

The Relationship between Perceived Underemployment and Wellbeing: Evidence from Mid-Size Canadian Cities

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Abstract This study examines the association between underemployment and quality of life, with a focus the explanatory power of community and leisure factors. Using survey data collected by the Canadian Index of Wellbeing in four mid-size communities ($N = 5561$), a subsample of participants was selected who indicated that they worked for pay ($n = 2845$). About one-fifth of workers were underemployed, based on a perceived mismatch between their job and their education and training. Guided by a modified perspective of the Leisure Constraints Model that includes intrapersonal, interpersonal, and structural level constraints and/or facilitators to participation, data were analyzed using two linear regression models examining overall wellbeing and self-assessed mental health. After controlling for socio-demographic characteristics in each model, mediators were introduced and then further probed to determine significant pathways in the relationships. In both cases, the direct effect of underemployment was negative. Wellbeing among underemployed workers was partially mediated by two structural, and one interpersonal factors: time for self, perceived access to recreation and cultural opportunities, and sense of community. Mental health was fully mediated by time for self and sense of community. In a test of contrast between significant pathways, there were no differences in either model, suggesting that each of the significant leisure moderators contributed equally to the relationship between underemployment and quality of life. Community and leisure factors have been relatively

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unexamined to date, but results show that they should be considered for inclusion in future research on personal outcomes of underemployment.

Keywords Underemployment · Quality of life · Well-being · Mental health · Leisure · Sense of community

The financial crisis of 2008 resulted in massive layoffs and economic restructuring from which many countries have yet to fully recover. Unemployment remains persistently high in countries such as Greece (25.8 %) and Spain (23.4 %) (Eurostat 2015) with youth age 15 to 24 years disproportionately affected (OECD 2014). Although some countries such as Canada have seen the unemployment rate return to near pre-recession levels (Statistics Canada 2015), more people report being *underemployed* – i.e., working part-time, not by choice, and in jobs that underutilize their skills and education (Tal 2015). While unemployment and underemployment differ conceptually, they share similar quality of life-related consequences (McKee-Ryan and Harvey 2011). These can include poorer health, higher rates of depression, reduced self-esteem, lower status and income levels, and feelings of despair and frustration (Blustein et al. 2013; Winefield 2002).

As underemployment continues to increase, greater attention to wellbeing outcomes of underemployment is warranted with respect to a range of experiences, opportunities, and daily activities. In particular, factors contributing to higher wellbeing such as community integration and support have received little attention (Pedulla and Newman 2011), and there is almost no mention of the role of leisure as a potential buffer to the chronic stress experienced by people who are underemployed (Friedland and Price 2003). Indeed, leisure is a known coping resource for stressful work situations (Iwasaki 2003; Joudrey and Wallace 2009; Osipow and Davis 1988; Pöllänen 2015) and chronic stressors (Hutchinson and Kleiber 2005), and is linked to greater life satisfaction, psychological well-being, optimism, happiness, and self-esteem, (Iso-Ahola 1997; Kaczynski 2007; Pöllänen 2015). Further, spending time with family, friends, and neighbours in one's community is associated with stronger perceptions of subjective well-being among the general population (Helliwell and Putnam 2005)

Using survey data collected from four Canadian mid-size communities, we examine the association between underemployment and quality of life, with a focus on the explanatory power of community and leisure factors on this relationship. Our premise is that not only can underemployment have an impact on community wellbeing (Pedulla and Newman 2011), but that communities also have an impact on quality of life of the underemployed. To guide the study, we begin with the Leisure Constraints Model (Crawford and Godbey 1987), using a perspective advanced initially by Raymore (2002). The original framework addresses intrapersonal, interpersonal, and structural constraints to leisure participation, and the detrimental effect of such constraints on wellbeing. We extend the model to consider how constraints can be conceptualized as facilitators or assets that, when present, can enhance quality of life. In doing so, we address the following research questions:

1. What is the relationship between skill-based underemployment and quality of life?
2. To what extent is quality of life among underemployed workers mediated by leisure constraints/facilitators at the intrapersonal, interpersonal, and structural level?

To begin, we explore conceptual definitions of underemployment, the prevalence of underemployment in Canada, and related literature about underemployment and quality of life.

What is Underemployment?

Unemployment is defined as being available for paid work, but unable to find a job (Statistics Canada 2014), while *underemployment* is a more complex, multidimensional construct (McKee-Ryan and Harvey 2011). Underemployment is typically categorized according to time, income, status, or skills (Weststar 2011). It can be measured objectively (e.g., fewer work hours than desired; earning 20 % less than one's previous job or peers; or as a mismatch between job requirements and skill level), subjectively (e.g., personal perceptions of job adequacy given one's work hour preferences; income expectations; education and skills; and/or prior work experiences), or by combining both objective and subjective measures (Feldman 1996). McKee-Ryan and Harvey note that underemployment is typically predicted by difficult situations, either personally or economically, and can happen across a diverse set of occupations. Although the discourse surrounding unemployment and underemployment is mostly negative, the degree to which quality of life is affected can vary according to personal circumstances, such as having access to adequate financial resources and social support (Blustein et al. 2013); whether underemployment is by "choice" in order to more easily balance multiple responsibilities (Feldman and Turnley 2004; Weststar 2011); or is perhaps undertaken as a late career, post-retirement activity that confers social, financial, and personal benefits (Sargent et al. 2013). Therefore, it is important to be sensitive to contextual factors when considering the wellbeing implications of underemployment as they can serve to exacerbate or alleviate the wellbeing consequences.

Underemployment in Canada

Definitional differences make it challenging to accurately assess the prevalence of underemployment. Statistics Canada and many other countries use a time-based conceptualization of underemployment as involuntary part-time work, or working less than 30 hours per week because full time work is unavailable (Statistics Canada 2014). This definition is also termed *visible* underemployment, and is more easily measured than other types of underemployment (Gilmore and LaRochelle-Côté 2011). Rates of underemployment tend to rise during recessionary periods (Feldman 1996). In the aftermath of the global economic downturn, the percentage of involuntary part-time workers in the Canadian labour force increased from 5.4 % in 2008 to 6.8 % in 2010 (OECD 2015), with little change since that time. The 2014 underemployment rate of 6.6 % was just marginally lower than 2010, and somewhat higher than the comparable rate of 5.4 % for the G7 nations overall (OECD 2015).

