

Literature Review

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Literature Review Exploring Job Mismatch and Income,
and Labour Market Outcomes for People with Disabilities

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INTRODUCTION

This report examines the concepts of job mismatch and disability, the possibility that discrimination plays a role in these mismatches, and labour market outcomes due to probable mismatch. Throughout, it assumes a working definition of a job as: some sort of activity in the economy in exchange for pay; such paid employment can be full time, part time, casual, or permanent. The literature review uncovers a variety of job mismatches and then examines how persons with disabilities are affected by each. It also relays some ideas for policy development concerning how, as a member of the Organization for Economic Cooperative and Development (OECD), a country can put skills to effective use by creating a better match between people's skills and the requirements of their job [1]. We examine domestic sources. But some of the following pages include research from other advanced industrialized, OECD countries; from this, various analytical points may be extrapolated to the Canadian scene.

The document is in **six sections**. The first identifies the report's literature review methodology and the second researches and defines major concepts used in subsequent sections. The third section analyzes the report's major themes and provides some brief reporting on statistical data. The fourth examines the issue of employment discrimination for those workers with disabilities. The fifth identifies some of the implications for policy development as outlined in the literature we examined, and a final section proposes areas for future research.

In relation to the HRSDC's call for proposals, the sections given above correspond to the HRSDC six-fold Draft Statement of Work:

1. *“What is the evidence that job mismatch exists among people with disabilities, in Canada and internationally? (Report Sections Two and Three)*
2. *Is job mismatch more common among the disabled population compared to the general population, and other vulnerable populations? (Report Sections Two, Three and Four)*
3. *Is there evidence that job mismatch affects the pay and employment opportunities for people with disabilities? (Report Sections Three and Four)*
4. *What are the causes of job mismatch for people with disabilities? Is it related to skill, education, occupation unemployment, relocation? Are there other causes, such as type of disability, gender, race, immigrant or Aboriginal status? (Report Sections Two and Three)*
5. *Is there evidence that discrimination is a cause of job mismatch? What is the extent of its impact on job mismatch among people with disabilities? (Report Section Four)*
6. *Are there any promising approaches that help to prevent job mismatches for people with disabilities? (Report Sections Five and Six).*

It is important to emphasize that the HRSDC did not want the report solely restricted to

these areas, nor necessarily include any one that did not ultimately prove relevant. Indeed in several respects this report covers terrain that is not completely covered in the HRSDC's six-fold call. For example, section three uncovers several implicit dimensions of employment that are exacerbated by disability such as promotions and training and job satisfaction. Overall, this review of the literature provides a new lens through which to examine job mismatch in the world of disability; that of labour market costs of job mismatch. In these respects, it is intended to be both an overview, and exploratory.

PART ONE: METHODOLOGY

The methodology used in this report is a narrative literature review encompassing the use of thematic descriptors and the examination of reported secondary data that is peer reviewed as well as that which is not (hereafter referred to as "grey literature"). Narrative literature reviews are used to generate theory, identify emerging issues in the field, examine controversial or complicated topics, and explicate "how to" strategies for practitioners, analysts, and others [2]. The thematic descriptors involved generating, exploring, organizing, and analysing the body of research that addresses both the disability and job mismatch genres. The consideration of primary data analysis attempted to ensure adequate attention was given to the Canadian context and through its exploration assisted in the determination of which foreign experiences and practices were relevant and possibly transferable. Limits of space precluded us from discussing every publication we encountered. Our approach necessarily involved, therefore, subjective decisions on inclusion and exclusion – as any researcher doing such a report would have to do. We are aware that if another had undertaken the same task, their report might look similar to ours, but could have differences, too.

Literature from a wide range of sources was reviewed. Beginning with peer-reviewed academic materials identified using the electronic databases offered by EBSCOhost (affording online access to more than 300 databases and thousands of e-journals) led us to SocINDEX, Social Work Abstracts and Academic Search Complete (the latter-most providing a comprehensive scholarly, multi-disciplinary database, including more than 4,600 peer-reviewed journals). We then turned to the economics database Business Source Complete (containing peer-reviewed, business related journals). Finally, in order to obtain as robust a social science literature as possible, we consulted Google Scholar (including peer-reviewed papers, theses, books, preprints, abstracts, and technical reports from broad areas of research).

Concurrent with those scholarly analyses, we also looked at the grey literature: those reports and publications that are not peer reviewed. In our case, these were derived from government and non-governmental sources. Some we knew about prior to initiating the present paper; others were drawn to our attention by HRSDC staff. Others, still, were identified via the Canadian Research Index (providing citations and abstracts for publications issued by the federal government and the governments of the ten provinces and three territories), GLADNET (a global applied disability research and information network on employment and training), and Google Scholar. Official websites

and community-based research organizations were also accessed (such as Human Resources and Skills Development Canada – HRSDC; Canadian Council on Social Development – CCSD and its associated Disability Research Information Pages – DRIP; Institute for the Study of Labor – IZA; and the Canadian Centre on Disability Studies – CCDS).

In order to access the maximum number of relevant publications from both secondary and grey literature, the following key terms were used: *disabilit** and *job or employment or labour*; *job matching* and *discrimination* – were used to refine overpopulated searches. Although most papers were dated from 2005 to the present, some seminal works are presented to provide background and comparison data.

Over the course of our work, we were in regular email and telephone consultation with HRSDC. As well, our work plan was formally submitted January 10th, 2013 and the methodology January 16th, 2013. A draft report was submitted for feedback March 1st, 2013. Over the course of these consultations, we relied on HRSDC suggestions for material to analyse, and the entire scope of the report is genuinely collaborative with HRSDC personnel.

