explanation.

It is also possible that SSI recipients may, due to less work experience and lower educational levels, only have access to parts of the labor market that require less experience and qualifications and have proportionately more jobs available, which are often short-term and involve high turnover (Ben-Galim, Lanning et al, 2011). In this sample, bivariate correlations between SSI receipt, fewer years of work and lower educational levels are evident (Appendix 4.6), and may provide support for this explanation.

A final characteristic of unemployed SSI recipients that may explain their greater propensity to enter work is the absence of assets (SSI is a means-tested program). This may mean that SSI recipients have fewer resources to 'bridge' crises, leading them to enter employment more,

frequently via less suitable jobs. In the absence of a measure of actual assets, unlike the presence of a measure of work experience, it is difficult to test this explanation. This or some other unobserved difference between SSI and SSDI individuals might explain the impact of the difference variable on employment[22].

Moving on from explanations based on the characteristics of the benefit programs and of the individuals receiving the benefits, it is possible that the way in which service providers treated SSI recipients and SSDI beneficiaries influenced the outcome of greater employment gains by SSI recipients. For example, it is possible that because providers knew that treatment group SSI recipients were or would become eligible for the waiver, they would prioritize job seeking efforts for these clients.

Whether or not any of the above explanations are valid, the relevant conclusion, in terms of Hypothesis IV, remains that, for those unemployed at enrolment, there is no evidence that financial incentives have a positive impact on entry to employment, even when the differences between the SSI and SSDI populations are controlled or excluded, as in the SSI-eligible subgroup analysis and in the comparison of treatment group SSI recipients who had the waiver more available and those who had it less available.

[22] A further possible explanation for the negative association between the 'Difference' variable and subsequent employment is that SSI recipients might be expected to have lower benefit levels than SSDI beneficiaries and therefore have less to lose by working, if they believe that working will put at risk their benefit eligibility, However, while higher benefits are possible through SSDI receipt (for the sample used here, up to $4,179 per quarter as opposed to a maximum of $1,593 for SSI recipients), the mean benefit amount for unemployed SSI recipients and unemployed SSDI beneficiaries in this sample is very similar at $1,796 and $1,850 respectively. (The lack of difference is related to some SSDI recipients having very low benefits but not receiving SSI and most SSI recipients receiving the state supplement, which is between $252 and $540 per quarter.) Potential benefit losses therefore seem an unlikely factor in explaining the reason that the work incentive variable is no longer significant once SSI status is controlled. (This variable was therefore not included as a control variable in the analyses.)

Hypothesis V states 'Individuals with disabilities who wish to enter or maintain employment who believe they are knowledgeable about the potential financial rewards of work, and believe that the actual impact of earnings on their net income is positive, are more likely to be employed.' There is evidence that those unemployed at enrolment who 'Disagree' with the statement 'Working will increase my income' are employed at a higher rate than those who strongly agree (Table 5.4). This result, contrary to Hypothesis V, is not consistent with the results for the other categories of the variable (which, while not significant at the $p<.05$ level, have coefficients in the opposite direction) and is based on an *n* of only 16, the smallest category for this variable. Among the sub-groups analyzed, this effect also is found in the 'comparison' and 'employed >30 days since starting benefits' groups (Table 5.7). In the separate analyses of those eligible and not eligible to receive SSI (Table 5.5), it is only among the SSI-eligible group that this relationship is found.

5.4 Conclusions

Taking the results of the survival analyses and the logit regression analyses together, for those unemployed at enrolment, the following conclusions can be drawn.

In relation to Hypothesis I ('Satisfaction with close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment '), there is no evidence that greater satisfaction with close networks is associated with higher employment or quicker entry to employment in the two years following enrolment, or with the likelihood of

employment over the two years, apart from marginal evidence (p=.076) for the PD/HIV sub-group.

In relation to Hypothesis II ('Range of networks is positively related to employment status for people with disabilities who wish to enter or maintain employment'), there is evidence that greater range in networks (living with others rather than alone) is associated with quicker entry to employment and higher likelihood of employment in the two years following enrolment.

In relation to Hypothesis III ('Perceived consistency in the role expectations for employment held by the close networks of people with disabilities who wish to enter or maintain employment is positively related to their employment status'), there is no evidence that greater perceived consistency in the role expectations for employment held by close networks is associated with quicker entry to employment or higher likelihood of employment for the whole sample in the two years following enrolment. For the sub-group of those with developmental disabilities, there is evidence that such expectations were associated with higher entry to employment. For the PD/HIV, SSDI-only and comparison sub-groups, there was some evidence, contrary to the hypothesis, that those who 'Usually' perceived such expectations enter work more than those who 'Always' did.

In relation to Hypothesis IV ('Individuals with disabilities who have the potential to gain higher net income by working are more likely to enter employment'), there is no evidence that financial incentives are associated with quicker entry to employment or higher likelihood of employment in the two years following enrolment

In relation to Hypothesis V ('Individuals with disabilities who wish to enter or maintain employment who believe they are knowledgeable about the potential financial rewards of work, and believe that the actual impact of earnings on their net income is positive, are more likely to be employed'), there is no evidence that the perception that working will increase income is associated with quicker entry to employment or higher likelihood of employment in the two years following enrolment. In some sub-groups there is evidence contrary to the hypothesis; those who 'Disagree' that working will increase their income are more likely to be employed than those who 'Strongly Agree.'

In summary, for those unemployed at enrolment, there is evidence that those who have greater social network range, in that they live with others rather than alone, are more likely to enter employment. There is no evidence that satisfaction with social support, support for the worker role in close networks, actual financial incentives or perceived financial incentives have any impact on entry to employment. The only exception among the sub-groups studied is that those with developmental disabilities with support for the worker role in close networks are more likely to enter employment.

Chapter 6: Staying in work: Results

This chapter is focused on staying in employment. I first present life tables of survival rates for those employed at enrollment, examining the time until they have a calendar quarter without any employment. I then compare these survival rates with those who were unemployed at enrolment who later became employed to see if their employment stability rates are similar. The chapter then focuses on those employed at enrollment, presenting the results of survival analyses and logit regression models of the impact of independent variables on the time to unemployment (operationalized in the survival analyses as the number of quarters before a quarter with no employment) or remaining in employment throughout the two years after enrollment (operationalized in the logit analyses as having some employment in each quarter of the two years). The evidence that these results potentially provide for hypotheses I, II, III and V will be described.

6.1 Survival analyses for transition to unemployment

Table 6.1 and Figure 6.1 show the results of a survival analysis for the sample of employed at enrolment with the first transition, to unemployment.

Table 6.1:

Survival analyses for 1st transition for those employed at enrolment

Interval Start Time	Number Entering Interval	Number Censored during Interval	Number Exposed to Risk	Number Entering Unemployment	Proportion Entering Unemployment	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Hazard Rate	Std. Error of Hazard Rate
0	431	0	431.0	0	.00	1.00	.00	.00	.00
1	431	0	431.0	61	.14	.86	.02	.15	.02
2	370	1	369.5	30	.08	.79	.02	.08	.02
3	339	0	339.0	32	.09	.71	.02	.10	.02
4	307	0	307.0	19	.06	.67	.02	.06	.01
5	288	1	287.5	18	.06	.63	.02	.06	.02
6	269	0	269.0	14	.05	.60	.02	.05	.01
7	255	0	255.0	10	.04	.57	.02	.04	.01
8	245	11	239.5	15	.06	.54	.02	.06	.02
9	219	10	214.0	19	.09	.49	.02	.09	.02

Figure 6.1: Plot of survival analysis for employed at enrolment, first transition (employed to unemployed)

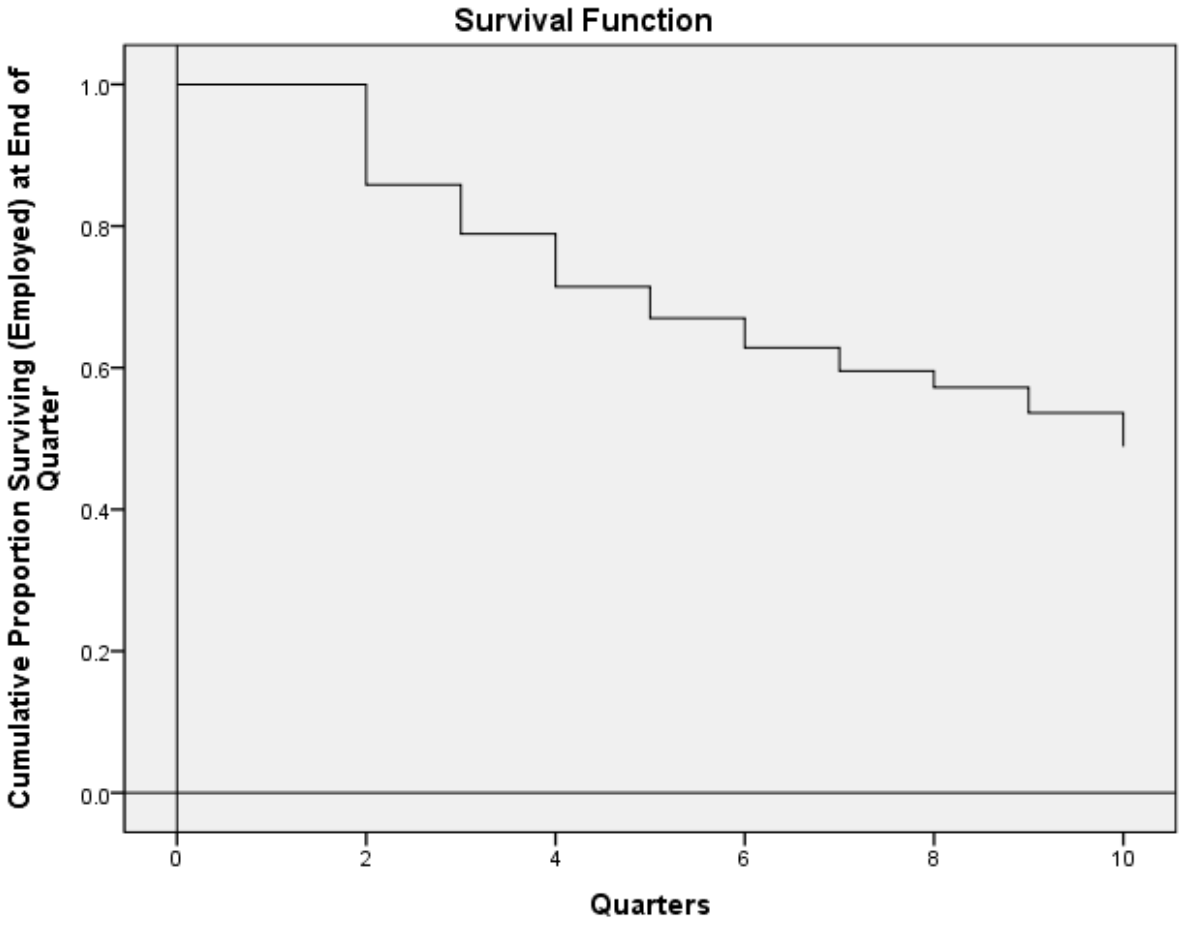


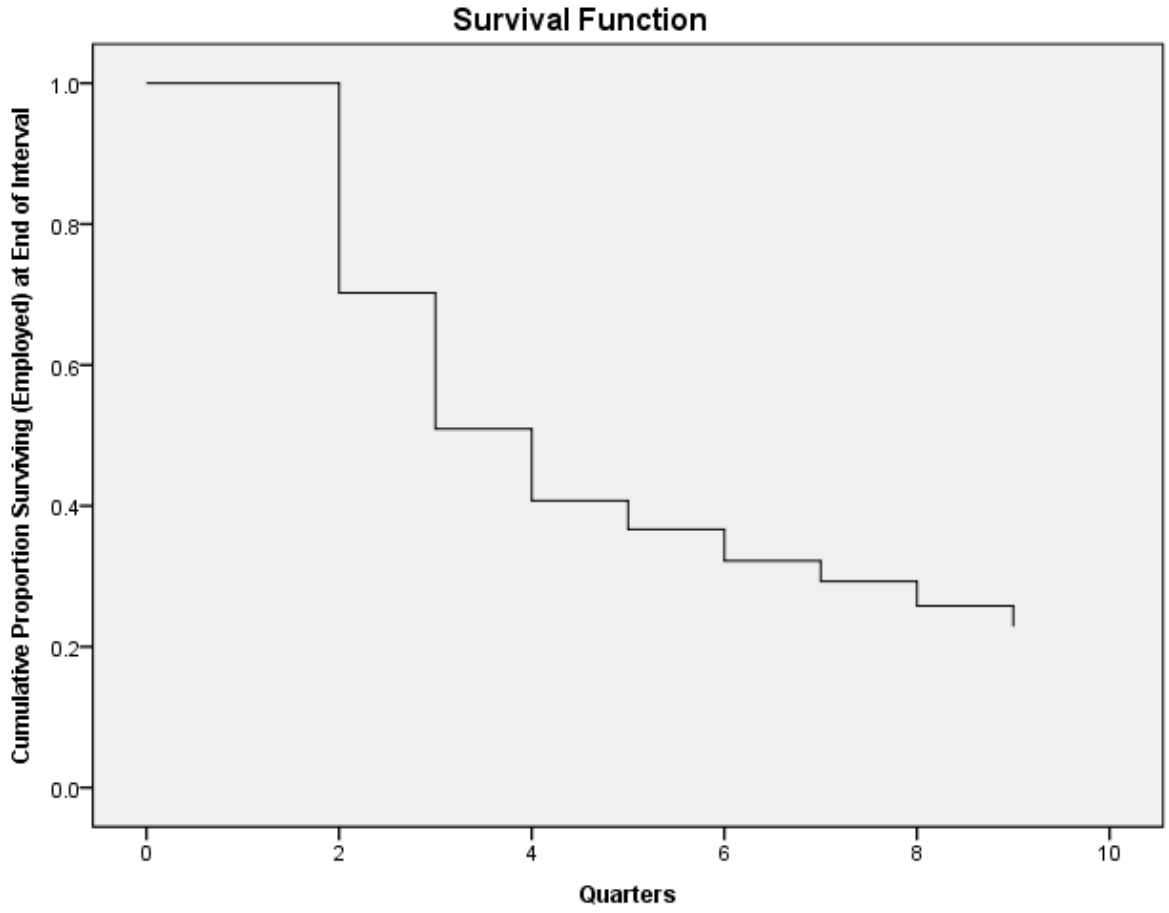
Table 6.2 and Figure 6.2 show the results of a survival analysis for the unemployed at enrolment sample with the second transition, to unemployment,

Table 6.2:

Survival analysis for 2nd transition for those unemployed at enrolment:

Interval Start Time	Number Entering Interval	Number Censored during Interval	Number Exposed to Risk	Number of Entering Unemployment	Proportion Entering Unemployment	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Hazard Rate	Std. Error of Hazard Rate
0	267	0	267.0	0	.00	1.00	.00	.00	.00
1	267	10	262.0	78	.30	.70	.03	.35	.04
2	179	9	174.5	48	.28	.51	.03	.32	.05
3	122	4	120.0	24	.20	.41	.03	.22	.05
4	94	7	90.5	9	.10	.37	.03	.10	.03
5	78	9	73.5	9	.12	.32	.03	.13	.04
6	60	9	55.5	5	.09	.29	.03	.09	.04
7	46	8	42.0	5	.12	.26	.03	.13	.06

Figure 6.2: Plot of survival analysis for unemployed at enrolment, second transition (employed to unemployed)



For those employed at enrolment (Table 6.1 and Figure 6.1), the cumulative proportion still employed in each quarter (surviving) at the end of the fourth quarter is .67, and at the end of the ninth quarter is .49. Individuals are more likely to experience a quarter without any employment early than late in the period studied (i.e., the hazard generally goes down for loss of employment).

For those unemployed at baseline who became employed (Table 6.2 and Figure 6.2), the cumulative proportion who did not make a second transition and were still employed in each

quarter (surviving) is .37 at the end of the fourth quarter. They are therefore especially likely to become unemployed compared to those employed at enrolment (for whom the survival rate at the end of the fourth quarter is .67). Similar to those employed at enrollment, the hazard tends to decline over time, so it is more likely to lose a job early rather than late. The proportion remaining in work in each quarter, whether among those employed at baseline (Table 6.1) or those unemployed at baseline who became employed (Table 6.2), is low compared to the general population.

Comparing Table 6.1 and Table 6.2, it can be concluded that starting position matters, as it did with the results of the survival analysis of those unemployed. The risk of experiencing a quarter without employment during the first year after employment is higher for those unemployed at enrolment who have gained employment (63%) than for those employed at enrolment (33%). As in the survival analysis of those unemployed in Chapter 5, these figures reflect the high rate of unemployment generally in the sample when compared to the whole working age population.