There has been some effort to measure skill-based underemployment with national data, variously referred to as *overqualification* (more education than the job requires) or *invisible* underemployment (Gilmore and LaRochelle-Côté 2011). Analyses of longitudinal data from the Survey of Labour and Income Dynamics between 1993 and 2001

revealed that not only did overqualification – defined as university graduates working more than one month during the past year in a job requiring only a high school diploma – increase, at roughly 30 % of the labour force, it far exceeded previous estimates of 19 % in 2001 (Li et al. 2006). The authors found that young workers, immigrants, and humanities graduates were most likely to be underemployed. Since then, there has been no decline in rates of skill-based underemployment in Canada. Among university graduates in 2011, age 25 to 34 years old, about 40 % held jobs for which a university degree was not required. Again, immigrants and graduates of humanities, social sciences, and business administration programs were disproportionately affected. Women were more likely to be underemployed as well (Uppal and LaRochelle-Côté 2014). Underemployment is likely to rise as people remain in school for longer periods of time, thereby increasing the pool of highly qualified graduates and people who wish to decrease or avoid periods of unemployment by accepting jobs for which they are overqualified and often underpaid (O’Halloran and Skiba 2014).

Wellbeing Outcomes of Underemployment

Job and career outcomes of underemployment are well documented (for a comprehensive overview see McKee-Ryan and Harvey 2011), but the personal consequences to wellbeing or quality of life have not been thoroughly examined. We view wellbeing as a multi-dimensional construct that not only includes health, but also extends to subjective assessments of time and income adequacy, as well as satisfaction with various life domains. We define wellbeing holistically as, “the presence of the highest possible quality of life in its full breadth of expression focused on but not necessarily exclusive to: good living standards, robust health, a sustainable environment, vital communities, an educated populace, balanced time use, high levels of democratic participation, and access to and participation in leisure and culture” (Canadian Index of Wellbeing 2009, para.1) This definition reflects a social determinants of health approach where living conditions in various life spheres, including the community and workplace, help to explain differences in wellbeing (Raphael 2009).

Most research on the wellbeing effects of underemployment focuses on mental health. Underemployment has been linked to greater psychological distress and depression (Johnson and Johnson 1996), lower levels of optimism (Cassidy and Wright 2008), reduced self-esteem and mental health (Friedland and Price 2003), and a higher incidence of despair and frustration (Blustein et al. 2013). These effects can vary according to type of underemployment and mental health indicator. For example, Friedland and Price observed that *time*-based underemployment was linked to lower levels of positive self-concept, whereas *income*-based underemployment was associated with more activity limitations due to poor health and more depressive symptoms. Among Korean workers, mental health and life satisfaction for *income*-based underemployed and unemployed workers were both significantly lower than for adequately employed workers, while the *skill*-based underemployment was related to lower levels of self-esteem (Roh et al. 2014). The mechanisms through which these relationships operate remain less well explained, but may be associated with multiple factors related to job characteristics, type of underemployment, job fit, and individual personalities operating in concert (Dooley and Prause 2004). Further testing of mediators and

potential moderators is needed to better understand the mechanisms and processes by which underemployment affects quality of life (McKee-Ryan and Harvey 2011).

Despite the close association between mental and physical health, there is limited evidence of a negative relationship between physical health and underemployment. In a longitudinal study of graduating students, Cassidy and Wright (2008) found that positive health behaviours declined in the nine-month post-graduation period for graduates who were unemployed or underemployed, but remained stable among their adequately employed counterparts. Johnson and Johnson (1999), however, reported that underemployment was unrelated to a decline in self-assessed health over a one-year period. Among older workers, people working the hours they desired reported better physical health than those working fewer hours than desired (Herzog et al. 1991). There is also evidence of an increased risk of alcohol misuse associated with underemployment (Dooley and Prause 1998).

Life satisfaction is a commonly used measure of wellbeing that moves beyond mental and physical health to provide an evaluation of life as a whole (OECD 2013). Substantial evidence supports a negative relationship between underemployment and life satisfaction (Feldman and Turnley 1995; Friedland and Price 2003; Roh et al. 2014) with both larger population studies and specific sub-groups. Among internationally trained engineers living in Canada, for example, those working in a job outside their field indicated greater dissatisfaction with life and expressed less commitment to settling permanently in Canada (George et al. 2012). Further, people living with disabilities and experiencing skill-based underemployment reported low levels of life satisfaction that were only marginally higher than those who were unemployed (Konrad et al. 2012). This finding is especially concerning because people living with a disability are far more likely to be underemployed than other workers (Statistics Canada 2008).

Although social connectivity and support is an important contributor to quality of life (Helliwell and Putnam 2005), there is little research to date on the value of social relationships in mitigating the impact on people experiencing underemployment (McKee-Ryan and Harvey 2011). When people who are underemployed have supportive personal relationships as well as financial and other types of instrumental support, they report fewer feelings of frustration and despair (Blustein et al. 2013). Dooley and Prause (2004) also report that depressive effects of underemployment were buffered only by the presence of a spouse, suggesting the importance of social support. Further, emotional support is linked to better self-assessed health among the underemployed (Johnson and Johnson 1997), although perceptions of social support tend to be considerably lower than experienced by people with desirable employment (Cassidy and Wright 2008). Being underemployed may lead to more social isolation because a lower income restricts people from participating in social activities requiring expenditures on transportation, meals, or events. Alternatively, the negative health and wellbeing consequences of underemployment might be related to a sense of alienation from one's social network and colleagues because of a sense of comparative disadvantage or perceived outsider status.

In a review of family and community impacts of underemployment, Pedulla and Newman (2011) note that there is little research to date examining relationships between underemployment and community characteristics. However, based on related studies of unemployment, they speculate that underemployment may influence the quality of community life. They suggest that underemployment could directly or

indirectly increase the burden on health care and community services because, “Increases in crime and decreases in political responsiveness, combined with the economic, familial, relational, and psychological strains of underemployment, can drain a community’s resources” (p. 244). Looking at the underemployment-community relationship from a different perspective, the potential also exists for communities to offset negative wellbeing outcomes of underemployment. For instance, Lim and Schulker (2010) speculate that the social structure of the military community helped to maintain life satisfaction among military wives, many of whom were underemployed.

In summary, people who are underemployed experience a variety of negative consequences to quality of life, especially with regard to undesirable psychological and mental health outcomes and, to some extent, compromised health-related behaviours. Life satisfaction, a broader measure of wellbeing than health alone, is generally lower than for those who feel adequately employed. Less well researched is the role of social support and communities in relation to wellbeing outcomes for the underemployed. Some studies suggest that if social and emotional support is available, coping abilities are improved. Further investigation is needed on the effect of underemployment on communities, as well as the impact of communities on the wellbeing of people who are underemployed.