A respectable volume of grey and scholarly literatures has been produced in Canada. But much good analysis also occurs in other countries. In order to restrict our scope of analysis, we tended to rely on Organization for Economic Cooperation and Development (OECD) level country analysis. In part because our literature review was conducted largely in English, in part because several countries had focused more attention on the topic than did others: we noticed a significant portion of our non-Canadian scholarship tended to come from the Australia, the United States of America (USA), the United Kingdom (UK, which we sometimes refer to as Britain).

The 2001 and 2006 *Participation and Activity Limitation Survey (PALS)* published by Statistics Canada provides much of the primary Canadian data referred to in this paper.

As part of the literature review, we will begin by providing clarification for various terms used throughout the remaining sections. The following section includes definitions for *disability*, *job mismatch* and its various types, and *causes of job mismatch*.

PART TWO: DEFINITIONS

Disability

A number of sources help us to define *disability* as it ties into labour market issues. Rather than examining disability as a medical or individual model, whereby little attention is given to the physical or social environment, it appears more appropriate for the purposes of this literature review to consider the social model, whereby interactions with one's environment play an integral role in identifying and coping with a disability [3]. According to the United Nations:

people with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others. [4]

A recent World Health Organization/World Bank (WHO/WB) document states that: *disability is the umbrella term for impairments, activity limitations and participation restrictions, referring to the negative aspect of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors).[5]*

The WHO/WB go on to point out that defining disability as an interaction means that “disability” is not an attribute of the person. Moreover, progress on improving social participation by persons with disabilities can be made by addressing the barriers which hinder them in their day to day lives [5]. It is important to emphasize, as the Preamble to the CRPD (Convention on the Rights of Persons with Disabilities) states - disability is an evolving concept [4] which is, according to Canadian researcher Michael Prince, socially constructed, administratively negotiated, and politically contested [6].

One of the major facets of disability is employment. Jones & Sloan distinguish between the work-limited and the non-work-limited disabled, with the disability affecting the amount and nature of work that the individual can do only in the former case [7, 8]. Surveys in Australia (and similarly in the UK) determine whether a person has a disability which is work-limiting if he or she answers “yes” to both questions: *Do you have any long-term health condition, impairment or disability that restricts your everyday activities, and has lasted or is likely to last, for 6 months or more?* If yes, they were further asked: *Does your condition limit the type of work or amount of work you can do?* Those who answer “yes” to the first question and “no” to the second are defined as having a non-work-limiting disability [8, 9]. Canadian research using the Participation and Activity Limitation Survey (PALS) operates with a similar questioning technique; however, this distinction has not played a role in related data analysis on employment and job mismatch for persons with disabilities [10].

We are fully aware of some preferred usages, such as “peoples with disability”, or “persons with a disability”. Those terms appear in our report. But we also use such terms as “the disabled”, largely because much of the secondary literature did so. We likewise point out that the term “disability” casts a wide net, with a resulting lack of precision, clustering together of broad and frequently quite different categories into a single term. Again, this is one of the inevitabilities we found in the literature; and – as with issues of definition – we felt it was beyond the scope of the present report to resolve such matters.

Job Mismatch

As discussed in the HRSDC Draft Statement of Work:

Job mismatch is defined as a worker in a job that does not correspond with his/her level of education, experience, skills or interests. It can have adverse effects

*on economic and social outcomes as it can lead to skill loss, lower job satisfaction, productivity loss, weakened income security and problems with labour force attachment.*¹ *Canadian research into the disability pay gap and intermittent work capacity has highlighted that job mismatch may be an important challenge facing people with disabilities.*²

Various authors have examined the concept of job-mismatch as it relates to the general population [11-13]; however, only recently have a select few authors addressed this issue in relation to persons with disabilities [10, 14, 15]. Job mismatches result from the interaction between a combination of people's needs, values, and expectations on the one hand, and the characteristics and rewards associated with their jobs on the other [11]. Because individuals and jobs are both multi-dimensional, preferences from both sides play an integral part of determining job match or mismatch. For some persons with disabilities the job itself may be a poor fit for them, their employer, or both. Some mismatches are particularly likely to produce stress and other negative psychological and physical consequences that spill over into non-work situations. The consequences cost the nation billions of dollars every year in social services such as hospitals and family support to help people cope with the disruptions caused by these kinds of mismatches [11].

From what evidence we have, it is reasonable to assume that job mismatch is greater among workers with disabilities than those without [7, 16]. As well, further findings suggest that mismatch has particularly severe consequences for persons with disabilities as they have a lower probability of leaving the current state of affairs to become matched and have a higher probability of exiting this state to unemployment or inactivity [17]. These outcomes beckon us to more fully explore the various types of mismatch that exist and understand how they can be prevented.

The available literature identifies several different types of job mismatch, ranging from earnings mismatches to the more common qualification and skills mismatches to the less visible spatial, geographical and temporal mismatches. Each is described below.

Qualification mismatch is the discrepancy between the highest qualification held by a worker and the qualification required by his/her job [13]. Also referred to as an *education mismatch* [18-21] or *vertical mismatch* [12], a job-mismatch of this kind occurs when there is an under- or over-qualified/educated worker. A person is defined as over-educated if his or her education level is above the mode for their occupation [9]. Desjardins & Rubenson suggest that rather than focus on the level of education and whether workers have 'too little' or 'too much' education, a more appropriate question might be to ask whether workers have the 'right' type of education to carry out their job successfully. However, they go on to caution that the quality of qualifications and

¹ Organization for Economic Co-operation and Development. (2012). Better Skills, Better Jobs, Better Lives: A Strategic Approach to Skills Policies http://www.oecd-ilibrary.org/education/better-skills-better-jobs-better-lives_9789264177338-en.