6.2 Survival analyses by independent variables

Table 6.3 uses only those employed at enrollment, and contrasts the results of survival analyses for the different categories of the independent variables.

Table 6.3:

Factors Related to Time to Unemployment for Employed at Enrollment

	Variable category	Number Entering at Relative Quarter 0	Cumulative Proportion Surviving at End of Relative Quarter 9	Wilcoxon Gehan stat.
Satisfaction with social support				
	<3.34	95	.39	8.891, p=.003
	>3.33	243	.53	
"With whom do you live?"				
Binary	Alone	148	.51	.035, p=.851
	Not alone	232	.48	
7 categories	*Alone*	148	.51	.272, p=.841 (No significant pairwise comparisons)
	Spouse/Sig other	76	.54	
	Adult friend(s)	23	.40	
	Other family	39	.38	
	Parents	67	.48	
	Other adults	26	.50	
	Others	2	.50	
"Did you have the support of family and friends in your most recent job since starting benefits?"				
Binary	Not always	133	.46	1.814, p=.178
	Always	174	.54	
4 categories	Never	15	.40	4.326, p=.228 (Pairwise comparison of 'Never' and 'Always' significant [3.940, p=.047])
	Sometimes	58	.51	
	Usually	60	.42	
	Always	174	.54	
"What do you think of the statement 'working will increase my income'?"				
Binary	Not strongly agree	131	.49	0.551, p=.458
	Strongly agree	254	.48	

5 categories	Strongly disagree	9	.56	3.301, p=.509 (Pairwise comparison of 'Not sure' and 'Strongly agree' significant at p<.1[3.385, p=.066]
	Disagree	11	.55	
	Not sure	33	.36	
	Agree	78	.52	
	Strongly agree	254	.48	

Three categories of independent variable are significantly associated with later occurrence of a quarter without any employment for those who are employed at enrolment. The first is 'Satisfaction with social support.' Those who are more satisfied with the support given by their family and friends are likely to stay in employment for longer than those who are less satisfied. The second is 'Perceived consistency in role expectations for employment in close networks.' Those who 'Always' have such expectations are likely to remain in employment for longer than those who 'Never' have such expectations. The third is 'Perceived financial gain.' There was marginally significant evidence that those who 'Strongly agree' that 'Working will increase my income', when compared to those who are 'Not sure', are likely to remain in employment longer. However, the binary version of this item, 'Strongly agree' – 'Not strongly agree', does not show a difference in length of time between the two groups. In addition, there is no indication of any significant difference between 'Strongly agree' and the categories other than 'Not sure' in the item that utilizes the full variability of this survey question.

In relation to the hypotheses described in chapter 3, the following conclusions can be drawn from the results of the survival analyses for those employed at enrolment (Table 6.3):

Hypothesis I for this study states 'Satisfaction with close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.' The survival analysis for those employed at enrolment provided evidence (p=.003) that those who express greater satisfaction with their close networks remained in employment longer than others.

Hypothesis II states 'Range of networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.' There was no evidence that those who have greater range in their social networks remained in employment longer.

Hypothesis III states 'Perceived consistency in the role expectations for employment held by close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.' There was evidence (p=.047) that those who, at enrolment, perceived consistency in the role expectations for employment held by their close networks, in that they report 'Always' having the support of family and friends for their employment, remained in employment longer than those who 'Never' did.

(Note: Hypothesis IV, 'Individuals with disabilities who wish to enter employment who have the potential to gain higher net income by working are more likely to enter employment', is not addressed in this analysis of those employed at enrolment.)

Hypothesis V states 'Individuals with disabilities who wish to enter or maintain employment who believe they are knowledgeable about the potential financial rewards of work, and believe

that the actual impact of earnings on their net income is positive, are more likely to be employed.' There was no significant association, for those employed at enrolment, between any of the categories of response to the question 'What do you think of the statement 'Working will increase my income'?' and earlier occurrence of a quarter with no earnings. There was marginal evidence (p=.066) that those who were 'not sure', when compared to those who 'strongly agreed', left employment earlier.

6.3 Multivariate logit regression analyses on employed at enrolment, with dependent variable of employed in every quarter in the two years after enrolment

The table below reports results for a model that tests the impact of the independent variables on having employment in every quarter of the two years following enrolment for those who were employed in the enrolment quarter. As described in chapter 4, section 4.3.1, of the 431 employed at enrolment, 2 were not enrolled a minimum of 7 quarters after the enrolment quarter, leaving an *n* of 429 for this analysis. The key independent variables are 'Satisfaction with social support', 'Living arrangement', 'Social support for employment' and 'Perception of financial gain.' (No measure of actual financial incentive is included in the analysis, as the financial incentive variables are more related to beginning employment than to staying in employment) For categorical variables with more than two categories, the comparison category is shown in italics.

Table 6.4

Factors Related to Staying in Employment for those Employed at Enrollment

	B	S.E.	Sig.
Satisfaction w social support	.277	.138	*
Living arrangement: Alone			
Spouse or Sig Other	-.139	.335	
Adult Friend(s)	.103	.512	
Other Family	-.747	.407	P=.066
Parents	-.209	.367	
Other Adults	.245	.485	
Other	.098	1.512	
Social support for empt since benefits began: Always			
Never	-.582	.627	
Sometimes	.091	.379	
Usually	-.240	.353	
Working will increase my income: Strongly agree			
Strongly disagree	.422	.801	
Disagree	-.031	.703	
Not sure	-.592	.433	
Agree	.123	.302	
Treatment group	-.147	.245	
Primary disability: Physical Disability / HIV			
Mental illness	-.022	.267	
Developmental disability	.398	.282	
Labor market: Milwaukee, Waukesha, Ozaukee, Washington			
Racine, Kenosha, Walworth, Jefferson	-.302	.433	
Dane	-.169	.324	
Brown	.720	.652	
Winnebago, Outagamie, Calumet	-.897	.529	P=.090
La Crosse, Vernon	-.584	.875	
Portage, Marathon, Wood	.259	.528	
Other	-.041	.307	
Age - Over54			
Under25	1.421	.746	P=.057
25-54	1.102	.609	P=.070
Gender: Male			
Female	.158	.227	
Race: White			
Other	-.045	.315	

Education: >HS				
	<HS	-.745	.357	*
	= HS	-.140	.259	
Years employed at enrollment		.051	.016	**
Self-reported health: Excellent				
	Very good	-.206	.397	
	Good	-.139	.397	
	Fair	.058	.425	
	Poor	-.470	.553	
Motivation to work		-.183	.190	
Constant		-1.813	1.477	
	n		429	
	-2 Log Likelihood		543.358 ns	

Notes: * = p<.05; ** = p<.01; *** = p<.001 (p values of >.05 and <.1 are shown where they may be of interest to the hypotheses)

Model controls for missing data in the following variables: Satisfaction with social support; Living arrangement; Perception of support for employment; Perception of financial gain; Education; Gender; Race; Self-reported health; Motivation to work.

Table 6.4 shows that the full model predicting staying in employment is not statistically significantly better than an intercept-only model. Although the model as a whole does not explain a substantial portion of the variance, given the large number of variables in the model, some variables do show statistically significant relationships. The results shown in Table 6.4 provide evidence ($p<.05$) that greater 'Satisfaction with social support' is associated with increased rates of employment in every quarter. None of the other independent variables are significantly associated with being employed in every quarter of the two years following enrolment. The only control variables that have a significant association with the dependent variable are 'Years employed at enrolment' and having less than a high school education (compared to having more than high school). Several variables have marginally significant coefficients.

Fewer variables are statistically significant in the logit analysis than in the survival analysis. This could be because the former controls for other variables or because the logit analysis examines whether or not a quarter of unemployment occurred, whereas the survival analysis examines the related construct of the time to unemployment. A straightforward robustness check uses the logit framework (and thus the dependent variable of whether there was ever a quarter of unemployment) but without control variables. This check shows that the key binary variable 'Satisfaction with social support' that was significant in the survival analyses (p=.003) and the logit analysis with controls (p=.044) remains significant in the logit test without controls (p=.034), and the key variable 'perception of financial gain' ('not sure' category) that was marginally significant in the survival analyses (p=.066) is marginally significant in the logit test without controls (p=.067). However, the key variable 'support of family and friends for employment' ('never' category) that was significant in the survival analyses (p=.047) is not significant in the logit test without controls (p=.176). Taken together, these results imply that the control variables used are important to drawing accurate conclusions.

Returning to the main logit model with a full set of variables, I now turn to subgroup analyses. Table 6.5 below displays results for members of each disability sub-group who are employed at enrolment. Because of small *n*'s , certain categories have been combined as indicated in small type in the relevant cells. Where no result is reported, and no combination indicated, none of the employed at enrolment were in that category. If a category of 'missing' has only a small number of cases, leading to large standard errors, these cases are not included in the analysis.

Table.6.5

Factors Related to Staying in Employment for those Employed at Enrollment; Analyses by Disability Type

	Physical disability/ HIV			Mental illness			Developmental disability		
	B	S.E.	Sig.	B	S.E.	Sig.	B	S.E.	Sig.
Satisfaction w social support	.311	.295		.087	.263		.901	.427	*
Living arrangement: Alone									
Spouse or Sig Other	1.067	.727		.478	.715		-1.888	.937	*
Adult Friend(s)	.985	1.021		1.387	.831	p=.095	-1.436	2.572	
Other Family	.610	1.102		-.881	.735		-1.653	1.069	
Parents	.710	.773		.457	.869		-1.929	.921	*
Other Adults	1.546	1.000	p=.085	.205	.916		-1.997	1.408	
Social support for empt since benefits began: Always									
Never	-2.767	1.292	*	.982	1.067		.378	2.218	
Sometimes	.010	.864		.827	.682		.260	1.285	
Usually	-.729	.900		.390	.622		.071	.799	
Working will increase my income: Strongly agree									
Strongly disagree	Combined w Not Sure			Combined w Disagree			1.706	1.864	
Disagree	Combined w Not Sure			-2.630	1.219	*	1.670	1.852	
Not sure	.490	.721		-1.597	.936	p=.088	-.566	1.186	
Agree	.528	.641		-.337	.556		-.506	.963	
Treatment group	-.605	.605		-.089	.502		-1.312	.838	
Labor market: Milwaukee, Waukesha, Ozaukee, Washington									
Racine, Kenosha, Walwrth, Jffrsn	-1.209	.879		-2.662	1.464	p=.069	.701	.912	
Dane	-1.239	.665		.934	.623		-2.361	1.551	
Brown	.980	1.285		.512	1.096		-.428	1.602	
Winnebago, Outagamie, Calumet				.281	.921		-1.962	1.176	p=.095
La Crosse, Vernon				1.159	1.769				
Portage, Marathon, Wood	.199	1.142		-.412	1.001		-.466	1.273	
Other	-1.221	.648		.639	.566		-1.326	.869	
Age Over54									
Under25	4.565	1.566		1.305	1.620		-1.757	2.327	
25-54	2.822	1.241		1.543	1.152		-.675	1.837	
Gender: Male									
Female	1.003	.498	p=.08	-.202	.432		-.436	.642	
Race: White									

Other	.409	.702		-.932	.628		.886	1.065	
Education: >HS									
<HS	-.811	.829		-1.292	.738	P=.08	-1.008	1.387	
= HS	-.614	.688		.526	.519		-.689	.653	
Years employed at enrollment	.124	.041	p=.09	.079	.032	*	-.063	.040	p=.071
Self-reported health: Excellent									
Very good	-.710	.795		-.681	.939		-.514	1.034	
Good	.296	.834		-1.566	.962		.504	1.014	
Fair	-.556	.857		-1.378	.978		2.215	1.224	p=.070
Poor	.253	1.013		-1.271	1.211		-3.033	2.254	
Motivation to work	-.209	.403		-.336	.377		.047	.582	
Constant	-4.070	3.089		-1.023	2.849		.347	5.614	
n	144			166			104		
-2 Log Likelihood	150.342 p=.069			181.705 ns			104.599 ns		

Notes: * = p<.05; ** = p<.01; *** = p<.001 (p values of >.05 and <.1 are shown where they may be of interest to the hypotheses)

Model controls for missing data in the following variables: Satisfaction with social support; Living arrangement; Perception of support for employment; Perception of financial gain; Education; Gender; Race; Self-reported health; Motivation to work.

Although these models are also not statistically significant as a whole, the results for the disability sub-groups of those employed at enrolment shown in Table 6.5 give a more nuanced picture than the results of the whole group presented in Table 6.4. The impact of the 'Satisfaction with social support' variable, which was significant for the whole group, is here seen to be significant for the developmentally-disabled sub-group, but not for the other disability sub-groups. The developmental disability sub-group is also exceptional in terms of the impact of the living arrangement variable, in that living alone is associated with remaining in employment when compared to living with parents and with spouse/significant other. This is a clear contrast to the other disability groups, which have coefficients, with one exception, in the opposite direction. While the responses to the 'Perception of support for employment' variable show no clear pattern for the whole group of employed at enrolment, for the PD/HIV sub-group,

reporting 'Never' having support for employment is associated with no employment in at least one quarter. Finally, and again in contrast to the results for the whole group, the sub-group with mental illness who 'Strongly disagree' or 'Disagree' (categories combined, *n*=7) with the statement 'Working will increase my income' were very unlikely to have employment in every quarter for two years compared to those who 'Strongly agreed' (*n*=87). For all disability sub-groups, as with the whole group of employed at enrolment, there were very few individuals who responded that they disagreed that working would increase their income (perhaps not surprisingly given that they were already working). The finding of a significant effect for the mental illness group could indicate that for these individuals, the effect of perceptions may be particularly important.

The developmental disability sub-group differed from the others in terms of the relationship between some control variables and the dependent variable, in that more years of work is associated with no employment in at least one quarter, and in that those reporting 'Fair' health stay in work in every quarter more than those reporting 'Excellent' health. In contrast, those in the other two disability sub-groups have the expected relationship between work history and staying in work, and do not show a counterintuitive relationship between self-reported health and staying employed.

Table 6.6

Factors Related to Becoming Unemployed; Treatment/Comparison Sub-Groups

	Treatment group			Comparison group		
	B	S.E.	Sig.	B	S.E.	Sig.
Satisfaction w social support	.375	.237		.409	.217	p=.060
Living arrangement: Alone						
Spouse or Sig Other	.493	.632		-.041	1.040	

Adult Friend(s)	-.032	.718		-2.234	.719	**
Other Family	.734	.714		-.588	.560	
Parents	-.248	.632		.454	.823	
Other Adults	.144	.747		-.481	.816	
Social support for empt since benefits began: Always						
Never	.251	.505		-1.313	.911	
Sometimes	1.963	1.210		-.745	.596	
Usually	1.497	.665	*	.232	.587	
Working will increase my income: Strongly agree						
Strongly disagree	-.628	1.860		.406	1.037	
Disagree	-2.166	1.552		1.160	1.060	
Not sure	-1.217	.749		-.305	.660	
Agree	.081	.516		.250	.478	
Primary disability: Physical Disability / HIV						
Mental illness	.598	.468		-.560	.454	
Developmental disability	1.047	.494	*	.126	.442	
Labor market: Milwaukee, Waukesha, Ozaukee, Washington						
Racine, Kenosha, Walworth, Jefferson	.053	.640		-.942	.861	
Dane	-.168	.471		-.314	.638	
Brown				.651	.780	
Winnebago, Outagamie, Calumet				-.784	.633	
La Crosse, Vernon	-.767	1.460		.113	1.419	
Portage, Marathon, Wood	1.182	1.374		.484	.705	
Other	.024	.556		.185	.453	
Age: Over 54						
Under25	2.794	1.247	*	1.884	1.184	
25-54	1.211	.939		2.089	1.012	*
Gender: Male						
Female	-.015	.390		.197	.346	
Race: White						
Other	-.745	.488		1.124	.604	p=.063
Education: >HS						
<HS	-.593	.599		-1.560	.598	**
= HS	-.271	.424		-.496	.410	
Years employed at enrollment	.089	.029	*	.051	.023	*
Self-reported health: Excellent						
Very good	-1.010	.628		.596	.650	
Good	-.821	.651		.537	.624	
Fair	-.751	.685		.604	.693	
Poor	-1.614	.855	p=.059	1.239	1.003	

Motivation to work	-.702	.338	.239	.300
Constant	-3.230	2.930	-4.149	2.319
n	195		234	
-2 Log Likelihood	225.682 ns		258.511*	

Notes: * = p<.05; ** = p<.01; *** = p<.001 (p values of >.05 and <.1 are shown where they may be of interest to the hypotheses)

Model controls for missing data in the following variables: Satisfaction with social support; Living arrangement; Perception of support for employment; Perception of financial gain; Education; Gender; Race; Self-reported health; Motivation to work.