Theoretical Framework

The relationship between underemployment and personal wellbeing has been approached through a variety of theoretical lenses based primarily in the psychology literature (Feldman 2011; Winefield 2002). Consequently, while a focus on explaining how individual characteristics relate to positive or negative wellbeing outcomes has been useful, limited attention has been given to social, community, and leisure factors that may also affect the relationship between underemployment and quality of life. We address this by using the Leisure Constraints Model (Crawford et al. 1991) to guide the study. Leisure plays an important role in people’s lives, particularly when one considers the resources that are directed toward leisure and cultural activities, facilities, equipment, events, and media coverage (Caldwell 2005). Leisure allows people to enhance wellbeing by engaging in activities that support a sense of identity at both the individual and community level (Jun et al. 2012); facilitate social interaction and community involvement (Baker and Palmer 2006); and contribute to better mental and physical health (Wendel-Vos et al. 2004). Leisure is also a demonstrated adaptive coping strategy for chronic stressors and job-related stress (Hutchinson and Kleiber 2005; Iwasaki 2003; Joudrey and Wallace 2009).

When originally conceived, the Leisure Constraints Model focused on three types of barriers that were believed to impede participation: intrapersonal (individual), interpersonal (relational), and structural (Crawford and Godbey 1987; Crawford et al. 1991). The model was subsequently broadened to recognize that it also served to identify factors that did not just constrain leisure, but influenced individual’s leisure choices (Samdahl and Jekubovich 1997); in other words, factors that enabled or *facilitated* leisure participation (Hubbard and Mannell 2001; Raymore 2002). Intrapersonal factors are beliefs or mindsets that influence leisure preferences. For example, respondents’

beliefs about benefits related to specific leisure activities were linked to participation in those activities over a one-year period (Ajzen and Driver 1991). Interpersonal factors are related to social expectations and support (or lack thereof) from others for participation. Social support and social interdependence, and a greater sense of connection to the community can facilitate leisure participation (Henderson and Bialeschki 2005). Indeed, there is considerable evidence for the role that social support plays in encouraging participation, especially in physical activity. Among those who provide unpaid care for older adults, for instance, a stronger sense of community was linked to higher facility use within the community. High use of recreation and cultural facilities also acted as a mental health buffer for those providing long hours of care (Schryer et al. 2015). Finally, structural constraints were defined originally as external barriers such as time, money, and geographic location that can inhibit participation. However, structural factors can also facilitate participation when greater social and spatial equity are present and enhance, for example, residents' access to public parks, through greater mobility, shorter travel distances, and better socio-economic conditions (Chang and Liao 2011).

In the present study, this three-part model of intrapersonal, interpersonal, and structural factors helps guide our approach to identifying facilitators linked to leisure participation among people who are underemployed and subsequently, to their wellbeing. From this perspective, the potential constraint examined here stems from underemployment itself, and how underemployment may limit resources in diverse facilitators relevant for leisure participation.

There is almost no research about underemployment that considers the role of leisure participation in mitigating the negative effects of underemployment. In a recent study of how underemployed and underemployed people allocate their time, Zuzanek (2015) noted that the underemployed spent more time in home-based leisure activities such as watching television or general internet use, and participated less in spectator events, perhaps as a result of lower income levels. They also spent more time on educational activities, looking for work, and on unpaid household labour. In the same study, there was evidence of lower levels of social integration among the underemployed including feelings of trust, sense of belonging, and participation in the electoral process when compared to full-time workers and those who worked part-time by choice. This suggests that the underemployed feel a sense of social isolation and anomie, as described by Durkheim (Thompson 1999), that is more common during periods of economic instability and social change.

In this study, we begin by determining the relationship between subjectively assessed, skill-based underemployment and quality of life using data from mid-size Canadian cities. Since we anticipate a negative association, we then probe the relationship further by examining the explanatory role of the three types of leisure facilitators based on the constraints model. We conceptualize underemployment as a subjective experience of skill-based underemployment, where there is a perceived mismatch between occupational position and education and skills. Although perhaps a less conservative measure than objectively assessed, time-based underemployment, behaviours, attitudes, and emotional responses to underemployment are more likely guided by personal perceptions (Feldman 2011). In doing so, we evoke the Thomas theorem: when a situation is perceived as real, it becomes real in its consequences (Merton 1995).

Method

This study uses data from surveys undertaken by the Canadian Index of Wellbeing (CIW) in four mid-size cities in Canada during 2012 to 2014. The survey design allowed the eight domains comprising the CIW to be examined by asking questions related to each domain comprising the CIW's conceptual framework: community vitality, democratic engagement, the environment, education, healthy populations, leisure and culture, living standards, and time use (Michalos et al. 2011). Since perceptions of wellbeing often vary by social location (Diener 2006), several questions about demographic factors also were included. The survey was originally designed to gather data from residents about aspects of their community that contributed to or detracted from their quality of life. The overall goal was to inform policy development that would lead to new or enhanced programs, services, and supports designed to improve residents' wellbeing.

The Study

A mid-size city is defined as having a population between 50,000 to 500,000 residents, and is characterized by lower densities and outward suburban growth, and a sense of place based on convenience, greenery, and natural amenities (Bunting et al. 2007). Using a proportional (based on population) random sampling procedure, 11,000, 20,000, 6175, and 15,841 households from each of the four mid-size cities, were invited by a community leader or organization to participate in a wellbeing survey. A total of 5561 adults ranging in age from 18 to 97 years took part in the survey (from 554 to 2239 respondents in each community). Most completed the survey online using the URL provided, but about 10 % requested a print version, which they returned in a pre-paid business envelope. All communities were located in Canada, with two in Ontario, one in British Columbia, and one in Alberta. Three communities were similar in size, while the Alberta community was smaller. Income and age demographics were consistent with the community profiles based on Statistics Canada's 2011 National Household Survey (Statistics Canada 2013).

We drew a subsample of participants ($n = 2845$) who, when asked, "Do you work for pay", answered "yes". Overall, the age range was from 18 to 82 years old. The youngest respondents were from Alberta ($M = 46.5$ years old), and the oldest lived in British Columbia ($M = 52.7$ years old), with residents of the two Ontario communities falling between ($M = 49.3$ and $M = 51.3$ years old). Average income was similar for three communities, but higher among Alberta residents. The survey did not collect information about career path, job tenure, employment sector, occupational class, or other factors that might have contributed to the respondents' perceptions of their underemployment.