² Gunderson, M. (2011) Disability Pay Gap Analysis Based on the 2006 Participation and Activity Limitation Survey: Revised Synthesis Report, Human Resources and Skill Development Canada.

possibility for gain or loss of knowledge beyond the attainment of qualifications is unaccounted for in this description of job mismatch [12].

Over-education is a distinct problem for the working person with disabilities, as these workers saw pay penalties as well as reductions in job satisfaction when they experienced such a qualifications mismatch [7]. While the exact number of over-educated workers with disabilities hasn't been researched in Canada, Australian data found that approximately one in five workers with disabilities is over-educated [9]. Overall, persons with disabilities tend to be less educated and less well qualified than their non-disabled counterparts [7, 8, 22], which does not preclude them from being over-qualified for specific jobs. However, the onset of a work-limiting disability increases the probability of becoming overeducated because, it is posited, these persons appear more likely to prefer having any job to expecting a well matched job [9].

Skills mismatch is a concept based on whether workers have the actual skills needed to successfully carry out required job tasks [12]. Typically, measures of skill mismatch are limited to three alternative categories, namely *under-skilled*, *over-skilled* or *required skill* [23]. Under-skilled workers lack the necessary skills required to carry out their job duties adequately, whereas over-skilled workers possess the skills needed as well as many more, exceeding the requirements of the job. Over-skilling is the situation where an employee is not utilising their skills and abilities fully in their work [9].

Jones and Sloane found that workers with disabilities are more prone to both over and under-skilling than non-disabled workers and there are negative consequences of this skill mismatch on wages and job satisfaction [7]. Persons with work-limiting disabilities are nearly 6 percentage points more likely to be over-skilled than their non-disabled counterparts, which is consistent with a situation where it is harder for persons with disabilities to obtain a job, such that they are prepared to trade-off higher skills for employment. This is also consistent with people with disabilities being more constrained in job searches [7]. One set of authors caution that although educational and skill mismatches are distinct phenomena with different labour market outcomes it is their combination which results in the most severe labour market outcomes [24].

Temporal Mismatch or *working-time mismatch* [25] has two distinct types: overworked or underworked. Overworked refers to a person working more hours than he or she would like, whereas underworked refers to a person working less hours than he or she would like. Both types of temporal mismatches are likely to lead to stress [11]. A third type of temporal mismatch, not referred to as often as over/underworked, is the *work-schedule mismatch*. This is seen when a person is unable to work the hours he or she prefers [11]. Generally, this involves nonstandard schedules or shift work.

In one study with the general population in Australia, overworking was found to impact levels of job and life satisfaction more so than underworking. Three main conclusions emerged. First, it is not the number of hours worked that matters for subjective well-being, but working time mismatch. Second, overemployment is a more serious problem than is underemployment. And third, while the magnitude of the impact of

overemployment may seem small in absolute terms, relative to other variables, such as disability, the effect is quite large [25]. Income support programs may exacerbate the problem by supplementing one's income to a degree that it is more beneficial to remain unemployed or underworked [26].

Geographical Mismatch occurs when geographic barriers prevent a person from accessing a suitable job. These barriers include commuting distance, offshoring and *deindustrialization* (i.e. the shift of manufacturing industries from one region to another) [11]. This may be of particular importance to persons with disabilities due to the need of some for assisted or accessible transportation in order to commute to their job.

Spatial Mismatch is sometimes used synonymously with geographical mismatch; however, more appropriately it refers to the lack of amenities or modifications at a work site which eventually inhibits the worker from performing at their peak. This can be found on assembly lines, where workers are standing (or sitting) too long for their own good health, to ergonomically inappropriate offices, to inaccessible washrooms for persons with disabilities. Spatial constraints have been found to increase the probability of educational mismatch as employees may capitulate their needs in order to have a job that fits in other ways [7].

Earnings mismatch occurs when workers are unable to earn enough money to meet their needs and those of their families [11, 12]. Although earnings mismatch may occur at any wage range, it typically it refers to the working poor, those workers who are unable to provide for their family's needs – even with a full time job [11]. Earnings mismatch may also include a discrepancy between preferences for company benefits such as health care and pension plans and what they actually offer. The health care component may be particularly significant for those workers with disabilities. As recently as 2011 in a cross cultural analysis, one set of authors found that there is a wage penalty of 9% associated with a work-limiting disability, compared to 2% for a non-work-limiting disability which they suggest is consistent with an unobserved productivity effect being evident. They go on to suggest that this influence of disability on productivity may itself be thought of as a form of matching [9].

Causes of Mismatch

As early as 1893, the French sociologist Emile Durkheim rallied against the forced division of labour and placed attention on the individual needs of the worker when he famously stated:

For the division of labor to produce solidarity, it is not sufficient, then, that each have his task; it is still necessary that this task be fitting to him. [27]

While the literature we reviewed failed to specifically examine the theory of job mismatch for persons with disabilities, several theories were uncovered that provide useful explanations for the cause of job mismatch in the general population and may be applied to the disabled population discourse. An economic lens, for example, might

suggest that when labour markets are functioning efficiently there will be no job mismatching. However, Kalleberg suggests that generally, labour markets are operating inefficiently and thus the matching of persons to jobs may result in matches that are unsatisfactory from the point of view of either workers, employers, or both. These inefficiencies may be caused by limited information about the choices available; geography – being unable to go to where the jobs are; supply and demand; and qualifications or skill level [11]. Full disclosure of the job description and available skills is vital to job-matching. Desjardins & Rubenson refer to this as *search theory* and suggest that it can help to explain mismatch due to imperfect information being made available to employees about the nature of the job, and to employers regarding employees' actual skills [12]. Indeed, the researchers showed that a substantial proportion of the workforce is found to have foundation skills that do not match the requirements of their jobs.