The analysis of the treatment and comparison sub-groups in Table 6.6 shows a marginally significant positive association between greater 'Satisfaction with social support' and employment in every quarter for only the comparison group. There was a significant negative association for the comparison group between remaining in employment and living with 'Adult friends' (compared to living alone). Treatment group members who reported they 'Usually' rather than 'Always' had support for employment were more likely to remain in employment. Several control variables are associated with employment in the expected direction (age, education, years of employment), but not always for both groups.

In relation to the hypotheses described in chapter 3, the implications of the results of the logit regression analyses for those employed at enrolment are discussed in turn below:

Hypothesis I states 'Satisfaction with close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.' Satisfaction with close networks was significantly related to being employed in every quarter of the two years after enrolment (Table 6.4), a finding that applies most strongly to those with developmental disabilities (Table 6.5) and, to a lesser extent, those in the comparison group (Table 6.6).

Hypothesis II states 'Range of networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.' For those with developmental disabilities, range of social networks as indicated by living with parents or spouse/significant other rather than living alone, was negatively associated with maintaining employment in every quarter after enrolment (Table 6.5). For comparison group members, range of social network as indicated by living with 'adult friends' rather than living alone, was negatively associated with maintaining employment in every quarter after enrolment (Table 6.6). Thus, this hypothesis is not supported in that those living alone are more likely to stay in employment than those with a broader range of networks (as measured by their living arrangement).

Hypothesis III states 'Perceived consistency in the role expectations for employment held by close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment.' In the sub-group of those with physical disabilities/HIV, reporting 'Never' having support for the role of worker was associated with less employment than those who reported 'Always' having such support (Table 6.5). However, contrary to the hypothesis, among those in the treatment group, those reporting 'Usually' having such support were more likely to stay in employment than those who report that they 'Always' do (Table 6.6).

(Note: Hypothesis IV, 'Individuals with disabilities who wish to enter employment who have the potential to gain higher net income by working are more likely to enter employment', is not addressed in this analysis of those already employed at enrolment.)

Hypothesis V states 'Individuals with disabilities who wish to enter or maintain employment who believe they are knowledgeable about the potential financial rewards of work, and believe that the actual impact of earnings on their net income is positive, are more likely to be employed.' There was no evidence that, for all those employed at enrolment, any of the categories of response to the question 'What do you think of the statement 'Working will increase my income'?' were associated with increased likelihood of remaining in employment (Table 6.4). However, for those with mental illness, the combined response categories of 'Strongly disagree' and 'Disagree' were associated with a decreased likelihood of maintaining earnings in every quarter in the two years following enrolment, compared to those who strongly agreed with the statement (Table 6.5).

6.4 Conclusions

Taking the results of the logit regression analyses and survival analyses together, for those employed at enrolment, the following conclusions can be drawn:

- In relation to Hypothesis I ('Satisfaction with close networks is positively related to employment status for people with disabilities who wish to enter or maintain employment'), there is evidence that greater satisfaction with close networks is positively associated with staying in employment and with later exit from employment in the two years following enrolment, particularly for those with developmental disabilities.
- In relation to Hypothesis II ('Range of networks is positively related to employment status for people with disabilities who wish to enter or maintain employment'), there is no evidence that range of networks is positively associated with remaining in employment longer or

with remaining in employment for two years. On the contrary, for those with a developmental disability or in the comparison group, there is evidence that greater range is associated with greater likelihood of experiencing a quarter without employment.

- In relation to Hypothesis III ('Perceived consistency in the role expectations for employment held by the close networks of people with disabilities who wish to enter or maintain employment is positively related to their employment status'), there is evidence that the perception of consistency in the role expectations for employment of networks (i.e., that friends and family are 'Always' supportive of employment, rather than 'Never' supportive) is associated with longer time in employment, and, for those with PD/HIV, with remaining in employment over two years.
- In relation to Hypothesis V ('Individuals with disabilities who wish to enter or maintain employment who believe they are knowledgeable about the potential financial rewards of work, and believe that the actual impact of earnings on their net income is positive, are more likely to be employed'), there is marginal evidence that those who 'Strongly agree' that 'Working will increase my income' are employed for longer than those who are 'Not sure', but no evidence from the logit analysis for the whole group of employed at enrolment that any category of response is associated with remaining in employment for the two years following. However, there is evidence that, for the sub-group with mental illness, those who 'Strongly agree' are more likely to remain in employment than those who 'Strongly disagree' or 'Disagree.'

In general, the analyses in this chapter showed few variables related to staying in employment in the sample of all those employed at enrollment, and few models were statistically significant as a whole. It was only when various subgroups were examined that statistically significant relationships were revealed. Perhaps maintaining employment is related to variables not

available in these data, or perhaps these models do not accurately portray the way these decisions are made.

Chapter 7 Discussion, limitations and implications for policy and further research

In this chapter I first summarize and expand upon the main findings of the two empirical chapters, both the analyses of going to work and the analyses of staying in work. In the second section, I discuss some limitations of this study, and in the final sections I discuss implications for research, theory, and policy and practice.

7.1 Going to work

The impact of factors predicted by sociological and economic theory to affect employment was analyzed using data related to 735 unemployed people with disabilities who receive SSA benefits and express a wish to work. This sample represents a group that is the concern of both disability advocates who seek to realize the rights of people with disabilities to equal opportunities in the workplace and of government policy that seeks to increase the labor force and reduce public expenditure on disability benefits. The results reported in chapter 5 have the potential to inform the efforts of both.

Social network theory suggests two factors that may be important in job search success. The first is that of 'social support.' This concept has many formulations. As described in chapter 3, the formulation used for this study is the same as one found to have been predictive of employment for people with disabilities in a meta-analysis by Chronister et al (2008), that of satisfaction with the quality of close relationships, a concept derived from the work of Sarason (1983), among

others. The measure used here was a part on a widely used scale that asked respondents to rate from 'Strongly agree' to 'Strongly disagree' the following statements:

- Overall, I have a good relationship with members of my family
- I have an active social life
- I am happy with my current living situation.

There was no evidence that greater satisfaction with close networks is associated with quicker entry to employment or with a greater likelihood of going to work in the two years following enrolment (apart from the marginal significance [p=.076] of the coefficient for the physical disability/HIV sub-group). At least for those wishing to enter employment, there seems to be no support for the importance attributed to satisfaction with the quality of close relationships by most of the previous literature examining social support. However, it is more consistent with the findings of a meta-analysis (Chronister et al., 2008), which found an effect for satisfaction with social support in three studies, two with people with traumatic brain injury (a group not present in the sample for this study) and one with people with spinal cord injury, a condition that is included in the disabilities affecting the PD/HIV sub-group in the present study, among whom greater satisfaction was found to be marginally associated with entry to employment.

The finding in the present study that entry to employment for people with mental illness and developmental disabilities is not related to close networks is consistent with some sociological theory (Granovetter, 1973) that holds that in job-seeking, close networks are of less significance than the individual's ability to 'bridge' beyond their own network and access multiple other networks. This relates to the second factor that social network theory suggests may be important in job search success, that is, greater 'range' in networks. 'Range' refers to the diversity of

connections in an individual's networks, which enable an actor to access the social capital of multiple networks. While diversity is more than the simple number of connections, greater number of connections is likely to be related to diversity.

The only measure of 'range' available for the present study is 'Living arrangement', which provides partial information on the range of networks. Nonetheless, this measure of range is significantly associated with both quicker entry to employment and a greater likelihood of working in the two years following enrolment. The categories of living with 'Spouse / significant other', 'Parents', 'Other family' and 'Other adults in staffed residences' were all significantly associated with entry to employment in the two years after enrolment, when compared to living 'Alone', with large effect sizes (odds ratios of from 1.9 to 2.7). These findings held across the benefit, disability, and treatment/comparison sub-groups. In the case of the 'Employed / Not employed >30 days since benefits began' sub-groups, the finding was less strong for the 'Employed >30 days' group, which is consistent with the 'Staying at work' analysis reported below for those employed at enrolment, which found no effect for the 'range' variable. In other words, 'range' may not be so important for those who have greater work experience. It is possible that those who have more prior work experience rely less on a wide range of network ties in order to gain employment, as they already may have direct contacts with employers in their particular field of work. The category 'Adult friends', while clearly related to greater number of connections than 'Living alone', was not associated with higher entry to employment. This is consistent with sociological theory about 'range', in that living with friends may indicate a dense, homophilous network of people with redundant connections and similar backgrounds, possibly, in this case, including the common characteristic of unemployment, rather than a

network that is more likely to span multiple networks, “with diverse sets of other actors” (Burt,1983, p.256).

Living with family or in a staffed group home or nursing home, by contrast, might indicate access to wider and more diverse networks. ‘Family’ is likely to include people of different ages and in a variety of occupations, with non-overlapping friendship networks. Group living arrangements with residential staff involve regular contact with a variety of people who are likely to have different networks than the job-seeker. In both situations, general information about jobs, specific job leads and introductions to employers are likely to be enhanced by the more diverse networks that living with family or in staffed residences involve when compared to living alone or with a group of close friends. Other explanations than network range may play a role in the impact of living arrangement on entry to employment. For example, it could be that people with disabilities are more motivated to spend time away from living quarters that they share with others, rather than their own. However, this would not explain the lack of impact that sharing with adult friends has on employment. Again, as suggested on p. 88, living in staffed group housing may imply greater presence of services that require some work, or work-like activity. However, to the extent that such services connect people with employment resources, they could be construed as adding to network range. The results of this analysis of unemployed job-seekers with disabilities provide evidence of the positive impact of network range on entry to employment. Further research could test the robustness of the finding in the light of the above alternative explanations.

The other sociological theory in addition to social network theory that might explain differences in entry to employment of unemployed members of the sample, social role theory, predicts that behavior will be affected by role expectations in close networks. When a person's internalized role (in this case, that of wishing to be employed) matches his or her perception of the role expectations projected by their networks (in this case, 'always having the support of family and friends during the time of your most recent job') "ego is likely to face a well-defined and consistent normative milieu within which to pursue his or her interests", to use Podolny and Barron's phrase (1997, p.676). The results for the whole group of unemployed at enrolment show no evidence that reporting 'Always' having the support of friends and family for employment is associated with quicker entry to employment or a greater likelihood of employment in the two years following enrolment. It may be important in considering this unexpected result to take account of Podolny and Barron's stipulation that a pre-condition of internalizing a role is that the networks are dense and have many 'redundant' ties. It is possible that the group of unemployed people with disabilities considered here on average lack such networks. However, for the sub-group of those with developmental disabilities there is evidence that the response 'Always' having support for their job goals among family and friends was strongly associated with higher entry to employment when compared to the responses 'Never' or 'Sometimes' (odds ratio =.158). A possible explanation of the result for this sub-group is that people with developmental disabilities generally have the disability from birth and are therefore perhaps more dependent on their families. This may imply denser and more redundant ties so that the impact of family expectations are more powerful than is the case with other disabilities. Such family ties would constitute the "primary bases of social identity, conveying …clear normative expectations associated with one's role" (Podolny and Barron, 1997, p.674).

For the PD/HIV and comparison sub-groups, there was some evidence, contrary to the hypothesis, that those who 'Usually' perceived such expectations entered work more than those who 'Always' did. In addition, those receiving SSDI only who 'Sometimes' had support were more likely (p=.032) to enter employment than those who 'Always' had support. It is notable that apart from the sub-group with developmental disabilities, the whole unemployed group and the sub-groups noted above had positive coefficients for the categories that indicated less consistent support for employment in close networks, when compared to 'Always' having such support. The question to which they were responding asked about support for employment since benefits began, and was only asked of those who had had such employment. The fact that when they responded, they were unemployed, may serve to reduce the measured impact of always having support for employment, in that the expectations of family and friends was not effective in maintaining their employment or, if losing their job, in subsequently entering employment again by the time of enrolment. It is possible that this explains the finding that 'Always' having the support of close networks for their past employment is not associated, for those who had worked since benefits began but were unemployed when surveyed at enrolment, with later employment.

This possibility can be explored further, by comparing responses to the equivalent survey question that was included in the first follow up survey, one year after enrolment. As explained in section 4.3.3, in the follow up survey a similar question ("In terms of factors that affect a person's ability to get and keep a job, during the last 12 months did you have the support of your family and friends?") was asked of the whole sample, rather than just those employed since

benefits began. However, because of the potential for reverse causality, in that responses to the question would be influenced by whether people were successful in entering employment, it was not possible to use this variable in models that included measurement of the dependent variable in the four quarters after enrolment. When used in a model examining those not employed in quarter 4 with the dependent variable of any employment in quarters 5-8, no effect was found. Given this and given the lack of evidence from the analyses involving the quarters 1-8, it seems that consistency in the role expectations of close family and friends may not affect entry to employment for the 'unemployed at enrolment' group as a whole, although, as noted above, this may be because close networks are relatively absent from the lives of many in the sample.

Neo-classical economics provides another perspective on workforce participation. Labor supply theory predicts that people will have a reservation wage, which they will require if they are to enter employment. The level of this will depend on many factors, but will include the net returns to work. For people with disabilities, the net returns to work will depend in part on how disability benefits change when a participant has different levels of earnings. For this study, the 'Difference' variable represents, for each individual, the predicted change in net income to a specific level of earnings ($750 per quarter). Labor market theory predicts that the closer this change in net income is to the amount of earnings, that is, the less benefits are reduced when earnings increase, the more likely it is that an unemployed person will decide to enter employment.

In this study, hypothesis IV, 'Individuals with disabilities who have the potential to gain higher net income by working are more likely to enter employment', reflects labor supply theory. The

results reported in chapter 5 for those unemployed at enrolment provide no evidence that returns to working are associated with quicker entry to employment or a greater likelihood of employment in the two years following enrolment. As stated in chapter 3 above, there are many factors that may be taken into consideration in labor supply theory that may impact the workforce participation decisions of people with disabilities, such as the actual wage offered, transportation costs, job coaching costs, and the higher value placed on leisure because of greater self-care and medical needs or shorter life expectancy. It is surprising, however, that the central variable of changes in net income does not seem to impact workforce participation for unemployed people with disabilities who receive benefits and state a wish to work. It is possible that, as discussed on p.62, other 'compensating differentials' were more important than wage, or net income. These might include interactions between disability characteristics and job flexibility, such as the need to attend frequent medical appointments.

The primary variable used to measure returns to work has limitations. First, no information is available on the wages that would be offered to any individual. Second, the difference variable represents only one possible scenario for workforce participation, in this case earnings of $750 per quarter. While this was chosen because it is a level of earnings that many people may consider as a first step to test their ability to work (10 hours per week at minimum wage), other levels could have been chosen that might show different relationships between earnings and net income changes, which might then elicit different employment decisions, for example the change to income if one were to begin working full time. Second, the variability of this measure was limited, with only 11.5% of those unemployed having a net income other than $750, $503, or $473. Third, and related to the last point, the measure is highly correlated with the pattern of

benefits received. For example, all those in receipt of SSDI who do not receive any additional means tested benefits receive an increase in net income of $750 in response to a $750 per quarter increase in earnings, and any other type of benefit recipient will have a lower net income in response to a given earnings change.

It is possible that there are other systematic differences between those on different benefit programs that may impact workforce participation, so attributing any observed relationship between benefit program receipt and employment to the level of financial incentives embedded in different programs could be erroneous. As described in chapter 5, these include differences in years of work experience, age, education, benefit amounts and assets. The first four of these can be controlled by variables present in the dataset, and, whether present in the analyses or not, do not seem to change the impact of the 'Difference' variable. There is no measure of asset levels in the dataset. Higher asset levels imply a higher reservation wage, which could explain why SSDI recipients (who may have assets) have a higher reservation wage and are less likely to enter employment than those who receive SSI, who do not have assets (or they would not be eligible for the program), even though SSDI recipients have higher work incentives. However, even when asset levels do not substantially vary, as is the case in the analysis of the SSI-eligible sub-group, there is still no evidence of any association between the 'Difference' variable and entry to employment. Finally, the measure itself is limited. To calculate the simple difference in income in response to a change in earnings, taxes (and tax benefits like the EITC) were ignored, and some assumptions had to be made about whether individuals would stop receiving (or begin to receive) benefits if earnings changed.