Measures

Underemployment Employment status was assessed using a question from the Effort-Reward Imbalance scale (Siegrist et al. 2004) that asked participants to indicate the extent to which they agreed with the following statement: "My current occupational position adequately reflects my education and training". Answers ranged from 1 = "very

strongly disagree” to 7 = “very strongly agree”. Responses were recoded into a dichotomous variable so that underemployment was coded as “1”, for those whose answered “very strongly disagree”, “strongly disagree”, or “disagree”. All others were coded as “0”, indicating that they were adequately employed or undecided.

Quality of Life Two measures were used to assess quality of life, *wellbeing* and *mental health*. *Wellbeing* is often conflated with health, but it is a broader concept that includes multiple factors related to quality of life. We use a global measure of *wellbeing* based on 12 items adapted from the Happiness Initiative Survey (Musikanski et al. 2016), with four additional items included by the CIW to ensure complete representation of each of the eight domains of the CIW conceptual framework (see the Appendix for all items included in the wellbeing measure). Respondents indicated their level of satisfaction along a 7-point scale from 1 = “extremely dissatisfied” to 7 = “extremely satisfied” on each item related to a component of wellbeing. Six domains were represented by the mean score of two items, one represented by a mean score of three items (i.e., leisure and culture), and one represented by a single item (i.e., education). A mean score for all domains represented overall wellbeing ($\alpha = .88$).

The second measure of quality of life, *mental health*, has been addressed in studies of the personal outcomes of underemployment before, but the mechanisms have not been explored extensively or with attention given to the contributions of recreation and leisure. *Mental health* was measured by asking participants to indicate how they would rate their mental health. Responses ranged from 1 = “poor” to 5 = “excellent”. This measure is taken directly from the Canadian Community Health Survey (Statistics Canada 2012), and provides a broad, general assessment of mental health. It is used with the understanding that single-item, subjective measures often correlate highly with multi-item measures of the same construct in quality of life studies (Cheung and Lucas 2014; Gardner et al. 1998).

Leisure Facilitators Three types of leisure facilitators were measured. At the intra-personal level, we assessed attitudes toward leisure using selected items from the *leisure satisfaction* scale developed by Beard and Ragheb (1980). The scale measures the extent to which people believe that leisure activities satisfy personal needs (Ragheb 2012). Twelve items from four of the subscales were included. Participants reported their beliefs about the social (e.g., “My leisure has helped me to develop close relationships with others”), relaxation (e.g., “My leisure helps relieve stress”), physical (e.g. “I participate in leisure that restores me physically”), and educational (e.g. “My leisure activities provide opportunities to try new things”) benefits of leisure participation, with each component represented by three items. Respondents indicated their agreement with each statement along a 7-point scale where 1 = “very strongly disagree” and 7 = “very strongly agree”. A mean score of all 12 items measured the extent to which they believed their leisure activities met personal needs ($\alpha = .91$).

At the interpersonal level, *sense of community* measured participants’ social relationships and feelings of community support using the Multidimensional Territorial Sense of Community Scale for Local Communities (MTSOCS; Prezza et al. 2009). Of the five original MTSOCS subscales, the three most relevant were chosen: (1) *social climate and bonds*, which focuses on social ties and the sociability of the community (e.g., “I have good friends in this community”); (2) *help in case of need*, which addresses the

willingness of community members to provide assistance when needed (e.g., “Many people in this community are available to give help if somebody needs it”); and, *needs fulfillment*, which examines perceptions of the availability of activities, programs and services that meet residents’ needs and interests (e.g., “This community provides opportunities for me to do a lot of different things”). Each subscale had four items, and level of agreement to these items was assessed along a 7-point scale where 1 = “very strongly disagree” and 7 = “very strongly agree”. Five items were reverse-scored so that a higher mean of all 12 items represented a stronger sense of community ($\alpha = .89$).

Two items were used to measure structural level factors. Lack of time has consistently been shown to be a barrier to leisure participation (Jackson and Scott 1999). *Time for self* measures the extent to which people believe, “There is enough time to be yourself”, away from obligatory tasks, commitments, and responsibilities. This is consistent with experiential definitions of leisure that recognize the salience of context and diversity, and avoid the activity-based definitions of leisure which may be problematic, especially for women (Deem 1986; Shaw 1985). Time for self is an item included in the adapted time adequacy scale used by Moen et al. (2008) to measure work-life fit. Respondents indicated whether there was enough time for themselves using a 10-point scale that ranged from 1 = “not at all enough” to 10 = “almost always enough”.

The other structural level factor considered was *access to recreation and cultural opportunities*. This 6-item scale was developed by the CIW specifically for the Community Wellbeing Survey, and measures not only structural factors like geographic proximity (e.g., “There is a local park nearby that is easy for me to get to”), but also financial (e.g., “The cost of public recreation and culture programs prevents me from participating”, reverse coded) and perceptual factors (e.g., “The recreation and cultural facilities are very welcoming to me”). Participants were asked to respond along a 7-point scale, where 1 = “very strongly disagree” to 7 = “very strongly agree”. The mean score on all six items was calculated so that higher scores reflected higher levels of perceived accessibility to recreation and cultural opportunities in the community ($\alpha = .77$).

Socio-Demographics *Age* was measured in years. *Gender* was coded as “0” for female, and “1” for male. *Income* was measured by two groups: those with a household income below the median of approximately CAN\$80,000 were coded as “0”, and participants with a household income at or above the median were coded as “1”. *Education* was divided into two categories, where a high school education or less was designated by “0”, and higher levels of educational attainment by “1”. Participants were considered *partnered* if they were married or cohabiting, and were coded as “1”, while those who were single, separated, divorced or widowed were coded as “0”. *Disability status* was designated as “1” for people who indicated they were living with a disability that limited their daily activities, and “0” for people who were not. *Weekly work hours* were calculated based on the sum of estimated work hours at main and all other job(s) (if applicable).

Analysis Plan

Summary descriptive statistics were used to characterize the sample, followed by t-tests and chi-square tests to examine differences and similarities between underemployed

and other workers. Bivariate correlations explored the relationships between perceptions of wellbeing and mental health with leisure facilitators, selected demographic measures, and underemployment. Next, two linear regression models tested the effect of leisure facilitators on the association between: (1) underemployment and wellbeing, and (2) underemployment and mental health. For both regression models, the first step assessed the contribution of age, gender, household income, education, partner status, disability status, weekly work hours, and underemployment status. The leisure facilitation measures – leisure satisfaction, sense of community, time for self, and access to recreation and cultural opportunities – were added in the next step as possible explanatory factors in the relationship. The two models were then tested with a method developed by Preacher and Hayes (2008) that uses bootstrapping to create a reference distribution with a 95 % confidence interval that allows significance testing of each estimate. The advantage of this method is that it produces an estimate for the *total* effect (relationship between underemployment and quality of life), and for the *direct* effect (relationship between underemployment and quality of life, controlling for mediators), as well as *indirect* effects of the relationship between underemployment and quality of life through each of the mediators. The test also allows comparisons between mediators in terms of the extent to which each contributes independently to explaining the association between underemployment and the outcome variables. Results are deemed statistically significant when results generated for the lower and upper levels of the bias corrected confidence intervals (LLCI and ULCI, respectively) of the mediation point estimates (*ab* paths) do not cross zero.