An alternate perspective suggests that one should go beyond the labour market to take into account the interplay between nonmarket and market behaviour, as sociologists might [11]. Here, analyses of the outcomes in the matching process focus on the concept of *employment relationship*, which is built on the exchanges made between the worker and the employer. These exchanges are shaped by the relative power that each possess: socially, economically, legally, and psychologically. Canadian author Michael Prince suggests that the major issues of disability are not merely problems of individual capacity or health condition, but rather matters of power relations at many levels and segments of communities [6]. Along these lines, in their 2006 study, Jones, Latreille and Sloane used a *traditional labour force participation model* which assumes that an individual decides upon whether or not to enter the labour market on the basis of a comparison between the employer's wage offer and his or her reservation wage [8]. Some people with disabilities, for example, may experience a sense of ambivalence regarding returning to work after sustaining a disability because of the remuneration and benefits they received while on disability leave.

A final theory, *human capital theory*, suggests that higher education develops skills which lead to higher productivity and hence higher pay. And, that a natural equilibrium will be reached whereby the employer will make the necessary adjustments in order to make full use of skills available; or alternatively, the employee will seek a more appropriate match to fulfil his/her production potential and hence maximize earnings [12]. These adjustments can sometimes be seen in the early selection process, as it has been noted that persons with disabilities are more likely than their non-disabled counterparts to work in the public sector; this may reflect an attraction to a seniority-ladder where it is more difficult to be discriminated against based on disability. However, British scholar Rigg found that generally persons with disabilities are at a disadvantage in terms of promotions (including increased wages and increased responsibilities). As well, they are more likely to exit employment, have lower rates of earnings growth, move from full-time to part-time and have significantly less training than their non-disabled counterparts. It is prime age men and women with disabilities in manual occupations that face the least favourable trajectories [28]. In general, OECD researchers Desjardins and Rubenson noted that workers in low-skill match situations

are the least likely to invest in themselves through further education or training. They also tend to receive the least employer support for developing or sustaining their skills; however, workers in high-skill match situations are found to receive the most employer support for participating in adult education/training [12].

This research is the just the tip of the iceberg when it comes to us illustrating the benefits related to well-matched employment, for both persons with disabilities and their non-disabled counterparts. With a firm appreciation of the terms *disability*, *job mismatch* and a brief introduction to the *theory behind mismatches*, the next section provides a brief overview of the legislation surrounding persons with disabilities and then launches into the various labour market forces that are in play when persons with disabilities become part of the labour market.

PART THREE: FACTS & FIGURES

Statistics for the Canadian population found that 7.13% of the employed population has a disability; while, approximately 13% of the working-age population reported a disability of some kind. Of those working-age adults reporting a disability, 59.6% are active in the workforce [29]. The following subsections provide an overview of the facts and figures surrounding the working disabled and possible factors and fallout from job mismatch.

Legislation

Internationally, the United Nations Convention on the Rights of Persons with Disabilities, 2006, promotes access to vocational training, promotes opportunities for self-employment, and calls for reasonable accommodation in the workplace. And was ratified by Canada on March 11, 2010 [30]. At the federal level, Canada has implemented the Canadian Charter of Rights and Freedoms, 1982, which provides for equal rights and prohibits discriminatory practices, including those against peoples with mental or physical disabilities. As well, it allows for specialized programs to improve conditions of disadvantaged groups. The Canadian Human Rights Act, 1985, prohibits discrimination on the grounds of disability among other things. It also provides for special programs and establishes the employer's duty to accommodate up to the point of undue hardship. The Employment Equity Act, 1986 applies to persons with disabilities, among others, and sets out employer's obligations to identify and remove systematic barriers and make accommodations for differences [31].

At the provincial level, all provinces have enacted human rights legislation that supports the Canadian Human Rights Act; however, Ontario has enacted provincial legislation regarding persons with disabilities. The Ontarians with Disabilities Act, 2005, lays the framework for the development of province-wide mandatory standards on accessibility in all areas of daily life. This legislation has prompted many businesses to refocus on the finding, hiring and supporting of persons with disabilities [26]. Other provinces have developed and implemented strategies, policies and programs to foster the integration of persons with disabilities, including in employment [32].

Wages

Independent of the specific definition of disability, data source, country or time period, disability is found to have a negative effect on both employment and earnings [14]. Gunderson's recent analysis of Canadian data also showed that there is a disparity between the earnings of workers with disabilities and their non-disabled counterparts [10]. Based on 2005 data, it is clear that adults with disabilities are considerably less likely than their non-disabled counterparts to have a full-time, full-year work profile. They are also much more likely to have had no activity in the paid labour force at all [33]. This work profile is a major contributing factor behind why Canadians with disabilities are twice as likely to be living in poverty as people who do not have disabilities (20.3% vs. 10.7%, respectively) [34]. Bound and Timothy suggest that among the possible reasons for low employment rates of people with disabilities, skill gaps and employment disincentives from disability income are contributing factors [35].

For workers with over 25 years' experience, both persons with disabilities and without disabilities have similar wage profiles; however, their younger counterparts experience a significant wage discrepancy [36]. As well, men with or without disabilities had somewhat similar wage profiles when they were covered by a collective bargaining agreement. When there was no such agreement, men without disabilities had more favourable wage profiles than did those with disabilities. From these data, it is evident that collective bargaining agreements improve the wage profile for women and men with disabilities, but they may not completely close the gap [37].