The alternative measure of financial incentives that was used is the pattern of benefits received. This pattern determines the impact of earnings on net income, which can vary greatly at different levels of earnings. This may be a better measure of financial incentive than the primary measure described above, because it is applicable across different levels of potential earnings. The most significant distinction, and the one used to determine the categories for this variable is between those who only receive SSDI and, because of other unearned income or assets, are not entitled to means tested benefits (such as SSI and food stamps) and those who are entitled to SSI, or who would be if they did not receive SSDI. When this variable was used to measure financial incentives, those with SSI entitlement were significantly more likely to enter employment. Except for a particular 'window' at very low earnings and another at earnings over full-time at minimum wage, SSI recipients lose benefits as they increase earnings. Of course, this variable has the same problem as the 'Difference' variable, in that it may reflect other differences than financial incentives between the SSDI only and SSI populations. It is not a reliable procedure to test whether the significance of the SSI/DI variable represents more than differences in financial incentives by entering the 'Difference' variable as a control. This is because, as described in chapter 5, the 'Difference' variable and the SSI/DI financial incentive variable are highly correlated (Spearman's rho=.618, $p<.001$) and produce unreliable estimates.

Another explanation for the absence of a relationship between entry to employment and financial incentives is that the differences tested were simply too small to make a detectable impact. For most of the unemployed sample, the 'Difference' variable had a range of around $250 to $300 per quarter (varying from $472 at the 20th percentile to $750 at the 60th percentile through the maximum). This modest difference may not have been sufficient to prompt different

employment decisions. However, it is equivalent to the potential effect of proposed, and of some pilot changes, to benefit rules that are intended to 'make work pay', and so may be relevant to current policy debates.

The main conclusion that can be drawn in relation to labor supply theory is that there is no evidence that the level of returns from employment is associated with entry to employment for those unemployed at enrolment in this sample. A secondary conclusion is that those receiving SSI, who have lower financial incentives at most levels of possible earnings, appear to be more likely to enter employment, perhaps because of their lack of assets.

A less direct test of labor supply theory is available through a survey item that measures individuals' perceptions of financial incentives for employment. The variable used (responses to the question 'Do you agree with the statement 'Working will increase my income'?) attempts to measure the perception of potential financial gain rather than its actuality. The five response categories range from 'Strongly agree' to 'Strongly disagree', with 'Not sure' as the third category, and 'Strongly agree' as the comparison category in the analysis. There is no evidence that 'Strongly agreeing' that working will increase income is associated with quicker entry to employment or a greater likelihood of employment in the two years following enrolment. In the context of labor supply theory, the complexity of the rules about the treatment of earnings in calculating benefit levels may lead to the person having 'imperfect' market information, and to actions that are different from those that would arise from full awareness of net income prior to entering a job. There is evidence that this is the case, in that the bivariate correlation coefficient between the 'Perception of financial gain' variable and the 'Difference' variable is not

significant. However, even given this disjunction, labor supply theory would suggest that individuals make employment decisions based on their perception of financial incentives, among other factors.

The lack of evidence for this may be because the question, while apparently directly addressing the topic, fails to represent the complexity of the topic. A more nuanced statement, such as 'Working will increase my net income, even once the effect of earnings on my benefits are taken into account', may have elicited responses that identified relevant attitudes more accurately. In addition, the categories used may not have represented attitudes to employment decisions. For example, the question may be taken to refer to working in general but not to a specific employment decision. Finally, it is possible that benefit recipients do not prioritize financial gain when making employment decisions. Survey results (Thornton et al., 2003) show that only 15% of SSDI beneficiaries report that the program's work incentives influence their employment decisions, although given the low rate of entry to employment, that 15% may include those who do return to work. Whatever doubts there may be about the validity of the item in regard to labor supply theory, it is clear that the item does not predict entry to employment for unemployed members of the sample.

In summary, for those unemployed at enrolment, there is evidence that those who have greater social network range, in that they live with others rather than alone, are more likely to enter employment. There is no evidence that satisfaction with social support, support for the worker role in close networks, actual financial incentives or perceived financial incentives have any impact on entry to employment. The only exception among the sub-groups studied is that those

with developmental disabilities with support for the worker role in close networks are more likely to enter employment.

7.2 Staying in work

The second, smaller sample used in the analysis consisted of 435 people with disabilities receiving social security disability benefits who were employed in the quarter of enrolment. The analysis explored some factors that may impact job retention and maintenance of participation in the labor market, operationalized as some employment in each quarter over the two years following enrolment. Again, these outcomes are of concern to disability advocates who seek to promote social inclusion and employment rights, and to government policy makers who seek to reduce public expenditure on disability benefits. The results presented in chapter 6 have the potential to inform both agendas.

As with 'going to work', social network theory offers two relevant perspectives on the maintenance of workforce participation, or 'staying in work', that were tested in the analysis. The first of these is 'Satisfaction with social support.' There was a significant difference in the time to a quarter of unemployment found in the survival analysis between those with greater and lesser satisfaction with social support, with survival times over 9 quarters of .53 and .39 respectively. The logit regression analysis found that greater 'Satisfaction with social support' was significantly associated with maintaining employment in every quarter over two years for the whole group at the $p<.05$ level. This effect held for the developmental disability sub-group and for the comparison sub-group (as compared to the treatment sub-group) at the $p<.05$ level.

No such effect was found in the analysis for those unemployed and seeking work in chapter 5, other than a marginally significant effect for those with PD/HIV.

This difference can perhaps be explained by some corollaries of the concept 'Satisfaction with social support.' High satisfaction with family relationships, with friends and with household members, all of which contribute to the score on the 'satisfaction' scale used here, may motivate individuals to maintain their current situation, but not to change it. Thus, highly satisfied individuals in work may be likely to stay in work, and some highly satisfied individuals not working, may be likely to stay not working, rather than starting to work, which may disrupt already satisfactory close relationships. However, other individuals highly satisfied with their relationships but not working may have the confidence, or the encouragement, from these close relationships to try employment, with the two groups offsetting each other, and no detectable relationship seen in the data.

The second perspective from social network theory is that of 'range', or the diversity of the connections in an individual's network, measured by 'Living arrangement.' In contrast to the findings from Chapter 5 that greater range is associated with an increased likelihood of going to work, there is no evidence that range is positively associated with staying in work, other than a marginal association ($p<.1$) for the PD/HIV sub-group living in staffed residences and for the MH sub-group living with 'Adult friends.' Moreover, there is one result counter to theory: for the developmental disabilities sub-group, range is negatively associated with maintenance in employment. Given that range was found to impact entry to work for those unemployed at enrolment, it might be expected that it would also promote finding jobs for those employed at

enrolment who lose their jobs. However, recall that the survival analyses showed that those employed at enrolment who later became unemployed re-entered employment much faster than those unemployed at enrolment.

The explanation for the lack of significance for the range variable in the analysis of those employed at enrolment may be that they can find employment more easily for multiple reasons directly related to their recent employment. These could include possessing current skills valued in the job market and a recent employment reference, but also that they have recent connections with work colleagues and employers in the labor market. This aspect of social network range is not measured in the variable used in this study, which focuses on living arrangement, but it is possible that prior 'employment-related' connections reduce the impact of the increased range that some categories of 'living arrangement' connections have on regaining employment. This explanation is consistent with the finding that among those unemployed at enrolment, for the sub-group of those employed since they started benefits, social network 'range' had a smaller impact on entry to employment than for those who had not worked since starting benefits.

The finding that those with developmental disabilities employed at enrolment who live alone are more likely to maintain employment than those with developmental disabilities in all other living situations (who presumably have a greater range in their networks) may be related to the difference between unemployed and employed people with developmental disabilities at enrolment. Among both groups, those who are able to live alone may do so because they have the strongest 'independent living' skills, which may imply also having the strongest 'independent working' skills, reflecting cognitive skills that people in the other disability sub-groups can take

for granted, whether they live alone or with others. For those employed at enrolment, work skills might be an important factor in both maintaining employment and in rapidly acquiring a new job. However, for those unemployed, strong independent work skills, which would not be demonstrated in a recent work history, may be a less significant factor in obtaining work than the connections that social network range implies. Therefore, 'Living alone' could denote a disadvantage for unemployed people seeking work, for whom social network range is important, but an indicator of advantage for employed people with developmental disabilities in maintaining employment, for whom greater independent work skills are important.

Social role theory predicts that individuals will fulfil the expectations of the people in their close, dense social networks, particularly if their 'internalized identity' matches those expectations. The results provide some evidence for this theory, in that those employed at enrolment who report 'Always' having the support of their family and friends for their employment remain in employment longer than those who report 'Never' having such support. However, this relationship was not found in the logit analysis for the whole group, and among the disability subgroups it was found only for those with PD/HIV, not for those with mental illness or developmental disabilities. The significant effect may be limited to the PD/HIV group because they have lower rates of living alone and therefore may have more exposure to close networks and a 'well-defined normative milieu' (Podolny & Baron, 1997) than the other two disability groups.

While the 'Difference' variable was not included in the analysis for those employed at enrolment because it is predicated on an increase in earnings, rather than maintenance in employment, the

'Perception of financial gain' variable was included as a test of an economic model of labor market participation. There was marginal evidence that those who 'Strongly agree' that 'Working will increase my income' remain in employment longer than those who respond 'Not sure', but not any longer than those in any of the other response categories. There was also evidence that among the sub-group of people with mental illness, those who 'Strongly agree' were significantly more likely to remain in employment than those who 'Strongly disagreed' or 'Disagreed.' In interpreting this result, it may be significant that the mental illness sub-group of those employed at enrolment has greater past work experience. This experience over a longer term of the actual effect of earnings on income may increase the accuracy of their perceptions about financial incentives and lead to longer tenure in employment.

In summary, there is evidence that for those employed at enrolment, satisfaction with social support is associated with remaining in employment longer in the survival analysis, and with remaining in employment over two years in the logit analysis, in which other variables are controlled. In the disability sub-group analysis, the relationship holds only for the developmental disability sub-group. There is also evidence that, for those employed at enrolment, always having support for the worker role in close networks is associated with remaining in employment longer, when compared to those who never had such support. This effect is found only for the PD/HIV group in the regression analysis. There is no evidence that, for the whole group of employed at enrolment, social network range or perceived financial gain are associated with remaining in employment longer or over two years. However, there is evidence that the mental illness group who strongly agree that working increases income, remain in employment longer. Overall, the

only consistent effect across the survival and regression analyses for the sample as a whole is for the satisfaction with social support variable.

7.3 Control variables and summary

The results for the control variables in both the 'going to work' and 'staying in work' analyses suggest that people with disabilities who receive disability benefits and who express a wish to work or work more, are affected by some of the same factors as the general population. More years of work experience and younger age are associated with higher entry to employment for the unemployed and more years of work is associated with remaining in employment for those employed. Confirming the research of Brown, Roberts, & Taylor (2010), self-reported health is a strong predictor of employment for those unemployed, but not of unemployment for those already employed. Further, for those unemployed this study suggests that self-reported health is only a strong predictor of entry to employment for those without prior employment since starting benefits. 'Motivation to work' is significant for those unemployed at enrolment, but not for those employed. The 'Labor market' variable, representing distinct geographical areas, is a significant factor for the SSDI and developmental disabilities sub-groups, perhaps reflecting the very different job opportunities in different parts of Wisconsin. Finally, those unemployed at enrolment who have a mental health or developmental disability have higher rates of entry to employment than those with physical disabilities/HIV. Among the employed at enrolment, there is no difference between disability groups in the rates of remaining in employment.

Overall, the strongest finding from the analyses conducted related to the hypotheses are that for unemployed disability benefit recipients who want to work, greater social network range is associated with successful entry to employment. The strongest finding from the analysis of maintaining employment is that satisfaction with social support is associated with remaining in employment. Other than these, hypothesized relationships are not consistent across analyses, suggesting that unmeasured factors may also be important or that these relatively simple analyses are limited in their ability to detect effects.

7.4 Limitations

Like any empirical study, these analyses have limitations. In this section, I discussion limitations in terms of generalizability, measurement, and analysis method.

The analysis is limited in its generalizability to all individuals with disabilities. The sample consists only of people with disabilities who receive SSA benefits and who express a desire to enter employment. This excludes those people whose disabilities do not meet the 'disability test' for benefits, those who (while they may have significant disabilities) are not eligible for benefits due to employment or other income or assets, and those who do not express a desire to enter employment. Similarly, the context in which individuals in the sample made employment decisions was specific to a period of time, to one state and country, and (to a greater or lesser extent for the treatment and comparison groups) to a 'model program.' These factors may limit the applicability of the results of other contexts. For example, prior to the data collection period,

there had been efforts in Wisconsin to develop benefits counselling services and a fairly generous Medicaid 'Buy-in' program had been established, both of which may have lessened barriers to employment that in other states were more restrictive. Therefore, the extent to which any findings from the analysis can be generalized may be limited.

There are also limitations related to measurement. This study took advantage of a rich dataset to explore factors predicted by economic and sociological theory to impact workforce participation. While some justification was given for their validity and reliability in chapter 4, the independent variables used had not been specifically developed to measure the concepts involved as they apply to people receiving disability benefits and they therefore lacked rigorous evidence of their reliability and validity. For example, the variable for 'Satisfaction with social support' was developed as a part of a more general 'Quality of life' measure that had two additional items that made up the scale. While it had the advantages of brevity and wide prior utilization, it did not ask respondents to specify their satisfaction with particular individuals and functions of social support (emotional, instrumental, financial, etc.), which other surveys of satisfaction with social support in relation to employment have included (Lawrence et al., 2007). Information from established surveys about satisfaction with different sources and functions of social support might have produce more nuanced results. Again, social range could have been measured using techniques or instruments that specifically address how far individuals' social connections represent diversity. While the measure used, 'Living arrangement', has some justification in the literature and an intuitive appeal, it does not measure the degree of diversity across the whole network of the individual. In addition, as mentioned in chapter 4, certain living arrangements could imply a greater level of dependence or domestic roles that could compete with a 'worker'

role. Using a more direct measure such as Kadushin's 'sociograms' might have given a more precise indicator of range (Kadushin, 2012).

Although this study improves upon the prior literature by developing a more nuanced measure of returns to work in the 'Difference' variable, the variable is still limited, as discussed in Appendix 4.4. For example, some forms of income and all taxes were excluded, and the introduction of a new waiver for treatment group SSI recipients half way through the data collection period was not included in the calculation of the variable. Moreover, the 'Difference' variable was based on only one level of earnings, which, although justifiable in some respects, may not have represented the job preferences of some of the sample. Perhaps most importantly, the 'Difference' variable was not adapted for the staying in work analyses, so these included no measure of the hypothesis directly related to labor market theory.

Moving on from wage and net income as characteristics of potential jobs, no data was available on other characteristics of available jobs. For example, given the discussion on p.169 about 'compensating differentials', it might have made the models tested more powerful if they incorporated information about available job flexibility, or the constraints of individuals' disabilities. Finally, the dataset does not include a variable that specifically measures severity of disability, which, as mentioned above, has been shown to have an impact in some studies. The 'self-reported health' variable, though, may be a valid substitute for severity of disability.

In addition to the limitations in the variables used, there are other variables that may have contributed to fit of the models, if included. As an example of a factor external to the job-seekers

themselves, certain service providers for both the treatment and comparison groups may have worked in ways that were more productive. Some providers deliberately try to augment the social range of their clients by making relationships on their behalf with local employers, or by using a 'person-centered planning' approach that engages a wide social network in identifying job leads. Again, some providers offer long term follow-up to promote job retention. Unfortunately, such provider information was not available.

As an example of a control variable representing structural factors that could contribute to the analyses, while the labor market variable might have explained some of the variation in employment conditions, it would have been informative to also include a measure of the average local unemployment rate for each person over the two years following their enrolment. Finally, as an example of an additional dependent variable that might have contributed to the identification of 'labor market participation', a combination of active job search indicators, such as interviews, applications, search activities, etc., might have supplemented outcomes (entry to and maintenance in employment) as a measure of the impact of the key independent variables in sociological and labor market theory.

There are also limitations related to the method. While the survival analysis does examine differences in the time to changes in employment status, the main analysis does not take full advantage of the repeated measures of the dependent variables for each person, examining instead whether an individual had any employment over an eight-quarter period. A fixed-effect model or other panel data techniques could be used to ask additional questions.

7.5 Implications for further research

Some of the limitations of the study could be partly attenuated through future research. Four examples are given as illustrations, although more could be derived from the limitations specified in the last section. First, the creation of a variable to model individual net income gain required substantial information which even the detailed available dataset was unable to provide, for example, in relation to dependents and tax status. It also involved a number of assumptions that should be further explored, particularly in relation to assets owned by individuals. In addition, the variable measured net income only in terms of one earnings level. Future research could test the robustness of such an approach by developing similar variables using other earnings levels.