Results

As shown in Table 1, the mean age overall was 50.5 years ($SD = 11.2$), which would suggest that most participants were mid-career and close to entering a late career stage. Fewer than half were male (42.7 %), and three-quarters (75.4 %) were married or cohabiting. More than four out of five participants (83.0 %) had more than a high school education, and 60.9 % had a household income of \$80,000 or higher. About one in ten reported a disability that interfered with the activities of daily life (9.9 %). Weekly work hours averaged 38.2 ($SD = 14.2$), with the underemployed working fewer hours ($M = 36.2$, $SD = 14.8$) than others ($M = 38.7$, $SD = 13.9$) ($t = 3.90$, $p < .001$).

Twenty-one per cent of the sample was categorized as underemployed. When underemployed participants were compared to other employees, no significant differences were found between groups based on educational attainment, relationship status, or gender (also noted by McKee-Ryan and Harvey 2011 in their review of the underemployment literature), but underemployed participants reported significantly lower household incomes ($\chi^2 = 60.72$, $p < .001$), were less likely to view their income as adequate ($t = 22.62$, $p < .001$), were somewhat younger on average ($t = 2.02$, $p = .043$), and more often had a disability or chronic illness ($\chi^2 = 8.03$, $p = .005$). Consistent with other studies (e.g., Feldman and Turnley 1995; Johnson and Johnson 1996; Roh et al. 2014), the two groups differed significantly on quality of life variables with the underemployed reporting lower levels of both wellbeing ($t = 9.79$, $p < .001$) and self-assessed mental health ($t = 3.63$, $p < .001$). When examining leisure facilitators, underemployed workers had less time for self ($t = 3.84$, $p < .001$), less

Table 1 Sample characteristics ($n = 2845$)

Variables	<i>M/Pct.</i>	<i>SD</i>
Demographics		
Age	50.5	11.2
Male	42.7	–
Education above the high school level	83.0	–
Income at or above the median (CAD \$80,000)	60.9	–
Partnered	75.4	–
Living with a disability	9.9	–
Work factors		
Underemployed	21.0	–
Weekly work hours	38.2	14.2
Quality of Life		
Wellbeing (1–7)	4.77	0.95
Mental health (1–5)	3.74	0.91
Leisure		
Leisure satisfaction scale (1–7)	4.94	0.72
Sense of community (1–7)	4.99	0.80
Time for self (1–10)	7.49	2.56
Access to leisure facilities (1–7)	4.94	0.91

satisfaction with their leisure ($t = 3.04$, $p = .002$), lower perceived access to recreation and cultural opportunities ($t = 3.95$, $p < .001$), and a diminished sense of community ($t = 5.69$, $p < .001$).

Prior to testing the linear regression models, the strength of the relationships among outcome variables, leisure mediators, weekly work hours, and demographic factors were examined (see Table 2). Significant relationships ($p < .001$ unless otherwise indicated) were shown for overall wellbeing with sense of community ($r = .545$), time for self ($r = .530$), access to recreation and cultural opportunities ($r = .474$), and mental health ($r = .465$). Although strong relationships between these variables are evident, they do not meet the multicollinearity threshold for exclusion ($r > .700$), as suggested by Tabachnick and Fidell (1996). Mental health was also strongly associated with time for self ($r = .273$), leisure satisfaction ($r = .269$), and sense of community ($r = .262$). Age was positively related to wellbeing ($r = .183$) and mental health ($r = .072$), while longer work hours were related to lower levels of wellbeing ($r = -.136$), a lower sense of community ($r = -.039$, $p = .037$), and decreased access to recreation and cultural activities ($r = -.038$, $p = .048$). Underemployment was significantly, negatively associated with all factors, and positively associated with having a disability. No significant relations were evident for underemployment and gender or level of education,

In the first stage of the linear regression model, which examined factors associated with workers' wellbeing, significant positive associations were found for age, income, and being partnered (see Table 3, Model 1). On the other hand, having a disability, long

weekly work hours, and being underemployed were negatively related to wellbeing. These factors remained significant even when the leisure mediators were introduced to the model (see Table 3, Model 2). All four leisure factors – time for self, leisure satisfaction, sense of community, and access to recreation and cultural activities – were positively associated with wellbeing. In total, the model explained 55 % of the variance in workers' feelings of wellbeing.

Subsequent testing of the mediators (Preacher and Hayes 2008) showed a significant negative direct effect of underemployment (c) on wellbeing ($B = -.377, p < .001$) (see Fig. 1). The model was partially mediated by leisure factors so that the indirect effect (c') remained significant, although the strength of the coefficient was reduced ($B = -.210, p < .001$). Three pathways of mediation were significant (i.e., the upper and lower confidence interval for ab paths, or indirect effect, did not cross zero): access to leisure facilities (a_1b_1 path: *point estimate* = $-.17, SE = .03; LLCI = -.054, ULCI = -.005$), sense of community (a_3b_3 path: *point estimate* = $-.06, SE = .01; LLCI = -.010, ULCI = -.024$), and time for self (a_4b_4 path: *point estimate* = $-.07, SE = .01; LLCI = -.117, ULCI = -.023$). In tests of contrasts, these pathways did not differ significantly from one another, suggesting that all three played a similar role in explaining the relationship between underemployment and wellbeing.

The second linear regression model examined factors related to workers' mental health and the relationship to underemployment. Age, income, and being partnered contributed positively to mental health and, as anticipated, there was a negative association with underemployment (see Table 4, Model 1). Unlike the first model for wellbeing, disability and work hours were not significantly related to mental health. With the addition of the leisure mediators, age and partner status remained significant although underemployment did not, and there was a significant positive association with weekly work hours (see Table 4, Model 2). This latter finding suggests that people who are in better mental health are likely more capable of working longer hours. Time for self, leisure satisfaction, and sense of community were significantly associated with better mental health. Access to recreation and cultural opportunities also was significant, but only weakly. In total, the model explained 15 % of the variance in self-assessed mental health.