More recently, Jones found in her U.K. sample that the effect of disability onset while employed was also negative, with the proportion of persons in paid work falling by 26% and their median income falling by 10%. The wages of men with disabilities were found to be 82% of the male non-disabled wage in 2000 [14]. Employees with disabilities in the United States face a number of disparities as well, including lower average pay, less job security, and reduced access to health insurance, pension plans, and training [38]. Gunderson found that in Canada the earnings of persons with disabilities were 83.1% of non-disabled persons with the average annual earnings of persons without a disability in 2006 being \$43,406; for persons with disabilities it was \$36,088. A difference of 20.3%.

The discrepancy in wages between persons with disabilities and their non-disabled counterparts is significant, whether the disability onset occurred while employed or prior to employment. Wage mismatch is rampant in the working world of persons with disabilities.

Promotions & Training

In the absence of more current Canadian data, the following information is based on data analysed by the Canadian Council on Social Development (CCSD) in 2003-4 which, in turn, is based on 2001 Census data. The CCSD found that for both workers with and those without disabilities training is associated with promotions. In fact, workers who report having had training are more likely to have been promoted while working for their present employer [39]. However, workers with disabilities were less likely than those without disabilities to have had job training of any type (45.5%, and

56.5% respectively). As well, over 7% of those with severe/very severe disabilities reported being refused training due to their disability and almost 12% reported that they had been refused a promotion in the last five years due to their disability [36]. Considering the link between training and job promotions it is not surprising, then, that CCSD found that workers with disabilities are less likely to be promoted [39]. And women with disabilities had the least favourable training profile and are least likely to be promoted [37, 39]. On the more positive side, the training gap between those people with and those without disabilities narrows when the individual is covered by a collective bargaining agreement [37].

Training and promotions are linked for employees with and without disabilities alike. However, persons with disabilities are at a distinct disadvantage when it comes to both training and promotions. This creates fertile ground for qualification mismatch, as well as skills mismatch.

Health & Well-being

Recent research fails to address the health and well-being of persons with disabilities as it relates to employment; however, in 2003 the CCSD claimed that overall, persons with disabilities encounter more difficulties with health issues and they have lower ratings on indicators of well-being [40]. A common part of coping with a disability is the fact that persons with disabilities are much less likely than their non-disabled counterparts to be in good health. This becomes a greater concern when one realizes that almost 15% of persons with disabilities reported that they were unable to obtain the health care they needed, whereas only 3.9% of persons without disabilities made such a report [40].

Social support is a key factor in well-being, yet persons with disabilities experience less positive social interaction and claim to have less social support than those persons without disabilities [40]. Even at work, persons with disabilities are more likely to report low levels of emotional or informational support and lower levels of affection. While paid work is positively correlated with overall security and well-being, social resources can also be important in reducing the likelihood that persons with disabilities may eventually suffer from depression, in addition to their initial disability [40]. Jang, et al. also found that social resources may serve as a stress moderator that buffers the adverse consequences of disability [41]. One additional point worthy of mention is that regardless of work status – it is clear that having a job is an important factor in most people's well-being; however, having a job appears to have an even greater impact on measures of well-being for persons with disabilities than it does for their non-disabled counterparts [40].

Does this imbalance in health and well-being create a temporal mismatch in employment? Clearly, current research is needed in this area.

Job Satisfaction

Persons with disabilities have lower job satisfaction than their non-disabled counterparts in Canada [22], Australia [9], the U.K. [8] and in the overall literature review of several OECD countries [7]. Jones et al. found that the onset of a non-work-limiting disability

resulted in an immediate decrease in job satisfaction and could eventually lead to becoming over-skilled, which is often an involuntary state experienced by persons with disabilities. This over-skilling, as well as being under-skilled and to a lesser degree being over-educated is an important determinant of job satisfaction [7, 9]. The shift in job satisfaction may result from possibly experiencing different treatment by employers and co-workers, difficulty travelling to work, and perhaps changes in preferences for work. As well, the ability to control one's own work has a highly significant positive impact on the level of job satisfaction. Regardless of disability, Uppal found that males with disabilities report much higher levels of dissatisfaction with their jobs compared to females with disabilities [22].

One of the most fundamental types of job mismatch is satisfaction with one's job. Indicators point to persons with disabilities being less satisfied with their employment overall and therefore there is a need for more attention by employers and current data by researchers in this area.

Mental Health

Using 2003 British data it was found that of the various disability types, mental health is more problematical both for gaining entry into the labour market and in obtaining earnings comparable to those of other workers [8]. Also in the UK, Jones, Latreille and Sloane identify two factors they believe may explain the acuity of the problem faced by those with mental health problems. Firstly, employers may, for various reasons, be more reluctant to hire those with mental health problems than with other forms of disability, and consequently when this group do find work, they do so at a lower wage. Secondly, employers may have a tendency to interpret disability in terms of physically obvious, or particularly severe, impairments. This implies that employers may therefore, inadvertently, not be as accommodating to the needs of those with mental health problems [8].

Mental health disabilities were perceived by several companies as being particularly challenging because employees must self-identify to be accommodated, and many are reluctant to do so if the disability is hidden and/or stigmatized [26]. In her review of the empirical evidence, Jones found that in the UK, after controlling for observable characteristics, mental health problems are found to have a more negative influence on employment or earnings. As well, the severity of the disability also has a negative impact on labour market outcomes [14]. Similar findings were referenced for the US, Canada and Australia. In the United States, it was found that 12% of people with disabilities reported receiving workplace accommodations; however, females and those with mental health conditions were less likely than others to receive accommodations [42].

Mental health disabilities appear to provide a particular challenge for both employee and employer in terms of both temporal mismatch as well as earnings mismatch.

PLMO

In Canada, the Panel on Labour Market Opportunities for Persons with Disabilities (PLMO) was tasked in 2012 with reporting on the challenges faced by persons with disabilities and the work force by connecting directly with employers [26]. This panel chose to focus on the positive actions of employers who have welcomed people with disabilities into their ranks rather than the barriers in an effort to flush out best practices. In consultation with close to 200 Canadian employers on their practices around employing people with disabilities the PLMO found: many companies are doing great things; but, more education and training are needed; hiring people with disabilities is good for business; and the keys to success are leadership and effective community partnerships [26].