Second, given the finding that 'perception of financial gain' had an impact on remaining in employment for the largest disability group (mental illness), and given that there was not a measure of the impact of potential net loss of income through job loss for those in employment, future research could explore whether differences in potential loss in net income impact remaining in employment.

Third, while results for the impact of social network range were similar across all sub-groups, other results appeared to be disability-specific. The sub-groups used might themselves have 'hidden' significant variation by disability type, particularly in the PD/HIV group. Future research should ensure that information on disability benefit recipients includes finer distinctions related to disability type.

Finally, significant results for the self-reported health control variable in the 'going to work' analysis, but not in the 'staying in work' analysis, confirm prior research (Brown et al., 2010) that health impacts entry to employment but not maintenance in employment. Future research should include a measure of self-reported health in analyses of entry to work by people with disabilities.

Moving on to some broader implications for future research, few of the hypothesized relationships in this study showed strong or consistent relationships with the dependent variables. This may mean that the state of knowledge about how individuals with disabilities make employment decisions is quite limited, perhaps even that the current paradigms for understanding such decisions are missing significant factors. Two research directions may be particularly helpful. First, building on the finding that social range is predictive of entry to employment, and on the conceptual relationship between the individual social range and social capital, studies could explore the structural characteristics of networks in local communities and how such factors might be related to the employment rates of people with disabilities. Second, as a way of identifying relevant variables to include in additional quantitative studies of large datasets using standardized instruments, a more in-depth qualitative approach may be an important avenue for future research. As described in chapter 3, such studies have been conducted focusing on some individuals and contexts, but it may be helpful to do so with the particular groups that are the subjects of the kind of study reported here. For example, if individuals in the Pathways project had been interviewed in depth over time about their experience of seeking, finding and maintaining employment, it may have revealed important

factors, such as access to accommodating employers, that could have been included in the data collection and analysis.

7.6 Implications for economic and sociological theory

The findings of this study suggest that labor supply theory derived from neo-classical economic principles does not explain the labor market decisions of unemployed people receiving disability benefits who wish to work. It is possible that larger sample sizes and longer time periods, as well as remedies for the limitations of the study noted above, may produce significant effects for the 'Difference' variable. However, it is also possible that financial incentives are not particularly important in moving individuals with disabilities into work. Data on other job characteristics than wage and net income, such as flexibility to attend medical appointments or request leave at short notice, may be more associated with entry to employment. However, such data were not available in the dataset used.

The sociological theories fare somewhat better at explaining employment outcomes. The concept of 'social range' has been extensively used to explain success in job-seeking, although for some groups, as described in chapter 3, other characteristics of social networks seem more important in successful job-seeking. The findings of this study provide evidence that social network range impacts entry to employment for disability benefit recipients. Further findings of research that specifies in greater detail the nature of the relevant network range factors may contribute to the development of both theory about the relationship between the sub-groups of job seekers and the 'range' factors that promote entry to employment. Mathematical models

could be used to estimate the power of different network configurations in increasing successful job seeking. Such configurations might represent refinements in the development of theory about network range.

'Satisfaction with social support' is related to maintenance in employment in this study. As mentioned in chapter 3, some literature suggests that this may be a psychological factor related to prior experiences and personality rather than to current network characteristics. Further exploration in theory and in research of the relationship between this factor and other aspects of social support could promote understanding of the findings in this study. The other construct suggested by sociological theory that was tested in this study, how far close networks are seen as supporting a 'worker' role, did not show consistent relationships. It may be that this is a valid construct that was not measured well, or it may be that the construct needs more precise specification than was achieved in this study.

Finally, both theories, at least in their simplest forms, tend to hypothesize a group of factors related to employment, without much differentiation between whether the factors related to getting employment might be different from the factors related to staying in employment. Some work in this area exists (for example, Burt's work on network characteristics related to promotion (Burt, 2001)), but the findings here suggest that further theoretical development differentiating these processes might be useful.

7.7 Implications for policy and practice

Programs to encourage people receiving disability benefits to enter employment have focused on two approaches, based on two 'common-sense' assumptions, that if policy 'makes work pay' and if people with disabilities have access to professional assistance, entry to employment will increase. The first approach involves increasing the net financial returns to work as benefit recipients attempt employment. For example, the SSI program allows recipients to earn $65 per month before deducting any benefit, and over that amount only reduces the benefit amount by 50% of earnings. Recent pilot programs changed the 'benefit offset' to 25% (Kregel, 2006). As another example, the SSDI program allows beneficiaries to earn $1070 per month, and over this amount for up to 9 months, before ending benefits. Again, recent pilot programs introduced a gradual reduction in benefits for those earning over $1070 per month (Delin, Hartman, Sell, & Brown-Reither, 2010). So far, there is no rigorous evidence that such programs have had success in increasing entry to, and maintenance in, employment. While evaluations of the SSI waiver demonstration projects, such as the Wisconsin SPI project, showed evidence of increased employment by waiver participants, this was in the context of a multi-faceted intervention in which the waiver effect was not isolated. In the UK, the present government is in the beginning stages of implementing a fundamental change to the benefits system, named 'Universal Credit', with the slogan 'Simplifying the welfare system and making sure work pays.' It replaces all means tested unemployment and disability benefits and working tax credits (other than housing benefit), and claims to ensure that "people are always better off in work than not working and provides certainty that increased effort will always result in increased reward" (DWP, 2010). It

attempts to address both the reality and the perception of financial incentives, so that "work always pays and is seen to pay" (p.1).

This research finds no evidence that changing the incentives would have an effect on employment for people with disabilities receiving benefits. The idea that work should pay is an attractive one, but there is no evidence here that it would be likely to have large effects on entry to employment. The results also do not provide evidence that unemployed people with disabilities who hold the *belief* that working will increase their income are more likely to enter employment. To the extent that government policies actually have work incentives and provide benefits counselling that aims to clarify these work incentives, these results do not suggest that this will impact rates of entry to employment for people with disabilities in equivalent circumstances to those in the sample. An emphasis on 'making work pay' in return to work policies for people with disabilities may be ineffective, at least for unemployed people with disabilities who wish to enter employment. Indeed, such a policy may distract those involved in supporting job seekers with disabilities from offering more relevant services.

The second approach involves increasing the availability of professional supports for employment. Through the federal vocational rehabilitation system and more recently through the 'Ticket To Work' (TTW) program's private providers, benefits advice, counselling, and practical help have been made available to benefit recipients with the aim of encouraging them to enter, and remain in, work. However, the most recent evaluation by Mathematica of the TTW program concluded that "rigorous impact analyses failed to provide strong evidence of its impact on employment" (Livermore, Mamun, Schimmel, & Prenovitz, 2013). An evaluation of a similar

pilot program using private providers in the UK concluded that "There was no satisfactory statistical evidence that the value of the impact of Provider Led Pathways on employment was greater than zero" (Knight et al., 2013), when compared to 'services as usual.' In both the US and the UK, it seems that government attempts to encourage people receiving disability benefits into employment, and thereby reduce benefit expenditure, through 'making work pay' and providing expert advice have not produced the desired results. This study does not directly address whether providing expert advice would be expected to increase employment, but it does suggest that this may be more successful if the advisors focus on engaging and trying to increase the range of their clients' social networks.

For unemployed people with disabilities looking for work, greater range may be particularly important because the contacts will take into account any special needs for accommodations, in contrast to using the 'public', advertised job market. Government policy designed to encourage unemployed people with disabilities to work could take account of the impact of social network range in a number of ways. At a structural level, social networks in a community are the potential range for any individual. At the broadest level, governments can implement multiple policies "to constantly build and rebuild the relationships between and among local residents, local associations and local institutions" (McKnight & Kretzman, 1993), from developing common public spaces to hosting community forums. On a more direct level, social work services could encourage job seekers to specifically 'activate' their networks, by meeting with their social contacts to consult about their employment goals, individually or as a group of advisors, as in some forms of 'person-centered planning'(Claes, Van Hove, Vandevelde, van Loon, & Schalock, 2010). Programs to support people with disabilities into employment could

pay more attention to social range, rather than focusing on individualized services. While the results of the study reported here largely, but not exclusively, concern personal, close networks, attempts to broaden the range of networks could be undertaken by employment and community support programs. One example may be 'clubhouse' programs for people with serious mental illness, which are designed in part to increase the range of networks through voluntary work activities and through structured contacts with employers. Evidence from randomized controlled trials suggests that the approach is more successful in raising the employment rate of participants than other evaluated programs that are based on an individualized support model. (Macias, et al, 2006; McKay, et al, 2006). To the extent that such programs are more or less expensive than existing services such as those offered by DVR counsellors and most supported employment services, it would be worth considering, in the light of the odds ratios found in the analyses, changes to services that might produce cost-effective outcomes.

The analysis reported in Chapter 6 on disability benefit recipients who are employed generally found few variables consistently related to maintaining employment. However, in the sub-group of those with mental illness, there was good evidence that those 'strongly agreeing' that working would increase their income remained in employment more than those who 'strongly disagreed' or 'disagreed.' These results suggest that programs that seek to support job retention should ensure that employed people with disabilities understand that work does increase income, through both benefits counselling, and through ongoing financial counselling. Currently many benefits counselling services do not provide effective long term support once people enter employment or they end prematurely. For example, in the US, the evaluation of the 'Work Incentives Planning and Assistance' program shows that only 14% of 'clients' had a re-

assessment when they had a significant change of circumstances (Schimmel, Prenovitz, Livermore, & Bryce, 2013). In the UK Pathways to Work program, providers are paid in full and generally terminate services when a client has maintained a job for six months, despite the fact that overpayments and benefit terminations can occur much later. If 'Strongly agreeing' that working increases income is associated with remaining in employment at least for some subgroups, then supporting or encouraging that belief through intensive and ongoing benefits counselling aimed at maximizing net income should be a part of any employment retention program.

The variables representing sociological theory were also tested in the analysis of those employed at enrolment. There was evidence that for the entire sample, and particularly for the developmental disabilities sub-group, satisfaction with social support had an impact on remaining in employment. It may therefore be advisable for government employment programs to adopt a broader 'community support' role, or be integrated into 'community support' programs for people with disabilities. Helping to negotiate harmonious family relationships, facilitating social activities, and giving housing support may serve to increase satisfaction and employment tenure. An example of this may be found in the Program of Assertive Community Treatment (DeLuca, Moser, & Bond, 2008) , which integrates all these activities along with employment support and has some evidence of successful employment retention outcomes.

There was also evidence that, for the PD/HIV sub-group only, 'always' having support for the worker role had an impact on remaining in employment over two years, compared to 'never.' Programs to promote retention in employment could take account of this perspective, and the

results of this study, in several ways. Involvement of family in rehabilitation programs has long been advocated and studied (Kelley & Lambert, 1992), but the field has generally continued to take a highly individualized approach (Leggatt, 2002). However, there are examples of good practice in engaging families to support the employment of people with disabilities (McFarlane et al., 2000). At the most basic level, "VR counselors might advise consumers of potential benefits that can result from family involvement and may want to point out that individuals who do not have the support of family can be at greater risk of dropping out of the process", as Parker (2000) suggests (p.27). At a more sophisticated level, families can be at the center of a comprehensive process designed to engage close social networks in supporting the worker role, as in some iterations of 'Person-centered Planning' (Mansell & Beadle-Brown, 2004).

Clearly, resources for governmental programs to promote entry to, and retention in, employment by people with disabilities are limited and some of the above suggestions for program components would entail significant expenditure. However, the results of this study provide evidence that the population of concern to government policy makers, disability benefit recipients who are prepared to consider working, or working more, are not primarily motivated by the main theme of 'return to work' policies, that of 'making work pay', at least in terms of entry to employment. The study provides some evidence that greater social 'range' has an impact on entry to employment and that satisfaction with social support and support for the worker role by close networks, as well as a strong perception that working increases income, may impact job retention. Evaluation of pilot policies that incorporate some of the above program innovations might increase knowledge of how people who receive disability benefits can be supported to realize their employment goals.

Appendices

Appendix 1.1: *Estimate of annual UK expenditure on selected disability benefits that could be affected by changes in the workforce participation rates of beneficiaries and potential beneficiaries*

	Beneficiaries (£1000s)	*Ave. wkly. benefit (£s)*	*Annual cost (£100,000s)*
Disability Living Allowance, ages 18-64, May 06	1,590	60	4,926
Incapacity benefit (IB), ages 18-64, May 06	1,717	85	7,592
Income support (IB-related), ages 18-64, May 06	1,188	78	4,841
Income support (others on income related benefit incl. disability premium), ages 18-64, May 06	67	63	221
*Housing benefit, ages 18-60, May 00**	780	51	2,088
*Council tax benefit, ages 18-60, May 00**	853	10	479
Total:			20,149
****Total excl. DLA:**			**15,222*****

***** Most recent data available. Housing and Council Tax Benefit are locally administered and have longer reporting timelines.

****DLA can be paid in full as an in-work benefit and working should not affect entitlement to this benefit, so in theory at least, increased employment by people with disabilities would not lead to lower cost for this benefit.

*******There are other benefits and services that could be affected by increased workforce participation by people with disabilities. For example, the cost of the vocational rehabilitation services could either increase or decrease.

Data Source: DWP Work and Pensions Longitudinal Study (WPLS) (http://193.115.152.21/100pc/tabtool.html)

Appendix 1.2: ***Estimate of annual US expenditure on selected disability benefits that could be affected by changes in the workforce participation rates of beneficiaries and potential beneficiaries***

	Beneficiaries in current-payment ($1000s)	*Average monthly for benefits in current-payment status ($)*	*Annual cost ($100,000s)*
SSDI Disabled workers, Dec, 05	6,518	938	73,367
SSDI Spouses and children, Dec 05	1,787	Spouses 246, Children 279	5,575
SSI Disabled, 18-64, Dec 05	4,100	456	22,435
Disabled housing subsidy recipients, under 62, Dec 05	1,132,017	421	5,719
Food Stamps for people with disabilities, 2005 monthly ave.	4,100	93	47,500
		Total:	**154,596***

*There are other benefits and services that could be affected by increased workforce participation by people with disabilities. For example, the cost of the vocational rehabilitation services could either increase or decrease.

Data Sources: SSA, 2006; http://www.huduser.org/Datasets

Appendix 1.3: ***The potential effect on public expenditure of factors related to employment rates of people with disabilities.***

While it is clear that there is a higher level of unemployment among people with disabilities than the general population, the effect on government expenditure of changes in that level is dependent on a variety of factors that are hard to estimate. Certainly, during periods of low unemployment, more people with disabilities are drawn into the labor market and the number of people on disability benefits tends to decline (Stapleton, Coleman, Dietrich, & Livermore, 1998). The inverse also seems to apply. Stapleton et al estimated that a 1% rise in the unemployment rate led to a 4% increase in SSDI applications in the US. However, that does not necessarily mean that measures to increase the proportion of people with disabilities who work will lead to lower government expenditure, particularly in times of high unemployment. It could be, for example, that if a person with a disability enters employment at a time of high unemployment, that person would simply displace a non-disabled person. Following labor market theory, one would expect an increase in the labor supply to lower wages and increase employment, although not by as much as the increase in labor supply, implying that some workers will either not find work or be displaced. While there does not seem to be direct evidence about this issue for people with disabilities, a study of policies to increase workforce participation by another group targeted by government, single mothers (Lerman & Ratcliffe, 2001), points to the "serious concern" that even in a booming economy "the increase in jobs for welfare recipients may be coming at the expense of jobs for other, less skilled workers" (p.3). In an article considering the same topic, Bartik (1999) concludes that "the best evidence suggests that labor demand for lower skill groups is not very responsive to wages" and "the labor market effects of welfare reform on less-educated women will mainly occur through displacement" (p.3). For less skilled people with disabilities, it seems likely that greater labor force participation will cause displacement of less skilled non-disabled workers, at least in the short term.