Further probing of the leisure variables showed that the model was fully mediated, as indicated by the regression results. The direct effect of underemployment on mental health (c) was significant ($B = -.118, p = .007$) (see Fig. 2). The model was fully mediated such that when the leisure variables were included in the model, the indirect path (c') was no longer significant ($B = -.038, p = .361$), and two of the indirect paths were statistically significant. A strong sense of community mediated the effect of underemployment on mental health (a_3b_3 path: *point estimate* = $-.02, SE = .01; LLCI = -.045, ULCI = -.007$), indicating the importance of social integration to positive mental health outcomes for people who are underemployed. Time for self also contributed to better mental health among the underemployed (a_4b_4 path: *point estimate* = $-.04, SE = .01; LLCI = -.067, ULCI = -.012$). Neither of these two pathways differed significantly from the other. In other words, sense of community and adequate time for self contributed in similar ways to the relationship between underemployment and mental health.

Table 2 Relationship among wellbeing, sense of community, selected leisure experiences, and selected demographic factors

Factors	N	Wellbeing, leisure, and demographic factors														
		1	2	3	4	5	6	7	8	9	10	11	12	13		
1. Wellbeing	2781	1														
2. Mental health	2768	.465***	1													
3. Sense of community	2764	.545***	.262***	1												
4. Access to facilities	2769	.474***	.212***	.476***	1											
5. Leisure satisfaction	2768	.399***	.269***	.400***	.376***	1										
6. Time for self	2731	.530***	.273***	.253***	.202***	.213***	1									
7. Age	2753	.183***	.072***	.086***	.049***	-.010	.206***	1								
8. Weekly work hours	2755	-.136***	.025	-.039*	-.038*	.016	-.190***	-.220***	1							
9. Gender (male) ^a	2761	.005	.023	-.043	.006	-.062	.023	.143***	.180***	1						
10. Education ^a	2769	.026	.062	.032	.085	.115***	-.042*	-.073	.037	.000	1					
11. Income ^a	2652	.172	.116	.127	.145	.103	-.018	-.106	.221***	.079***	.175***	1				
12. Partnered ^a	2761	.126	.082	.063	.040	.038	-.023	-.062	.020	.130***	.037	.387***	1			
13. Disability ^a	2741	-.152	-.163	-.085	-.115	-.070	-.030	.096	-.099***	.002	-.033	-.106***	-.086***	1		
14. Underemployed ^a	2745	-.184	-.069	-.107	-.075	-.057	-.073	-.039*	-.074	-.002	-.009	-.152***	-.010	-.054**	1	

Pearson correlations (*r*) reported, 2-tail significance where: * $p < .05$, ** $p < .01$, *** $p < .001$

^a binary variables

Table 3 Contribution of selected demographics, underemployment, and leisure to *wellbeing*

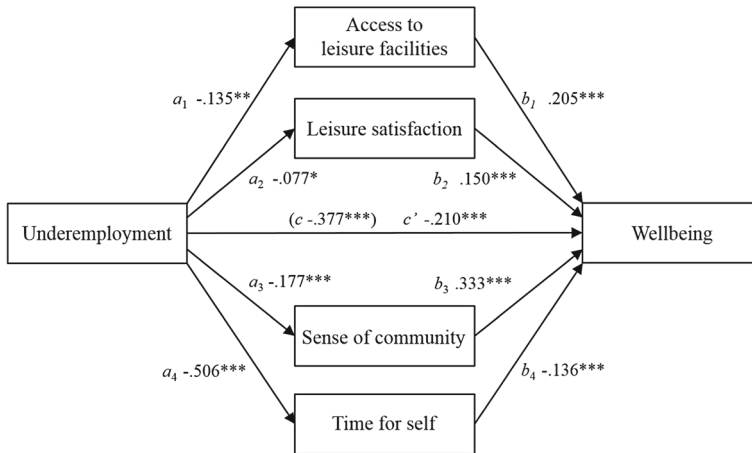
Independent Variables	Model 1		Model 2			
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>		
Constant	4.19	***	.12	-.02	***	.14
Demographics ^a						
Age	.02	***	.00	.01	***	.00
Gender (Male =1)	-.03		.38	.00		.03
Education	-.02		.05	-.04		.04
Income	.32	***	.04	.15	***	.03
Partnered	.16	***	.05	.17	***	.03
Presence of disability	-.01	***	.00	-.00	***	.00
Work						
Weekly work hours	-.01	***	.00	-.00	**	.00
Underemployed	-.38	***	.04	-.21	***	.03
Leisure						
Time for self				.14	***	.01
Leisure satisfaction				.15	***	.02
Sense of community				.33	***	.02
Access to leisure facilities				.21	***	.02
Adj. R ²	.12			.55		

$n = 2501$; ** $p < .01$, *** $p < .001$

^a binary variables

Discussion

Using data from mid-size Canadian cities, we first examined the relationship between subjectively assessed, skill-based underemployment and quality of life, using overall wellbeing and mental health as focal variables. As anticipated, the relationship was negative in both cases. Based on the strength of the coefficients, we found that underemployment was more detrimental to overall wellbeing than to mental health alone. Our second goal was to better understand mechanisms through which underemployment is related to diminished wellbeing and mental health outcomes. To do so, we introduced mediators based on the Leisure Constraints Model (Crawford et al. 1991) at the intrapersonal, interpersonal, and structural levels, re-conceptualized as potential facilitators of leisure participation. Acting either separately or in concert, these three types of factors can enhance opportunities for leisure, which has been identified as a coping resource for those faced with chronic and work-related stressors (Hutchinson and Kleiber 2005; Iwasaki 2003; Osipow and Davis 1988), and underemployment fits both stress categories (Friedland and Price 2003). The results indicate that when leisure involvement is facilitated by these factors, it can enhance feelings of wellbeing and self-assessed mental health among people with skill-based underemployed, which complements research on time-based underemployment and wellbeing using national General Social Survey data (Zuzanek 2015). To date, the mediating effects of leisure have been



Control variables include: gender, partnered, income, education, age, presence of a disability, and weekly work hours

Fig. 1 Association between *underemployment* and *wellbeing* mediated by access to leisure facilities, leisure satisfaction, sense of community, and time for self

almost entirely overlooked as a potential mechanism through which the relationship between underemployment and quality of life operates. This study suggests that leisure should be considered as a facilitator for improved quality of life among workers who are underemployed, who represent a marginalized and largely invisible population.