Based on their research, PLMO identified several common myths about people with disabilities:

- 1) *Hiring people with disabilities could bring with it legal obligations related to human rights, performance monitoring and discipline.*
- 2) *Workers with disabilities are more likely to have accidents.*
- 3) *Workers with disabilities require extra supervision.* However, Canadian employees with disabilities have lower turnover rates than other workers. The retention rate of persons with disabilities over the period 1999 and 2007 was 10.5 % versus 8 % for employees without disabilities [43].
- 4) *The cost of accommodating a person with disabilities is prohibitive.* Recently, the Job Accommodation Network (JAN) in the United States, which offers a toll-free service providing advice regarding workplace accommodations to employers and persons with disabilities, reported that the solution for 57% of those seeking advice on workplace accommodations had no cost; for another 50%, the typical one-time expenditure by employers was \$500 [44].
- 5) *Most people with disabilities use wheelchairs.* According to 2010 U.S. census information, the wheelchair usage rates among people with disabilities is just over 6 per cent, that's only about 1 per cent of the general population [45].

The PLMO found that great effort is put into accommodating existing employees who acquire disabilities but less seems to go into new hires. Educated leadership is important in helping to avoid job mismatches among persons with disabilities.

Modifications & Accommodations

About 30% of employed persons with disabilities require some type of work aid or job modification such as modified work hours, job redesign, human supports and/or technical aids [33]. Modified workstations and accessible parking are the most commonly required structures, and modified work hours and job redesign are the most commonly required aid. A fairly high number of individuals have unmet needs for these items, and these unmet needs can act as major barriers to their labour force participation and economic security [33]. In fact, 26% of employed persons with disabilities require accessible transportation, but do not have it; and 27% have an unmet need for technical aids, while 29% would benefit from having "other" work aids on the job. Even with the knowledge that modified work hours would benefit 19% of workers

with disabilities, Ali, Schur and Blanck found evidence that people with disabilities are no more or less likely to have flexible work schedules than their non-disabled counterparts [46]. Meanwhile, data from the British Workplace Survey showed that workers without disabilities are more likely than those workers with disabilities to be able to work from home (23.6%, compared to 15.9%). Workers without disabilities are also more likely to report having flexible work hours (35.5% compared to 29.5% for workers with disabilities). These differences may be related to the kinds of jobs or types of employer that the workers have, or they may be related to differences in the manner in which workers with and without disabilities are treated [33]. Certainly, these findings suggest that there may be room for greater flexibility for workers with disabilities.

Among unemployed persons with disabilities, 56% say they require some type of work aid or job modification, with job redesign and modified work hours being the most commonly cited. This suggests that a requirement for work aids or job modification may be linked to job instability [33]. As well, there is evidence to suggest that employers are less likely to make adaptations for new hires [8]. However, Canadian Abilities Foundation (CAF) estimated the annual workplace accommodation costs are under \$1500 for almost all workers who have a disability, while the average was \$500 per year. These costs are probably much lower than many employers realize [33]. One final note of interest concerns the use of computers as part of one's job; its use has been found to increase the wage profile of workers with and without disabilities; however, workers with disabilities are less likely than those persons without disabilities to use a computer on the job (47% compared with 61%) [36].

Although much of the population with disabilities does not require modifications or accommodation in their work environment, there are a significant number who do. From modified work stations and work load to accessible parking, temporal and spatial mismatch can be a detriment to both the employed and the unemployed person with disabilities.

PART FOUR: DISCRIMINATION

Those persons with disabilities may experience several types of job-related discrimination. One type is wage discrimination. Jones noted the evidence consistently finds workers with disabilities earn significantly less than non-disabled workers, even after controlling for differences in human capital and job related characteristics [14]; this suggests some form of wage discrimination is occurring in respect to the workers with disabilities. After controlling for work productivity, Jones and Sloane found an unexplained residual difference between the earnings of those with disabilities who report no work limitations and the non-disabled [7]. They also interpret this figure as an estimate of wage discrimination. In fact, Jones states that approximately 40% of the wage gap between those persons with disabilities subject to prejudice and the non-disabled is due to discrimination [14]. Gunderson observed that persons with disabilities earned 83.1% of the pay of non-disabled workers [10]. In fact, the presence of wage

discrimination will force some individuals to exit the labour market, and may, therefore, explain some of the observed difference in employment rates [14].

Employment discrimination is a second type of discrimination. In the UK, about half of the difference in employment probability is explained by differences in characteristics – leaving a significant unexplained component [47]; Jones interprets this difference as employment discrimination [14]. Schur found that persons with disabilities are significantly more likely to be in temporary and part-time employment, although over half of these employees say that they would prefer permanent jobs. An explanation for these high rates of contingent and part-time work among persons with disabilities is that employer discrimination may limit their access to traditional full-time jobs. Schur goes on to caution that employment discrimination may exacerbate health problems that make it difficult for persons with disabilities to work in traditional full-time jobs [15]. An important question for further research is whether engaging in contract work, part-time work and temporary employment is the result of discrimination or a voluntary choice made by persons with disabilities [14].

A third form of discrimination addressed in the literature on disability is health discrimination which may occur because persons with disabilities generally suffer more health related problems than their counterparts [40]. Jones, Latreille and Sloane found that there is a very wide variation in the extent to which various types of health problems hamper job prospects, with mental illness having the most severe effects [8]. However, examining discrimination based on health conditions in the UK, Madden found that the analysis revealed relatively little discrimination on the basis of health [48]. Further research on this particular type of discrimination as it relates to employees with disabilities is needed.