A newly-employed disabled person is more likely to be entitled to tax credits and possibly direct subsidies to the employer. Eligibility for tax credits is open to all low paid workers in the UK and US, and in the UK people with disabilities receive higher levels of tax credit. While tax credits provide an incentive for people to enter the labor market and leave benefit programs, they also reduce incentives to work longer hours and might have an overall depressing effect on wages. Direct subsidies to employers are available in the UK, but have low take up by employers. In the US, businesses can apply for a tax credit for hiring a person with a disability. The costs of these are significant ($400m pa in the case of the Working Opportunity Tax Credit (Weiss, 2001)), and would increase if more people with disabilities entered the labor force, as might the costs of other supports for people with disabilities, such as job coaching and case management. Because of relatively high earnings limits for some benefits, a proportion of any increase in employment of people with disabilities will make no difference to the cost of benefits, and the cost of earnings-related, contribution-based public benefits may increase in the long run by making more people eligible who are likely to claim benefits. In addition, given that non-disabled people are more likely to have dependents, benefit costs for the household are likely to be higher for the displaced worker. Furthermore, given that the propensity of people without dependents to save is greater (Tin, 2000), the stimulating effect on the economy and on government income from taxes could be less if a person with disabilities rather than one without entered employment, given that people with disabilities tend to have fewer dependents. Again at

a macro-economic level, higher workforce participation by people with disabilities might have a depressing effect on wages, which would in turn reduce government revenue from taxes on earnings.

In conclusion, it seems likely that higher workforce participation by people who are entitled to public disability benefits would reduce expenditure on those benefits, would probably have a positive net effect on overall government expenditure during times of low unemployment, and potentially could have a positive effect on government income and expenditure as a whole.

Appendix 4.1: Frequency of completion of enrolment and follow-up surveys

Enrolment survey – at enrolment
First Follow-up survey – 12 months after enrolment
Second Follow-up survey – 24 months after enrolment

	Total	*Died*	*Not enrolled at date of survey*	*Not due to complete survey by end of data collection period (06/30/03)*	*Attempted to survey*	*Completed*
			All			
Enrolment	1166	0	0	0	1166	1064 (91.3%)
First follow-up	1166	7	22	0	1137	769 (67.6%)
Second follow-up	1166	23	58	59	1026	546 (53.2%)
			Intervention Group			
Enrolment	556	0	0	0	556	526 (94.6%)
First follow-up	556	6	23	0	527	331(62.8%)
Second follow-up	556	15	46	59	436	207 (47.5%)
			Comparison Group			
Enrolment	610	0	0	0	610	538 (88.2%)
First follow-up	610	0	0	0	610	438 (71.8%)
Second follow-up	610	8	12	0	520	339 (57.5%)

Appendix 4.2: Frequency/Distribution of Variables by Sample

Categorical variables:

	Whole sample (n=1166)		Unemployed at enrolment (n=722)		Employed at enrolment (n=429)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Comparison / Treatment group						
Comparison gp	610	52.3	372	51.5	234	54.5
Treatment gp	556	47.7	350	48.5	195	45.5
Age						
<25	126	10.8	75	10.4	48	11.2
25-54	962	82.5	589	81.6	364	84.8
>54	78	6.7	58	8	17	4
Primary disability						
Phys Dis / HIV	468	40.1	316	43.8	144	33.6
MH problem	356	30.5	188	26	166	38.7
Dev dis	338	29	214	29.6	119	27.7
Missing	4	0.3	4	0.6	0	0
Gender						
Male	603	51.7	377	52.2	215	50.1
Female	506	43.4	306	42.4	197	45.9
Missing	57	4.9	39	5.4	17	4
Race						
Other	215	18.4	141	19.5	69	16.1
White	889	76.2	541	74.9	339	79
Missing	62	5.3	40	5.5	21	4.9
Labor market						
Milwaukee, Waukesha, Ozaukee, Washington	371	31.8	237	32.8	126	29.4
Racine, Kenosha, Walworth, Jefferson	115	9.9	78	10.8	37	8.6
Dane	186	16	103	14.3	82	19.1
Brown	40	3.4	23	3.2	17	4
Winnebago, Outagamie, Calumet	43	3.7	21	2.9	22	5.1
La Crosse, Vernon	49	4.2	42	5.8	7	1.6
Portage, Marathon, Wood	57	4.9	34	4.7	23	5.4
Other	305	26.2	184	25.5	115	26.8
Living arrangement						
Alone	373	32	221	30.6	148	34.5
Spouse/SO	229	19.6	150	20.8	75	17.5

Adult Friend(s)	48	4.1	25	3.5	22	5.1
Other Family	104	8.9	63	8.7	39	9.1
Parents	178	15.3	109	15.1	67	15.6
Other Adults	80	6.9	54	7.5	26	6.1
Other	14	1.2	12	1.7	2	0.5
Missing	140	12	88	12.2	50	11.7
Education						
<HS	222	19	151	20.9	68	15.9
= HS	386	33.1	214	29.6	167	38.9
>HS	470	40.3	302	41.8	162	37.8
Missing	88	7.5	55	7.6	32	7.5
Health						
Excellent	115	9.9	66	9.1	49	11.4
Very good	207	17.8	112	15.5	93	21.7
Good	309	26.5	184	25.5	120	28
Fair	281	24.1	187	25.9	90	21
Poor	110	9.4	81	11.2	27	6.3
Missing	144	12.3	92	12.7	50	11.7
Perceived financial gain						
Strongly disagree	30	2.6	21	2.9	9	2.1
Disagree	27	2.3	16	2.2	11	2.6
Not sure	115	9.9	81	11.2	33	7.7
Agree	206	17.7	126	17.5	78	18.2
Strongly agree	652	55.9	390	54	252	58.7
Missing	136	11.7	88	12.2	46	10.7
Perceived support for employment						
Never	37	3.2	22	3	15	3.5
Sometimes	111	9.5	51	7.1	58	13.5
Usually	119	10.2	58	8	59	13.8
Always	322	27.6	146	20.2	173	40.3
Missing	170	14.6	107	14.8	60	14
Not empd since benefits began	407	34.9	338	46.8	64	14.9

Continuous variables:

		Years of Work Experience at Enrolment	Satisfaction with Social Support Scale 1-5	Motivation to Work Scale 1-5	Difference in Total Income w $750 Earnings increase
Whole sample					
N	Valid	1166	1014	1001	1166
	Missing	0	152	165	0
Mean		15.50	3.65	3.53	527.89
Percentiles	20	7.00	2.67	3.00	398.22
	40	12.00	3.33	3.40	502.50
	60	17.00	4.00	3.80	750.00
	80	24.00	4.67	4.20	750.00
Unemployed					
N	Valid	722	628	617	722
	Missing	0	94	105	0
Mean		14.33	3.58	3.50	591.86
Percentiles	20	6.00	2.67	3.00	472.50
	40	10.00	3.33	3.40	502.50
	60	16.00	4.00	3.80	750.00
	80	22.00	4.67	4.20	750.00
Employed					
N	Valid	429	373	372	429
	Missing	0	56	57	0
Mean		17.31	3.78	3.56	418.02
Percentiles	20	10.00	2.93	3.00	345.00
	40	14.00	3.67	3.40	375.00
	60	19.00	4.33	3.80	750.00
	80	26.00	4.67	4.20	750.00

Appendix 4.3: Missing values analysis

Variable	Unemployed			Employed		
		Missing			Missing	
	Valid N	Count	Percent	Valid N	Count	Percent
Satisfaction with social support	718	93	13.0	429	56	13.1
Living arrangement	718	87	12.1	429	50	11.7
In most recent job since disability benefits began, had support of friends and family for employment	718	106	14.8	429	124	28.9
Difference in total income w $750 per qtr earnings increase	718	0	0.0	429	0	0.0
Benefit status	718	0	0.0	429	0	0.0
Perception of financial gain	718	87	12.1	429	46	10.7
Treatment/comparison group	718	0	0.0	429	0	0.0
Primary disability	718	0	0.0	429	0	0.0
Labor market area	718	0	0.0	429	0	0.0
Age	718	0	0.0	429	0	0.0
Gender	718	38	5.3	429	17	4.0
Race	718	39	5.4	429	21	4.9
Education	718	54	7.5	429	32	7.5
Years of work	718	0	0.0	429	0	0.0
Self-reported health	718	91	12.7	429	50	11.7
Motivation to work	718	104	14.5	429	57	13.3

The strategy for dealing with missing values in the logit regression analyses was as follows:

1. The 4 cases missing primary disability status are excluded from the samples used. For all other categorical variables, missing data are treated as a separate category, thereby ensuring that those cases are included in the analysis and that some information is obtained about whether the missing category varies systematically in relation to the

dependent variable. If there are few cases missing and collinearity is high, the missing cases are excluded from the analysis.

2. Two continuous variables have missing data, ‘Satisfaction with social support’ and ‘Motivation to work.’ Cases missing these variables were assigned the mean and indicator variables created to differentiate these imputed cases.
3. Tests using the full information sample generally showed similar results.

Appendix 4.4: Calculating total income given a $750 per quarter increase in earnings in the enrolment quarter:

Logic for calculating SSI when earnings>SGA and for other factors in calculating current and predicted income

The basic approach in this procedure for estimating work incentives is to calculate how much net income would change if an individual earned an additional $750/quarter. The procedure begins with identifying the sources of income the individual has at the point of enrolment, considering SSDI, SSI (both the federal amount and the state supplement), Food Stamps, and earnings. Calculations are then needed for whether any of the amounts of these other sources of income would change if earnings were $750/quarter higher. However, a straightforward calculation of current benefit levels according to the formula reveals a problem: some individuals are not currently receiving the level of benefits that they are entitled to according to the formula (the dataset includes SSA records of actual benefit payments). This is not surprising given the high frequency of adjustments to benefits, overpayments and reporting of changes in circumstances. For these individuals, the calculated change in benefits following a $750/quarter increase in earnings is based on the 'adjusted' benefits (i.e., according to the formula rather than the actual amount paid). Thus, the basic approach is to calculate current 'adjusted' benefits based on the formulas, using a variety of assumptions detailed below, and aggregating these into "current" income (that may or may not match reported current income). Then I calculate 'projected' benefits if there were an extra $750/quarter of earnings, using the formula, and aggregating these amounts into 'projected' net income. The difference between 'projected' and current 'adjusted' is then used as a measure of work incentives. These calculations are not straightforward in many cases, and the purpose of this appendix is to document these assumptions and provide rationales.

Assumptions:

1. *If earnings are over the Substantial Gainful Activity level (SGA), the person has made the decision to end SSDI.* Given this, when earnings > SGA, SSDI can be treated as 0 in calculating current income and income given a $750 per quarter increase. Few people will earn over SGA just for the Trial Work Period (TWP) of 9 months (or up to12 if they know about the 'grace period'). In addition, people will be concerned that their work effort in the TWP will be counted as evidence of ability to work and this may threaten their entitlement to disability benefits. Unless they have made a decision to give up their benefits, they will not begin to earn over the SGA limit. They will also consider the disruption to their family life and budget of starting to work at over SGA then ending the job less than 9 months later. Evidence to support this assumption that people do not earn >SGA for only 9-12 months can be found in (Liu & Stapleton, 2010) report that of the cohort that entered the SSDI program in 1996, 10% had completed the TWP and 6.7% had had benefits suspended by 2006. This shows that the majority of those who complete the TWP continue to earn over the SGA level rather than subsequently 'parking' at just under the SGA level (the 6.7% figure will be higher if the outcomes for those who complete the TWP are tracked over a longer period). To test this assumption, the earnings of people with SSDI and wages exceeding SGA in the enrolment quarter were examined to see if they earned over SGA in more than 3 quarters,

which would indicate that their SSDI had ended. The number of quarters in which they did not receive SSDI after the enrolment quarter was also calculated in order to further test whether they had actually ended SSDI. These tests confirmed that people who exceed SGA continue to do so beyond the TWP.

2. *Assets do not increase while someone is on benefits.* SSI receipt at any point in the 26-quarter data collection period is therefore assumed to indicate eligibility at any other point in terms of asset thresholds. With income at the SSI level, there is little opportunity to amass savings, and no incentive to do so beyond the $2000 threshold at which SSI terminates. While there may be some exceptions (e.g., inheritance), it is assumed that such amounts are rapidly 'spent down' to ensure continuity in SSI income.

3. *Unearned income ('UI') (e.g., alimony) other than SSDI and SSI does not change over the period of available data.* SSI receipt at any point in the 26- quarter data collection period is therefore assumed to indicate eligibility at any other point in terms of unearned income (UI). While the dataset does not include information on UI, for people who receive SSI, UI could be imputed given that information is available on SSDI, earnings and SSI amounts.
In using UI as part of calculations of SSI in hypothetical circumstances in which SSDI or earnings change, the imputed UI from the relevant quarter could be used. If it is not possible to impute from this quarter (because the person did not receive SSI in that quarter), for people with SSI in at least one quarter, mean amount of UI for quarters in which it was received for that the person could be used. For people with no SSI in any quarter (thereby making presence of UI unknown), and for whom it is not possible to establish that there is no entitlement to SSI (that is, there are not quarters in which SSDI and earnings < federal SSI level), it could be assumed that if the majority of people with SSI have UI in at least one quarter (or the majority of quarters in which they receive SSI, to lessen the likelihood of falsely imputing UI on basis of underpayments of SSI), mean amount of UI for quarters in which it was received across all people with SSI could be used. (Of 731 who receive SSI in at least one quarter, the majority, 385, have UI, the mean of which is $279.72.) An alternative strategy might be to take the net positive amount, if any, of SSI over- and under-payments.

   The problem with the methods of imputing UI described above is that SSI amounts below the SSI level may be due to, rather than UI, delays or errors in calculating the correct SSI amounts, which in turn could be due to the unavoidable and variable period from receiving information to changing benefits, or to a failure to report earnings changes. Even though the use of a mean UI may even out delays in responding to earnings changes, delays in the adjustment of SSI and SSDI in relation to changes in earnings could still produce 'false positive' imputation of mean UI. The possibility of 'false positives' in the imputation of UI introduces a large amount of uncertainty into the above procedures. Nationally, only 8% of 18-64 year old SSI recipients have UI (CBPP, 2011). Given the assumption addressed here, that '*Unearned income (e.g., alimony) other than SSDI and SSI ('UI') does not change over the period of available data',* it is possible to disregard UI altogether in the calculation of the variable of change in total income given a $750 per quarter increase in earnings in relative quarter 0. If total income given actual earnings is calculated using an SSI amount that is the entitlement to SSI in relative quarter 0 if disregarding any UI amount of SSI entitlement, then the difference between this and total income given a $750 increase in earnings, again

calculated using an SSI amount that is the entitlement to SSI if disregarding UI, will not be affected by the disregard of UI, as long as it is the same amount. This will be the case as long as SSI would still have been received given the level of UI. If SSI payments would have ended, then difference in total income will be underestimated by 50% of the UI amount up to the level of earnings that would have implied the ending of SSI payments if no UI had been present. Given the likely small number of cases where this would apply, the likely low UI amounts involved, the relatively narrow earnings range over which it would apply and the likely small impact of the difference estimate, this underestimate is disregarded.

4. *People will understand that their current SSI in any period may not reflect their entitlement given their earnings and SSDI in that quarter.* As described above, changes in earnings and SSDI are often not reflected in changes to SSI in the same month they occur. Given this, in calculating current total income, amount of SSI entitlement amount of SSI entitlement will be used instead of actual amount of SSI received. In addition, given '1' above, some people are assumed to have no SSDI if their earnings >= SGA, and thus their eligibility for SSI and the amount need to be calculated. .

   In calculating amount of SSI entitlement for the enrolment quarter, it is assumed that participants did not use the waiver. The SSI waiver did not become available until the second quarter of 2001. 140 participants in the treatment group enrolled in or after this quarter and only70 were SSI recipients, who would have had the waiver available at enrolment. Only 23 of these worked and would therefore have been able to gain in total income by using the waiver in the enrolment quarter. For these, their amount of SSI entitlement would have been greater by (.25 x (Wage_ – (65 or 85 x 3))). For all the 70 SSI recipients, their SSI_750 would have been higher by (.25 x (Wage_750 – (65 or 85 x 3))), or up to $140 per quarter.

5. *People will only take into consideration the effect of Food Stamps (FS) on total income if they already claim FS, and they will only take into account the amount to which they are entitled rather than the amount they actually receive in any period, which they will realize may not reflect current entitlement.* Food Stamp amounts are shown only for people who are reported (in available WI Dept of Health and Family Services administrative data) as in receipt of FS in the enrolment quarter and their value is equal to the calculated amount (below) using the relevant formula, rather than the reported amount, which appears to be frequently unrelated to eligibility or to the FS means-test formula. FS amounts are calculated as follows:

6. *State Supplement is zero if no federal SSI is paid in a quarter, unless there is evidence about the 'grandfathered' status of the S.* Since January 1, 1996, recipients must have a federal SSI payment in any month in order to receive state SSI supplement that month. The only exceptions are those who, in November 1995 in Wisconsin, were not receiving federal SSI cash benefits, but were receiving SSI supplementary payments. These are known as "grandfathered" state-only SSI recipient**s**, and they only lose entitlement to the state supplement if they are found to no longer meet the SSA criteria as disabled. The dataset

contains no direct indicator of 'grandfathered' status. However, for all but 234 people, this status can be derived from available information, as follows:

6.1. If date of start of benefits is after 31 Oct 1995 (375 people), the person cannot be 'grandfathered'. (Therefore, 791 could be grandfathered).