Underemployment and Wellbeing

The overall wellbeing of underemployed workers was enhanced when there was adequate time for personal development and relaxation; social ties, services and supports in the community to meet their needs; and adequate access to recreation and cultural opportunities. The strength of the relationship between underemployment and the holistic measure of overall wellbeing indicates that underemployment effects quality of life across multiple domains of activity. Inter-linkages between domains that comprise the CIW framework for the wellbeing indicator are substantial (Michalos et al. 2011) and play out regularly in daily life. For example, a person with little time for him or herself may be unable to participate in activities linked to better wellbeing, such as engaging with community and special interest groups, pursuing further education for personal interest, participating in activities that help to protect the environment, or volunteering in the community.

Time for self represented a significant structural factor that could either enhance or diminish wellbeing among underemployed workers. Although taking time for oneself is often promoted in the popular press as essential to wellbeing (e.g., see Huffington 2014), underemployed workers may find it more difficult to achieve in practice. In addition to responsibilities and commitments in other areas of their lives, they may be investing considerable time looking for more suitable employment, resulting in less available time for personal interests. Further, different facilitators can overlap and work in tandem. For underemployed survey participants, adequate time for self and access to leisure opportunities had a similar effect on wellbeing. Sufficient leisure time would allow participation in recreation and cultural activities that can be restorative, promote

Table 4 Contribution of selected demographics, underemployment, and leisure to *mental health*

Independent Variables	Model 1		Model 2			
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>		
Constant	3.01	***	.12	.79	***	.18
Demographics ^a						
Age	.01	***	.00	.01	**	.00
Gender (Male =1)	-.01		.04	.02		.04
Education	.09		.05	.08		.05
Income	.14	**	.04	.06		.04
Partnered	.13	***	.05	.13	**	.04
Presence of disability	-.00		.00	.00		.00
Work						
Weekly work hours	.01		.00	.01	***	.00
Underemployed	-.12	**	.04	-.04		.04
Leisure						
Time for self				.07	***	.01
Leisure satisfaction				.19	***	.03
Sense of community				.13	***	.03
Access to leisure facilities				.05	*	.02
Adj. R ²	.03			.15		

$n = 2494$; * $p < .05$, ** $p < .01$, *** $p < .001$

^a binary variables

physical and/or mental health, and increase opportunities for social interaction within the community (Baker and Palmer 2006; Caldwell 2005; Jun et al. 2012; Wendel-vos et al. 2004). Similarly, if recreation and cultural opportunities are perceived as geographically accessible, welcoming, and affordable, people who have little time for self may find it easier because presumably a shorter commute it would take less time out of their day and they may be more motivated to participate.

Sense of community represented an interpersonal constraint and the results indicated that underemployed workers had lower levels of community engagement. They had fewer social ties and bonds, and there was a decreased likelihood of their needs and interests being met within the community. Other research has demonstrated the importance of social support in the relationship to wellbeing for underemployed workers. Without such support, health behaviours can be compromised (Cassidy and Wright 2008; Johnson and Johnson 1997). Further, the presence of social and community support has been associated with similar levels of life satisfaction between under- and adequately-employed workers (Lim and Schulker 2010).

Leisure satisfaction, an intrapersonal facilitator, was a significant factor in the models too, even if it was not a statistically significant mediator. It may have been a precondition of the strength of the other leisure factors in the model. Without pre-existing attitudes about the value of leisure participation, it is unlikely that access to recreation and cultural opportunities, for example, would be so strongly related to

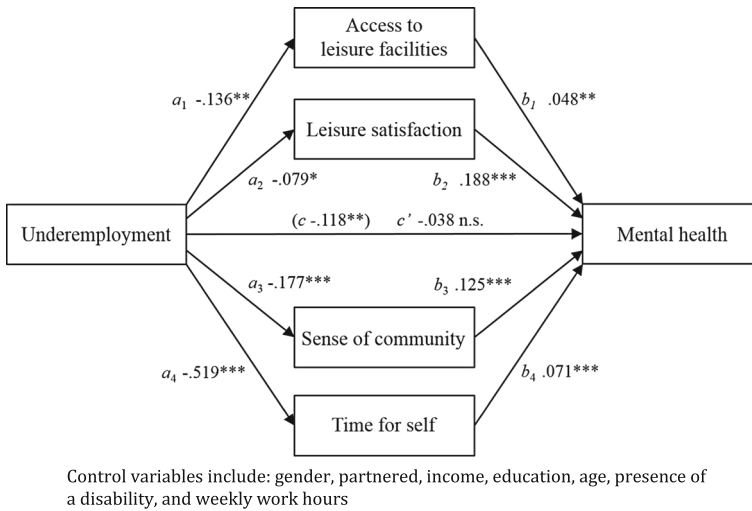


Fig. 2 Association between *underemployment* and *mental health* mediated by access to leisure facilities, leisure satisfaction, sense of community, and time for self

wellbeing outcomes. It was also evident that wellbeing was strongly influenced by objective factors, over and above intrapersonal, interpersonal, and structural leisure factors. This is perhaps not surprising when considering the implications of, for example, a lower household income, which is linked to food insecurity, less desirable housing and neighbourhoods, and diminished health status (Raphael 2009).

Underemployment and Mental Health

Consistent with other research, the relationship between mental health and underemployment was negative (Blustein et al. 2013; Cassidy and Wright 2008; Friedland and Price 2003; Johnson and Johnson 1996; Roh et al. 2014). By using a Leisure Constraints Model (Crawford et al. 1991), however, we were able to apply a different disciplinary perspective to provide new insights about the mechanisms by which this relationship operates. Self-assessed mental health among the underemployed was associated with two leisure facilitators: sense of community and time for self.

The results indicate that workers who are underemployed have a diminished sense of community that, in turn, has consequences for mental health. Sense of community is important to consider because the lack of social and emotional support is associated with despair, frustration, and depression among the underemployed (Blustein et al. 2013; Dooley and Prause 2004). Turning to another component of sense of community, needs fulfillment, which reflects the ability to meet social and personal needs through activities at community events or leisure facilities, it has been demonstrated to buffer poorer mental health among marginalized groups such as caregivers (Schryer et al. 2015), and may apply to underemployed workers as well. Having strong social ties and bonds, as well as access to services, supports, and opportunities for participation in community activities, can decrease feelings of isolation. Such ties can also enhance group solidarity and mitigate against the detrimental effects of anomie in the face of socio-economic change, as described by Durkheim more than a century ago (Thompson 1999).

Like wellbeing, the mental health of underemployed workers was affected by not having enough time for self. This group may make tradeoffs between time spent searching for better job opportunities and personal leisure time. It could also be that their comparatively lower household income means that time for leisure is restricted by increased time needed for domestic activities because they may be less able to afford meals out or pay others to complete time-consuming chores like house cleaning. Underemployed workers report significantly less time for self than other workers. The lack of time for self could diminish potential stress-coping resources of people who are underemployed and leisure can serve as a coping resource when they are dealing with chronic stressors (Iwasaki 2003).