Finally, there is harassment, or personal discrimination. Uppal's 2005 Canadian research found that 14.7% of individuals with disabilities report experiencing harassment or discrimination at the workplace; while only 6.7% of those persons without disabilities report the same [22]. This form of discrimination may include various sources of discrimination such as customers and co-workers as well as employers. It may also include discrimination which limits the employees' access to training and promotions, as discussed previously.

These four forms of job related discrimination that have been measured in relation to persons with disabilities include wage, employment, health and harassment or personal discrimination. Each of these has the potential to impact the likelihood of job matching and hence, job mismatch for individuals with disabilities. Although discrimination tends to be very difficult to measure, it is a real obstacle for those persons with disabilities and further research in this area is warranted.

PART FIVE: IMPLICATIONS FOR POLICY DEVELOPMENT

Any discussion of policy implications necessarily immerses one in the broader debate regarding what proportion of governmental, private sector, and third sector involvement

is optimal. Any writer has their own assumptions, and ours are well known in the public domain [49, 50]. The present paper reports on some of the major writings on the topic, and does not comment on, nor provide any recommendations regarding optimal levels of government/private sector/third sector involvement.

American scholar Kalleberg's findings strongly suggest that labour markets have not been effective in producing good fits between persons and jobs, underscoring the need for social policies that shape the operation of labour markets so as to alleviate mismatches and temper their consequences [11]. He goes on to state that most individuals cannot hope to achieve better fits by their own actions; hence, the alleviation of these mismatches needs to be a focus of the government's social and economic policies. As well, business strategies should seek to enhance competitiveness through workplace practices that enable workers to participate in decisions and become integral parts of their workplace communities. Americans Baldwin and Schumacher comment that disability advocates should focus on the dual problems of *gaining access to employment* and *retaining employment* in their efforts to obtain equal opportunities for persons with disabilities in the labour market [16]. Below, we present a collection of governmental initiatives, possible business led recommendations, and strategies for disability advocates as gleaned from the literature review.

Based on their Canadian research the Panel on Labour Market Opportunities for Persons with Disabilities (PLMO) provided several suggestions for policy.

1. Firstly, the PLMO found that a significant issue faced by companies is the lack of connection between employers and community partners, as well as government programs. Better connection could facilitate a more inclusive recruiting process. Several employers identified the need for a "one stop shop" for filling recruitment needs. Clearly, the challenge is identifying the right partner(s) for each employer [26]. As well, to address labour market imperfections vocational rehabilitation and employment services – job training, counselling, job search assistance and placement – can develop or restore the capabilities of people with disabilities to compete in the labour market and facilitate their inclusion in the labour market. At the heart of all this is changing attitudes in the workplace [51].
2. Secondly, the PLMO suggest that employers examine their recruiting websites to ensure accessibility by persons with disabilities (small font size, online applications, etc.) [26].
3. Thirdly, they suggest that by setting the tone at the top, organizations could formalize their commitment to hiring people with disabilities in company policies and guidelines [26, 51].
4. Fourthly, they found that many companies expressed challenges with employing those persons with mental health disabilities; as these employees must first self-identify to be accommodated, and employers felt that many employees are reluctant to do so if the disability is hidden and/or stigmatized [8, 26]. A publicity program may help reduce such stigma.
5. Finally, far fewer students with disabilities have had summer or part time jobs, co-ops, mentoring or apprenticeships – all critical "leads" to permanent employment. When they have had significant work experience while at school,

young post-secondary graduates with disabilities find work more quickly and rarely fall out of the labour market – underscoring the need to engage with this group and provide opportunities for early experience [26]. Along these lines, younger workers with disabilities tend to face higher levels of disadvantage in the labour market in a number of areas, and facing this type of disadvantage early in life can have a cumulative negative impact on one’s career possibilities [33]. Policies and programs should be developed to enhance the employment opportunities for young individuals with disabilities.

Kalleberg also offers several suggestions to reduce the likelihood of job mismatch. The following concepts address effective policy implications that would ultimately benefit not only the worker with disabilities, but often the general public, too [11].

6. Temporal Mismatch: Implementing much more flexible working hours, as well as an expansion of rights for part-time workers could also be coupled with legislation that moves the country toward working fewer hours by reducing the full-time workweek to thirty or thirty-five hours, mandating a minimum amount of vacation time for all workers, and providing time for personal leave and sick leave [11].
7. Geographical Mismatch: Geographical mismatches are apt to be less common in places with efficient public transportation that facilitates commuting to work and makes it possible for people to travel long distances from their homes [11]. Accessibility to public transportation for persons with disabilities plays a critical role in reducing geographical mismatches.
8. Earnings Mismatch: In countries where unions and worker associations are strong, such as Sweden and Norway, levels of poverty, especially working poverty, are relatively low, and incomes are more equally distributed [11]. Safety nets are in place and as a consequence, part-time or low-wage workers have medical insurance and retirement benefits, and so are less likely to suffer many of the negative consequences associated with inadequate work. The government can also require employers to pay part-time workers the same hourly wages and benefits as full-time workers [11].
9. Skill Mismatch: Desjardins and Rubenson state that it would be wise to determine whether the job-skill mismatch occurs because the employee never had the required foundation skills; had the required foundation skills, but those skills depreciated; or had the required foundation skills, but requirements increased due to innovation [12]. In the first case, policy must ensure first and foremost quality education which delivers the foundation skills needed by all. For the second case, there is a need for continual training so that the employee with disabilities doesn’t face the use it or lose it scenario. For the third case the primary response is to complement the introduction of changes with adult education/training. Desjardins and Rubenson go on to suggest that adult education/training may help foster the optimal utilization of existing skills bases [12]. Kalleberg also believes that labour supply policies are needed to make sure that workers are adequately prepared for high-quality jobs. These policies need to focus on developing people’s human capital – their skills and abilities – as well as their social capital – network connections and membership in various kinds of

social groups [11]. This would address many of the well-being issues faced by persons with disabilities discussed earlier.