6.2. If the person has no State SSI supplement in any quarter before the first quarter after enrolment, he/she cannot be 'grandfathered'. Of the 791 with a 'date of disability' after 31 Oct 1995, 398 had no State SSI supplement in one or more quarters before the first quarter after enrolment the enrolment quarter, so cannot be 'grandfathered'. (Therefore, 393 of the 791 could be grandfathered).

6.3. If the person has State SSI supplement without SSI, the person must be grandfathered. Of the 393 with State SSI supplement in every quarter prior to the first quarter after enrolment the first quarter after enrolment, 159 had State SSI supplement and no SSI in at least one quarter, and therefore must be 'grandfathered' (This logic is difficult to operationalize if there is State SSI supplement and no SSI in only one or two quarters, because it is possible that State SSI supplement could be present in a quarter which has no SSI because of the lag in response to SSI ending rather than grandfather status, showing as a decrease in the quarterly amount rather than no SSI. A 'manual' examination was used to remove attribution of grandfathered status from those that showed a reduction in State SSI Supplement rather than a continuation of State SSI supplement at the previous level. Of the people who had State SSI supplement with no SSI in any quarter, who had State SSI supplement in every qtr prior to the first quarter after enrolment and who had a date of disability earlier than 31 Oct 1995, 4 people had only State SSI supplement in one qtr only (425, 532, 857, 1141), and 3 in 2 quarters, (367, 449, 892). On examination, 857, 1141, 449 and 892 were found to not have a reduced amount of State SSI supplement and are included in the 159 deemed as 'grandfathered'.)

6.4. Of the 234 who have a date of disability prior to 31 Oct 1995, State SSI supplement in every quarter prior to the first quarter after enrolment , and no quarter in which they had State SSI supplement without any SSI, 22 had a cessation of federal SSI due to the $750 per quarter increase in earnings. A manual review of these people, showed that 12 ended State SSI supplement as SSI ended for short periods after the first quarter after enrolment and so it can be concluded they were not 'grandfathered'. The remaining 10 did not have sufficient evidence to ascertain their status, and are therefore subject to the assumption described above, that they are not grandfathered and State SSI supplement ceases when no SSI payment is made in a month,

7. *If a person becomes eligible for SSI (for example, through loss of SSDI), the person would receive State SSI supplement at the most common 'basic' level (i.e., not including the 'E' supplement), which is $236 per quarter.*

8. *Taxes will not be taken into consideration in calculating the variable.* There is insufficient information in the data set to estimate tax liability for each person. However, taxes are

unlikely to affect the work incentives of many of the Pathways sample, and would not affect the incentives for those unemployed at enrolment in the calculation of the 'Difference' variable, which is based on earnings of $3,000 pa. In 2001, the standard deduction and the person al allowance for a single person totaled $7,450, after which tax was paid at the marginal rate of 15%. Federal taxes are not paid on Social Security benefits, as long as half the benefits plus other income does not exceed $25,000 pa. State taxes are not paid on Social Security benefits in Wisconsin.

9. *EITC can be ignored in calculating the impact of a $750 per quarter earnings increase.* Earned Income Tax Credit (EITC) will only have a significant effect on the total income of people with children, at earnings levels that exclude them from receiving disability benefits.

10. *Earnings increases have little impact on housing benefit.* While it is used by 30% of people and can involve a 3:1 offset against earnings, housing benefit is not affected for at least a year and in most cases much longer and the offset is against total income rather than just earnings. In addition, data is not available on which people receive the benefit.

11. *The increased costs of long-term care services in response to earnings increases is minimal.* It would only affect the 17% of people who use such programs and the impact is likely to be low. In addition, data on costs for people in these programs is not available.

Calculation of change in total income given $750 increase in earnings in relative quarter 0:

1. Calculate current total income:

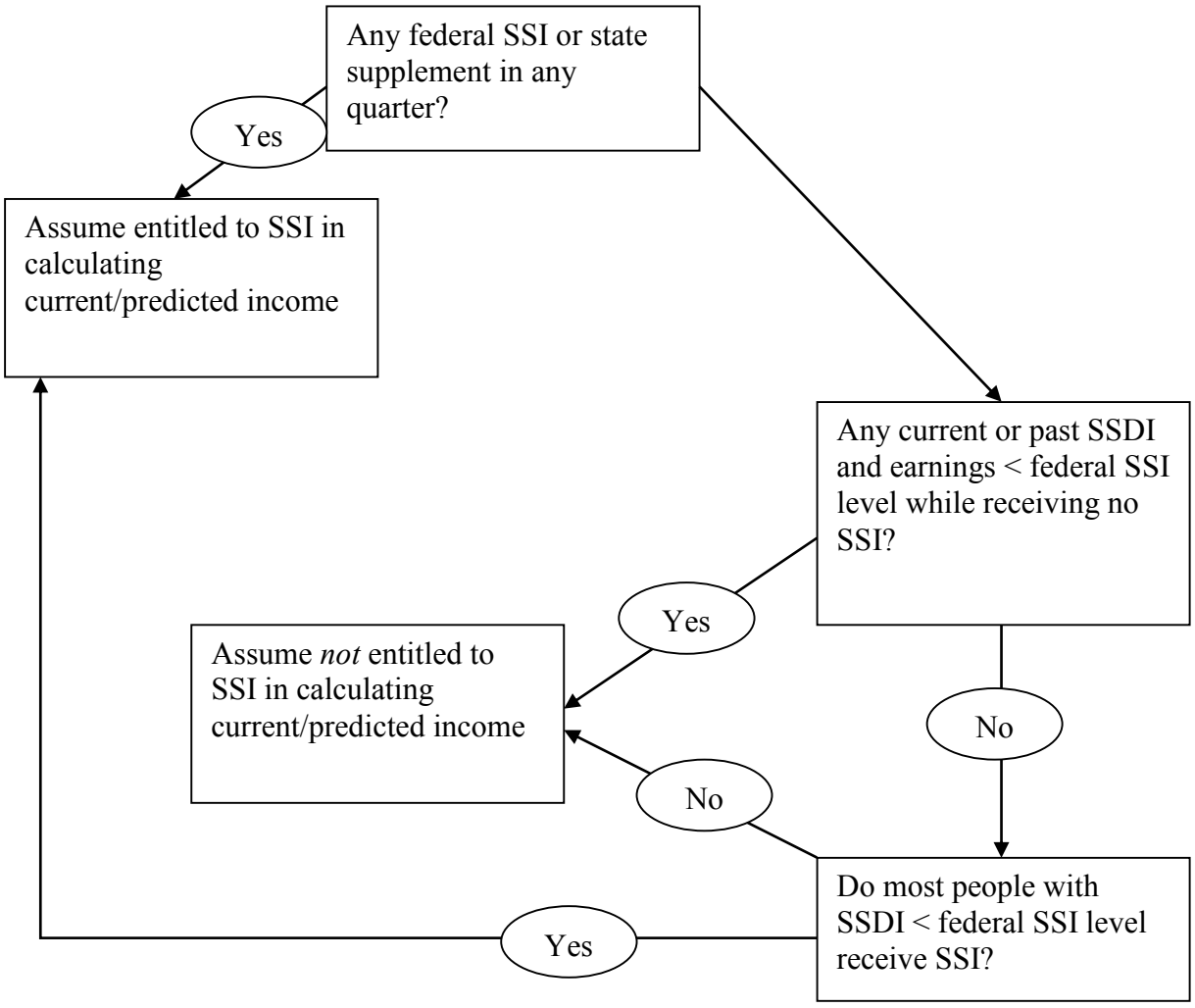
- Identify those with SSDI and earnings>=SGA in the enrolment quarter
- For all, re-calculate SSI amount for those eligible, as described in '4' above.
- For all, re-calculate state supplement amount as described in '6' above.
- For all, re-calculate FS amount, as described above in '5' above.
- Calculate relative quarter 0 total income for all.

2. Calculate total income if earnings increased by $750 in relative quarter 0:

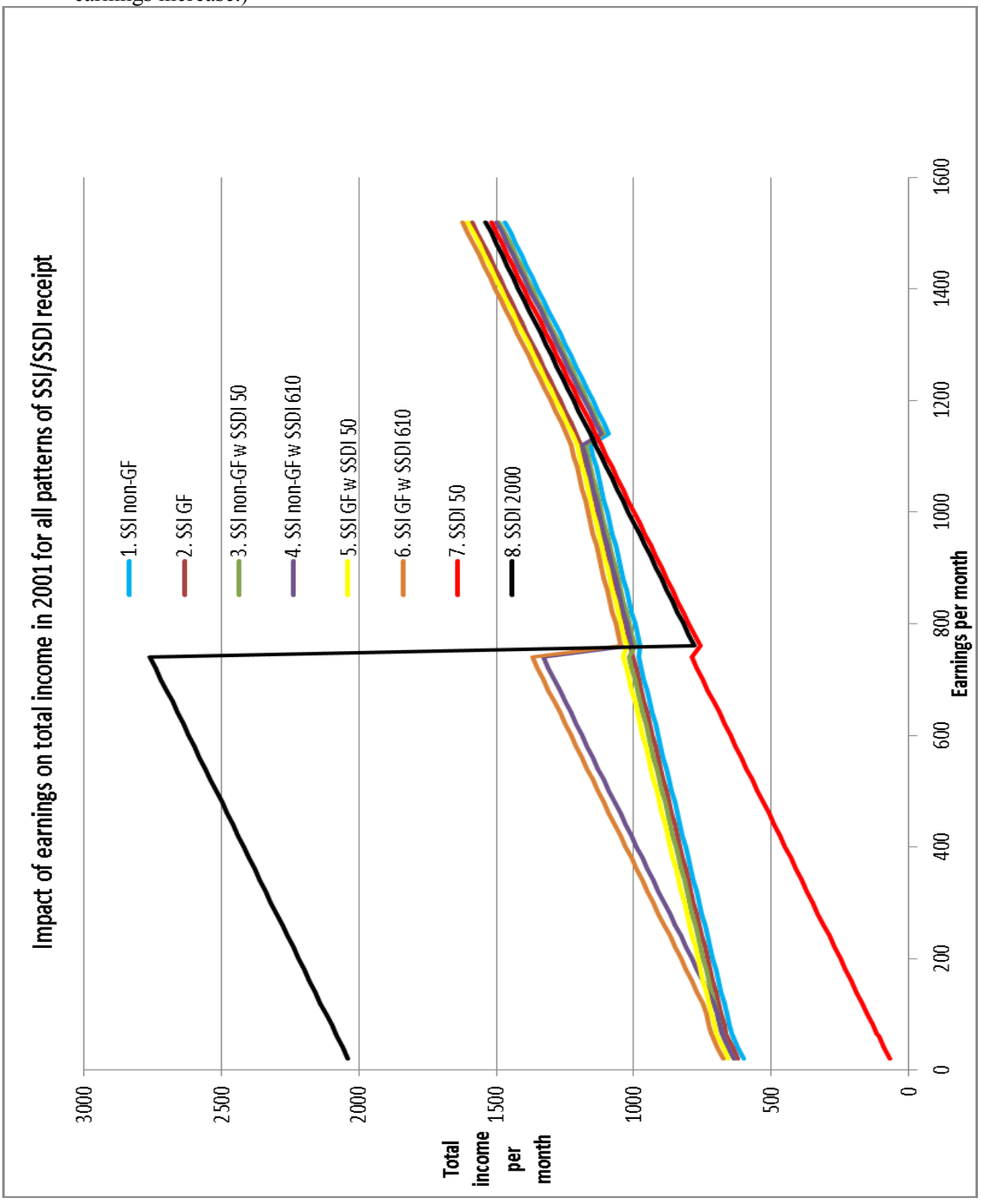
- Identify with SSDI and earnings>=SGA in enrolment quarter
- For all, re-calculate SSI amount for those eligible, as described in '4' above.
- For all, re-calculate state supplement amount as described in '6' above.
- For all, re-calculate FS amount as described in '5' above.
- Calculate enrolment quarter total income for all.

3. Subtract current total income from total income with earnings increased by $750 in relative quarter 0

SSI Decision flow chart:



Appendix 4.5: Impact of Earnings on Net Income for Varied Patterns of Benefit Receipt:
(Note: Minor alterations were made in total income to separate the graph lines for some benefit configurations to make it easier to follow the progression of each pattern as earnings increase.)



Appendix 4.6: Bivariate correlations of variables used in analyses of unemployed at enrolment and employed at enrolment

i) Unemployed at enrolment only (n=722):

		Stsfctn Soc	Lives w	Always Supp	SSDI	750 Diff Net	Strngly Agree	Ttrmnt Grp	MH Dsblty	Dvlpmntl	<25	>54	Female	White	<HS	=HS	Yrs Wrk Exp	Hlth 1-5	Mtvtn to Work	Any Empt	Empt Every
Stsfctn Soc Supp	*B*	1.000	.077	.264**	-.024	-.002	.054	.118**	-.167**	.082*	.103**	.003	-.008	-.018	.019	.089*	-.147**	-.381**	.279**	.069	.041
	P	.	.058	.000	.547	.962	.178	.003	.000	.040	.010	.936	.834	.658	.639	.026	.000	.000	.000	.082	.305
	N	628	603	263	628	628	619	628	625	625	628	628	625	628	628	628	628	618	604	628	628
Lives w Others	*B*	.077	1.000	.157**	.074	.040	.032	.000	-.148**	.023	.140**	-.019	.011	.028	-.013	.058	-.095*	-.088*	.016	.091*	.032
	P	.058	.	.010	.064	.317	.436	.997	.000	.565	.000	.625	.788	.490	.742	.147	.017	.031	.704	.022	.420
	N	603	631	266	631	631	608	631	628	628	631	631	627	631	631	631	631	604	593	631	631
Always Supp for Empt	*B*	.264**	.157**	1.000	.089	.094	.103	-.040	-.200**	.027	.074	.125*	.021	.164**	-.018	.014	.058	-.277**	.096	-.066	.005
	P	.000	.010	.	.140	.119	.095	.502	.001	.653	.218	.038	.722	.006	.766	.815	.337	.000	.123	.270	.933
	N	263	266	277	277	277	263	277	277	277	277	277	277	277	277	277	277	264	258	277	277
SSDI	*B*	-.024	.074	.089	1.000	.618**	.044	.059	-.043	-.051	-.184**	.232**	-.121**	.171**	-.135**	-.025	.434**	.071	.009	-.032	.049
	P	.547	.064	.140	.	.000	.266	.112	.247	.174	.000	.000	.002	.000	.000	.497	.000	.076	.833	.392	.187
	N	628	631	277	722	722	634	722	718	718	722	722	683	722	722	722	722	630	617	722	722
750 Diff Net Income	*B*	-.002	.040	.094	.618**	1.000	.044	.045	-.097**	-.028	-.172**	.133**	-.064	.155**	-.119**	-.016	.341**	.047	.035	-.050	-.002
	P	.962	.317	.119	.000	.	.270	.224	.009	.460	.000	.000	.093	.000	.001	.663	.000	.242	.382	.182	.955
	N	628	631	277	722	722	634	722	718	718	722	722	683	722	722	722	722	630	617	722	722
Strngly agree	*B*	.054	.032	.103	.044	.044	1.000	.176**	-.093**	-.021	-.067	-.009	-.059	-.062	-.004	-.030	-.036	-.070	.304**	.014	.031
	P	.178	.436	.095	.266	.270	.	.000	.020	.605	.092	.819	.140	.116	.917	.456	.365	.083	.000	.728	.437