Policy Implications

Underemployment as an outcome of the recent economic downturn is becoming more prevalent (O'Halloran and Skiba 2014; OECD 2015). As such, considering how quality of life can be enhanced among this group at a societal level is an important challenge. The optimal policy focus, of course, would be to ensure people are working in jobs that match their levels of education and training, but without knowing the exact reasons why people in the study were underemployed, it is difficult to accurately target policy responses. Underemployment could be due primarily to technological advancement or a lack of job opportunities, but may also be a "choice" made by workers when assessing their own capacities in the face of other demanding responsibilities such as child care, or informal caregiving for dependent and/or older adults. Underemployment may also be subject to personal factors, such as the presence of a disability or chronic illness, that contribute to more limited job opportunities and a greater likelihood of underemployment (Statistics Canada 2008). There also could be other hidden factors like ageism, racism, or sexism that restrict workers' opportunities for suitable employment. Therefore, recommendations are limited to the findings of the study.

By including sense of community in the analyses, we provide evidence that communities can affect quality of life for underemployed workers, perhaps more so than the reverse situation proposed by Pedulla and Newman (2011) – that underemployment could undermine the quality of community life. Although this situation is possible, further research is required to test this proposition. Our findings suggest that there is potential for communities to respond by promoting activities and services that have a strong social component and require a lower time commitment in order to better meet the needs of underemployed workers. Changes such as these may contribute to improving mental health and wellbeing outcomes. The results also identify access to recreation and cultural opportunities as a perceived facilitator to leisure participation among underemployed workers. Interventions to increase awareness and access are required at the municipal level to promote recreational activities by highlighting local amenities, offering low-cost programs and events, and assessing community facilities to ensure a welcoming environment. Further, nurturing a better understanding of the schedules and routines of dominant work sectors in the community where underemployment is more prevalent (e.g., retail and service occupations) would also enhance access.

Limitations and Future Directions

There are limitations to this study that should be considered in light of the findings. This was a secondary analysis of data exploring community wellbeing, and not the wellbeing of underemployed workers specifically. Consequently, there are some factors absent from the survey that would be useful to include in future for a more nuanced picture of quality of life among underemployed workers. For example, no information is provided about the length of time participants have been underemployed nor is there any indication of whether or not people might have freely chosen underemployment because of other responsibilities or circumstances. For example, some participants may have pursued jobs requiring less education and fewer responsibilities in order to balance childcare demands or caregiving of older adults. Or, underemployment may have been a choice for older workers who have retired from one career, but are willing to work in a different capacity or sector to access the financial, structural, and social benefits associated with working (Sargent et al. 2013). Further, additional information about occupational class, training, and career path would allow a more refined measure of underemployment.

Another limitation is the mean age of the participants, which suggests that they were mostly in mid- to late career stages. Unfortunately, there were fewer participants representing earlier career stages who may have had different experiences related to underemployment not captured in this study. Further, we examined only skill-based underemployment. Different quality of life implications may be present for people experiencing income, status, or time-based underemployment, or a combination of these types.

Future research could apply a similar theoretical framework to all types of underemployment to determine similarities and differences in the relationship to quality of life. Further, more refined measures of mental health would be useful in better understanding how leisure constraints and/or facilitators either improve or diminish specific conditions. As mentioned, very little research is available about either the role of community in the underemployment-wellbeing relationship, or the impacts of underemployment on communities (Pedulla and Newman 2011). More research into community factors is encouraged, using diverse methodologies and epistemological perspectives.

Conclusion

This study was a preliminary examination of the role of leisure constraints and/or facilitators as explanatory mechanisms in the relationship between skill-based underemployment and quality of life. To date, leisure has been largely overlooked as a potential mediator of the relationship, but our findings indicate that it contributes to both mental health and overall wellbeing among people who are underemployed. By using the Leisure Constraints Model to explore intrapersonal, interpersonal, and structural level factors to participation, the research sheds a different disciplinary light on the wellbeing implications of underemployment and addresses a need identified by McKee-Ryan and Harvey (2011) for more research examining the mediators and moderators of the relationship between underemployment and quality of life.

The Leisure Constraints Model (Crawford and Godbey 1987) proved useful in identifying the contribution of constraints or “facilitators” at the intrapersonal, interpersonal, and structural levels. A well-developed sense of community is related to stronger social ties and bonds, and the ability of the community to meet individual needs for services, supports, and activities of interest. Adequate time for self was significantly lower among the underemployed but, if available, would allow for personal development, relaxation, and social opportunities that can meaningfully enhance quality of life. Access to recreation and cultural opportunities at the geographic, financial, temporal, and experiential levels, was also an integral component of better mental health among underemployed workers. The findings also have policy implications for how communities can help to improve quality of life for underemployed workers. Programs and services that require fewer financial and temporal resources, while integrating a social component, have the potential to increasingly support the underemployed, who are a growing but often invisible segment of the labour force.

Appendix

Wellbeing refers to a holistic, global measure of wellbeing based on the conceptual framework of the Canadian Index of Wellbeing. It includes eight domains: community vitality, democratic engagement, education, environment, healthy populations, leisure and culture, living standards, and time use. The scale was preceded by the statement, “We would like you to indicate your overall level of satisfaction with a variety of areas that affect wellbeing.” Respondents were then asked, “For each of the following statements, please indicate *how satisfied you are* by checking the circle that best describes how you feel”

Wellbeing scale ($\alpha = .88$)

(Scale: 1 = extremely dissatisfied, 7 = extremely satisfied)

Community vitality

- My sense of belonging to this community
- My personal relationships

Democratic engagement

- The way my local government responds to community needs*
- How well democracy is working in our community**

Education

- My access to educational opportunities in the community

Environment

- My neighbourhood as a place to live
- The environmental quality of my neighbourhood

Healthy populations

- My mental wellbeing
- My physical wellbeing

Leisure and culture

- My access to arts and cultural opportunities in the community
- My access to parks and recreational opportunities in the community*
- My leisure time

Living Standards

- My financial situation
- My work situation

Time use

- The balance of activities in my daily life*
- The way I spend my time*

Source: Adapted from Musikanski et al. (2016)

* Statements added by the Canadian Index of Wellbeing (CIW) to address all components of the wellbeing conceptual framework

** Statement based on Musikanski et al. (2016) and modified by the CIW

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