10. Qualification Mismatch: Kalleberg suggests that government should focus on creating good, high-quality jobs rather than the proliferation of low-wage, often low-skilled jobs and hence, combat the disappearance of middle-class jobs. In recent years there has been a rise in earnings and benefits mismatches, along with under-working, over-qualification, and geographical mismatches [11]. To support this up-skilling and qualifying, society should give workers the education and training they need to obtain and perform these high-quality jobs. Social policies and business strategies ought to promote investments in human capital through training and education and enhance people's social capital, such as their network connections to other people and communities [11]. Higher education clearly increases employment opportunities. Education, in fact, appears to have a bigger effect on the likelihood of employment for people with disabilities than for people without disabilities [52].
11. Assessment is considered an important component of job matching. Morgan found that appropriate assessment increases the chances of employment success, creating higher levels of motivation for the job seeker to improve skills, and it respects individual choice. Morgan's research into job matching involved the use of software programs to assess job skills and preferred jobs for job-seekers with disabilities. Results showed that such tools were useful in increasing the chances of employment matching success [53]. Implementation of such computer assisted programs would be beneficial.
12. The use of tax breaks and subsidies as incentives for employers is another promising approach to alleviating mismatches and creating jobs especially for these groups [11].

Perhaps through these policy enhancements, and commitments at the community, organizational, and personal levels, we will be able to reduce the vulnerability of workers with disabilities to market forces and provide them sufficient market power and control over their employment conditions so that they can find and keep jobs that fit with their needs and preferences [11]. Education and communication are vital.

PART SIX: FURTHER RESEARCH

The scope of potential research is inhibited only by the human imagination. No single report could enunciate all areas of research that could, or should, be conducted. Based, however, on the literature the researchers examined, it is reasonable to pursue the following 12 areas – which could in turn bring Canadian research up to date and secondly assist in educating relevant Canadian stakeholders regarding people with disabilities and the propensity for job mismatch.

1. Examine the most recent PALS data for Canadian wage comparisons, training and promotion standards, and levels of job satisfaction between persons with

disabilities and their non-disabled counterparts. Current statistics are critical for many of the following directives.

2. Analyze the current Canadian data for indicators of discrimination by comparing the non-work-limited and the non-disabled workers. There are a number of analytical and methodological approaches by non-Canadian scholars that could be usefully considered, if not extrapolated to the Canadian scene: Jones et al. (2011; Australian) [9] and Jones, Latreille and Sloane (2009; British) [54].
3. Distinguish explicitly between the short and long run labour market impacts of the different types of disability; from mobility and pain issues, to hearing and seeing, to mental health disabilities.
4. Explore more closely the negative relationship between disability and job satisfaction and understand the reasons for the reduction in job satisfaction with disability onset.
 - a. Meet with focus groups to discuss personal experiences with job satisfaction and possible solutions to this downward trend.
 - b. Educate employers regarding best practices.
5. Identify areas of expected labour shortages which will occur over the next two decades as baby boomers retire. Educate and train persons with disabilities in order to develop a labour pool that can help to fill these positions.
 - a. Examine the forecast for future personnel shortages.
 - b. Develop training programs for persons with disabilities in these fields.
6. Understand the subjective experience in Canada, amongst those persons with disabilities, employers, and other important stakeholders. These include but are not restricted to such areas as health discrimination.
7. Provide social support groups for workers with disabilities so that they do not feel isolated and segregated.
8. Utilize research to educate employers at all levels regarding the real costs and benefits of making adaptations for new hires.
9. Research and implementation of formalized assessment instruments to assist job seekers with disabilities.
10. Research regarding persons with disabilities possibly accepting lower wages or purposeful job mismatches in order to secure employment of any form.
11. Deploy and evaluate demonstration project(s) on a community and organizational level that seeks to reduce job mismatch issues in one or more areas as outlined in this report.
12. Research into the practice of graduated levels and types of employment for people with disabilities; and research into public and private insurance income security earnings disregards associated with instances of labour market participation.

CONCLUSION

While a growing body of literature provides insight into job mismatch, much less is known about job matching and persons with disabilities. It is thought by some that in the case of people with disabilities job mismatch appears to be mostly a negative

phenomenon [10]. The previous pages of this report provide some elaboration on how and why this may be.

It is not as though job mismatch concerns are outside of broader norms of society, nor broader discourses. Indeed, numerous observers in and outside of Canada have commented on the need to address job mismatch in general and for persons with disabilities in particular. One recent Canadian private sector report, *Skilled labour mismatch: How big is the problem?* claims that no less than 30% of businesses indicate that they face a skilled labour shortage - double the rate seen in early 2010 [23]. Persons with disabilities are currently disproportionately under-represented in the working world and may constitute a suitable source of skilled labour [9, 46]. Yet, there is other research that cautions that persons with disabilities are significantly more likely to be mismatched in the labour market than their non-disabled counterparts [7]. These particulars encourage restrained attentiveness to the many facets of the issue surrounding the effect of disabilities on job mismatch and vice versa.

Inferred throughout this report are the importance of research and the necessity of its application. The work presented here could, we hope, lead to improvements for many people with a disability who are in the labour market. But perhaps, above all, the imperative to do so is normative. A fully inclusive society would surely want to address, and resolve, any issues of job mismatch among any in Canadian society. Empirical evidence could allow us to do so thoughtfully.

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