		Stsfctn Soc	Lives w	Always Supp	SSDI	750 Diff Net	Strngly Agree	Ttrmnt Grp	MH Dsblty	Dvlpmntl	<25	>54	Female	White	<HS	=HS	Yrs Wrk Exp	Hlth 1-5	Mtvtn to Work	Any Empt	Empt Every
fnncl gain	*N*	619	608	263	634	634	634	634	631	631	634	634	630	634	634	634	634	621	614	634	634
Ttrmnt group	*B*	.118**	.000	-.040	.059	.045	.176**	1.000	-.220**	-.112**	.051	-.124**	-.176**	-.109**	-.022	-.083*	.010	-.161**	.384**	.164**	-.011
	P	.003	.997	.502	.112	.224	.000	.	.000	.003	.169	.001	.000	.003	.559	.025	.781	.000	.000	.000	.774
	N	628	631	277	722	722	634	722	718	718	722	722	683	722	722	722	722	630	617	722	722
MH Dsblty	*B*	-.167**	-.148**	-.200**	-.043	-.097**	-.093**	-.220**	1.000	-.388**	-.100**	-.072	.014	.015	-.002	.003	.098**	.071	-.150**	.145**	.066
	P	.000	.000	.001	.247	.009	.020	.000	.	.000	.007	.054	.708	.682	.954	.927	.009	.074	.000	.000	.078
	N	625	628	277	718	718	631	718	718	718	718	718	680	718	718	718	718	627	614	718	718
Dev Dsblty	*B*	.082*	.023	.027	-.051	-.028	-.021	-.112**	-.388**	1.000	.096**	.131**	.035	.031	-.058	.059	-.114**	.002	-.016	-.040	-.041
	P	.040	.565	.653	.174	.460	.605	.003	.000	.	.010	.000	.367	.409	.122	.115	.002	.967	.700	.284	.275
	N	625	628	277	718	718	631	718	718	718	718	718	680	718	718	718	718	627	614	718	718
<25	*B*	.103**	.140**	.074	-.184**	-.172**	-.067	.051	-.100**	.096**	1.000	-.101**	.021	-.038	.048	.097**	-.410**	-.167**	.046	.022	-.034
	P	.010	.000	.218	.000	.000	.092	.169	.007	.010	.	.007	.581	.303	.196	.009	.000	.000	.250	.558	.362
	N	628	631	277	722	722	634	722	718	718	722	722	683	722	722	722	722	630	617	722	722
>54	*B*	.003	-.019	.125**	.232**	.133**	-.009	-.124**	-.072	.131**	-.101**	1.000	.024	.056	-.014	-.047	.292**	.066	-.080**	-.113**	-.052
	P	.936	.625	.038	.000	.000	.819	.001	.054	.000	.007	.	.530	.135	.704	.209	.000	.100	.048	.002	.160
	N	628	631	277	722	722	634	722	718	718	722	722	683	722	722	722	722	630	617	722	722
Female	*B*	-.008	.011	.021	-.121**	-.064	-.059	-.176**	.014	.035	.021	.024	1.000	-.009	-.087**	-.096**	-.115**	-.090**	.022	-.060	-.048
	P	.834	.788	.722	.002	.093	.140	.000	.708	.367	.581	.530	.	.808	.023	.012	.003	.025	.592	.119	.214
	N	625	627	277	683	683	630	683	680	680	683	683	683	683	683	683	683	628	613	683	683
White	*B*	-.018	.028	.164**	.171**	.155**	-.062	-.109**	.015	.031	-.038	.056	-.009	1.000	-.271**	.106**	.131**	-.045	-.089**	-.021	.026
	P	.658	.490	.006	.000	.000	.116	.003	.682	.409	.303	.135	.808	.	.000	.005	.000	.255	.027	.582	.480

		Stsfctn Soc	Lives w	Always Supp	SSDI	750 Diff Net	Strngly Agree	Ttrmnt Grp	MH Dsblty	Dvlpmntl	<25	>54	Female	White	<HS	=HS	Yrs Wrk Exp	Hlth 1-5	Mtvtn to Work	Any Empt	Empt Every
	N	628	631	277	722	722	634	722	718	718	722	722	683	722	722	722	722	630	617	722	722
<HS	*B*	.019	-.013	-.018	-.135**	-.119**	-.004	-.022	-.002	-.058	.048	-.014	-.087*	-.271**	1.000	-.334**	-.120**	-.047	-.055	-.034	-.032
	P	.639	.742	.766	.000	.001	.917	.559	.954	.122	.196	.704	.023	.000	.	.000	.001	.239	.173	.365	.395
	N	628	631	277	722	722	634	722	718	718	722	722	683	722	722	722	722	630	617	722	722
=HS	*B*	.089*	.058	.014	-.025	-.016	-.030	-.083*	.003	.059	.097**	-.047	.096*	.106**	-.334**	1.000	-.042	-.030	-.076	.050	.044
	P	.026	.147	.815	.497	.663	.456	.025	.927	.115	.009	.209	.012	.005	.000	.	.261	.453	.060	.183	.240
	N	628	631	277	722	722	634	722	718	718	722	722	683	722	722	722	722	630	617	722	722
Yrs Wrk Exp	*B*	-.147**	-.095**	.058	.434**	.341**	-.036	.010	.098**	-.114**	-.410**	.292**	-.115**	.131**	-.120**	-.042	1.000	.173**	-.094**	.105**	.048
	P	.000	.017	.337	.000	.000	.365	.781	.009	.002	.000	.000	.003	.000	.001	.261	.	.000	.020	.005	.199
	N	628	631	277	722	722	634	722	718	718	722	722	683	722	722	722	722	630	617	722	722
Health 1-5	*B*	-.381**	-.088*	-.277**	.071	.047	-.070	-.161**	.071	.002	-.167**	.066	.090*	-.045	-.047	-.030	.173**	1.000	-.195**	-.145**	-.078
	P	.000	.031	.000	.076	.242	.083	.000	.074	.967	.000	.100	.025	.255	.239	.453	.000	.	.000	.000	.050
	N	618	604	264	630	630	621	630	627	627	630	630	628	630	630	630	630	630	606	630	630
Mtvn to Wkr 1-5	*B*	.279**	.016	.096	.009	.035	.304**	.384**	-.150**	-.016	.046	-.080*	-.022	-.089*	-.055	-.076	-.094**	-.195**	1.000	.134**	.001
	P	.000	.704	.123	.833	.382	.000	.000	.000	.700	.250	.048	.592	.027	.173	.060	.020	.000	.	.001	.976
	N	604	593	258	617	617	614	617	614	614	617	617	613	617	617	617	617	606	617	617	617
Any empt	*B*	.069	.091*	-.066	-.032	-.050	.014	.164**	.145**	-.040	.022	-.113**	-.060	-.021	-.034	.050	.105**	-.145**	.134**	1.000	.238**
	P	.082	.022	.270	.392	.182	.728	.000	.000	.284	.558	.002	.119	.582	.365	.183	.005	.000	.001	.	.000
	N	628	631	277	722	722	634	722	718	718	722	722	683	722	722	722	722	630	617	722	722
Empd in every qtr	*B*	.041	.032	.005	.049	-.002	.031	-.011	.066	-.041	-.034	-.052	-.048	.026	-.032	.044	.048	-.078	.001	.238**	1.000
	P	.305	.420	.933	.187	.955	.437	.774	.078	.275	.362	.160	.214	.480	.395	.240	.199	.050	.976	.000	.
	N	628	631	277	722	722	634	722	718	718	722	722	683	722	722	722	722	630	617	722	722

**. Correlation is significant at the 0.01 level (2-tailed).

	Stsfctn Soc	Lives w	Always Supp	SSDI	750 Diff Net	Strngly Agree	Ttrmnt Grp	MH Dsblty	Dvlpmntl	<25	>54	Female	White	<HS	=HS	Yrs Wrk Exp	Hlth 1-5	Mtvtn to Work	Any Empt	Empt Every

*. Correlation is significant at the 0.05 level (2-tailed).

ii) Employed at enrolment only (n=429):

		Stsfctn Soc	Lives w	Always Supp	SSDI	750 Diff Net	Strngly Agree	Ttrmnt Grp	MH Dsblty	Dvlpmntl	<25	>54	Female	White	<HS	=HS	Yrs Wrk Exp	Hlth 1-5	Mtvtn to Work	Any Empt	Empt Every
Stsfctn Soc Supp	*B*	1.000	.164**	.490**	-.110*	-.083	.127*	.032	-.233**	.170**	.168**	.008	-.093	.031	.000	.123*	-.208**	-.311**	.331**	.125*	.105*
	P	.	.002	.000	.034	.109	.014	.539	.000	.001	.001	.871	.074	.553	.995	.017	.000	.000	.000	.016	.043
	N	373	362	296	373	373	370	373	373	373	373	373	372	373	373	373	373	367	362	373	373
Lives w Others	*B*	.164**	1.000	.156**	-.030	-.014	.072	-.129*	-.231**	.127*	.146**	-.087	-.004	-.077	.006	.119*	-.247**	-.027	.013	.005	-.032
	P	.002	.	.007	.555	.779	.165	.012	.000	.014	.005	.092	.937	.134	.913	.020	.000	.602	.800	.929	.540
	N	362	378	296	378	378	369	378	378	378	378	378	377	378	378	378	378	364	358	378	378
Always Supp for Empt	*B*	.490**	.156**	1.000	.038	.071	.071	-.072	-.192**	.086	.089	.062	-.189**	.054	-.070	.115*	-.174**	-.176**	.078	.062	.068
	P	.000	.007	.	.507	.217	.217	.211	.001	.132	.123	.277	.001	.345	.222	.045	.002	.002	.182	.284	.233
	N	296	296	305	305	305	300	305	305	305	305	305	304	305	305	305	305	298	291	305	305
SSDI	*B*	-.110*	-.030	.038	1.000	.246**	-.069	-.116*	-.036	.046	-.206**	.071	-.012	.060	-.112*	-.122*	.407**	.123*	-.048	.034	.098*
	P	.034	.555	.507	.	.000	.177	.016	.459	.339	.000	.145	.806	.213	.021	.012	.000	.017	.351	.479	.043
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429
750 Diff Net Income	*B*	-.083	-.014	.071	.246**	1.000	.007	-.142**	.010	.055	-.135**	.099*	-.036	.026	-.033	-.074	.066	.060	.054	.011	-.029
	P	.109	.779	.217	.000	.	.890	.003	.828	.258	.005	.041	.464	.588	.496	.124	.171	.247	.296	.813	.542
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429

		Stsfctn Soc	Lives w	Always Supp	SSDI	750 Diff Net	Strngly Agree	Ttrmnt Grp	MH Dsblty	Dvlpmntl	<25	>54	Female	White	<HS	=HS	Yrs Wrk Exp	Hlth 1-5	Mtvtn to Work	Any Empt	Empt Every
Strngly agree fnncl gain	*B*	.127*	.072	.071	-.069	.007	1.000	.109*	-.072	.109*	-.040	.004	-.100	.042	-.020	.053	.050	-.017	.295**	.145**	.009
	P	.014	.165	.217	.177	.890	.	.033	.162	.032	.435	.942	.052	.415	.704	.303	.331	.743	.000	.004	.867
	N	370	369	300	383	383	383	383	383	383	383	383	382	383	383	383	383	376	371	383	383
Ttrmnt group	*B*	.032	-.129*	-.072	-.116*	-.142**	.109*	1.000	.063	-.064	.018	.007	-.057	-.110*	.040	-.076	-.027	-.052	.221**	.014	-.061
	P	.539	.012	.211	.016	.003	.033	.	.193	.188	.717	.892	.252	.023	.413	.116	.579	.312	.000	.776	.204
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429
MH Dsblty	*B*	-.233**	-.231**	-.192**	-.036	.010	-.072	.063	1.000	-.492**	-.176**	.010	.060	-.017	-.004	-.104*	.221**	.033	-.014	-.042	-.029
	P	.000	.000	.001	.459	.828	.162	.193	.	.000	.000	.831	.225	.726	.933	.031	.000	.525	.782	.386	.552
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429
Dev Dsblty	*B*	.170**	.127*	.086	.046	.055	.109*	-.064	-.492**	1.000	.094	-.046	-.053	.016	-.055	.071	-.116*	-.055	.027	.037	.075
	P	.001	.014	.132	.339	.258	.032	.188	.000	.	.052	.344	.281	.739	.255	.140	.016	.290	.606	.442	.120
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429
<25	*B*	.168**	.146**	.089	-.206**	-.135**	-.040	.018	-.176**	.094	1.000	-.072	.031	-.066	-.012	.172**	-.500**	-.265**	.058	.064	-.041
	P	.001	.005	.123	.000	.005	.435	.717	.000	.052	.	.136	.531	.172	.799	.000	.000	.000	.267	.187	.402
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429
>54	*B*	.008	-.087	.062	.071	.099*	.004	.007	.010	-.046	-.072	1.000	.046	.056	.010	.009	.226**	.053	-.016	.005	-.027
	P	.871	.092	.277	.145	.041	.942	.892	.831	.344	.136	.	.355	.244	.837	.847	.000	.307	.761	.913	.581
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429
Female	*B*	-.093	-.004	-.189**	-.012	-.036	-.100	-.057	.060	-.053	.031	.046	1.000	-.013	-.046	.031	.037	.188**	-.063	-.041	.008
	P	.074	.937	.001	.806	.464	.052	.252	.225	.281	.531	.355	.	.791	.352	.528	.455	.000	.224	.406	.874
	N	372	377	304	412	412	382	412	412	412	412	412	412	412	412	412	412	379	371	412	412

		Stsfctn Soc	Lives w	Always Supp	SSDI	750 Diff Net	Strngly Agree	Ttrmnt Grp	MH Dsblty	Dvlpmntl	<25	>54	Female	White	<HS	=HS	Yrs Wrk Exp	Hlth 1-5	Mtvtn to Work	Any Empt	Empt Every
White	*B*	.031	-.077	.054	.060	.026	.042	-.110*	-.017	.016	-.066	.056	-.013	1.000	-.175*	.076	.130*	-.053	-.081	.013	.051
	P	.553	.134	.345	.213	.588	.415	.023	.726	.739	.172	.244	.791	.	.000	.115	.007	.305	.121	.792	.294
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429
<HS	*B*	.000	.006	-.070	-.112*	-.033	-.020	.040	-.004	-.055	-.012	.010	-.046	-.175*	1.000	-.347*	-.090	-.027	-.101	-.015	-.121*
	P	.995	.913	.222	.021	.496	.704	.413	.933	.255	.799	.837	.352	.000	.	.000	.061	.600	.052	.764	.012
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429
=HS	*B*	.123*	.119*	.115*	-.122*	-.074	.053	-.076	-.104*	.071	.172*	.009	.031	.076	-.347*	1.000	-.159*	-.141*	-.037	.017	.004
	P	.017	.020	.045	.012	.124	.303	.116	.031	.140	.000	.847	.528	.115	.000	.	.001	.006	.475	.719	.926
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429
Yrs Wrk Exp	*B*	-.208*	-.247*	-.174*	.407*	.066	.050	-.027	.221*	-.116*	-.500*	.226*	.037	.130*	-.090	-.159*	1.000	.257*	-.128*	.015	.152*
	P	.000	.000	.002	.000	.171	.331	.579	.000	.016	.000	.000	.455	.007	.061	.001	.	.000	.014	.751	.002
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429
Health 1-5	*B*	-.311*	-.027	-.176*	.123*	.060	-.017	-.052	.033	-.055	-.265*	.053	.188*	-.053	-.027	-.141*	.257*	1.000	-.161*	-.010	.009
	P	.000	.602	.002	.017	.247	.743	.312	.525	.290	.000	.307	.000	.305	.600	.006	.000	.	.002	.854	.857
	N	367	364	298	379	379	376	379	379	379	379	379	379	379	379	379	379	379	366	379	379
Mtvn to Wkr 1-5	*B*	.331*	.013	.078	-.048	.054	.295*	.221*	-.014	.027	.058	-.016	-.063	-.081	-.101	-.037	-.128*	-.161*	1.000	.088	-.048
	P	.000	.800	.182	.351	.296	.000	.000	.782	.606	.267	.761	.224	.121	.052	.475	.014	.002	.	.089	.355
	N	362	358	291	372	372	371	372	372	372	372	372	371	372	372	372	372	366	372	372	372
Any empt	*B*	.125*	.005	.062	.034	.011	.145*	.014	-.042	.037	.064	.005	-.041	.013	-.015	.017	.015	-.010	.088	1.000	.284*
	P	.016	.929	.284	.479	.813	.004	.776	.386	.442	.187	.913	.406	.792	.764	.719	.751	.854	.089	.	.000
	N	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429
Empd in	*B*	.105*	-.032	.068	.098*	-.029	.009	-.061	-.029	.075	-.041	-.027	.008	.051	-.121*	.004	.152*	.009	-.048	.284*	1.000

		Stsfctn Soc	Lives w	Always Supp	SSDI	750 Diff Net	Strngly Agree	Ttrmnt Grp	MH Dsblty	Dvlpmntl	<25	>54	Female	White	<HS	=HS	Yrs Wrk Exp	Hlth 1-5	Mtvtn to Work	Any Empt	Empt Every
every	*P*	.043	.540	.233	.043	.542	.867	.204	.552	.120	.402	.581	.874	.294	.012	.926	.002	.857	.355	.000	.
qtr	*N*	373	378	305	429	429	383	429	429	429	429	429	412	429	429	429	429	379	372	429	429

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

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