There is growing awareness of the relationship between disability and social exclusion in Australia. While much of the literature to date has focused on outcomes for people with intellectual or developmental disabilities, disability is a multidimensional concept that encompasses impairments with physical function or structure (e.g., blindness), activity limitations (e.g., needing help with mobility), and/or restrictions in participation (e.g., attending school or work, having opportunities for social interaction). The diverse nature of disability is reflected in the frequently used operationalization of disability as the presence of one or more of a range of impairments, activity limitations, or participation restrictions that are long term and restrict everyday activities.

The participation restriction aspect of disability shares considerable overlap with the common (although contested; see Peace, 2001) understanding of social exclusion as material deprivation and lack of opportunity to participate in the social, political and economic opportunities usually available to citizens within a particular society (Burchardt, Le Grand, & Piachaud, 1999). Disability in and of itself, however, does not necessarily equate to the lack of opportunity for participation that characterizes social exclusion. Whether disability is accompanied by exclusion will be determined by the availability of, and an individual’s access to, different forms of institutional capital (e.g., transportation, services, and other types of infrastructure), human capital (e.g., education and skills), and social capital (e.g., community participation and support networks).

Although disability is not a necessary or sufficient condition for social exclusion, there is substantial evidence that people with disability are at a heightened likelihood of experiencing disadvantage in many facets of life. Two well-studied areas in which people with disability can be excluded from full participation are the human capital dimensions of education and employment. In Australia, for example, it has been shown that disability status is associated with a lower likelihood of having a higher education degree (Australian Bureau of Statistics, 2003; Winn & Hay, 2009) and a greater probability of receiving income support, relative to people without disability (47.5% in contrast with 16.0%; Mavromaras, Oguzoglu, Black, & Wilkins, 2007).

Abstract

It is well documented that disability can be associated with exclusion from full participation in education and employment. This may in turn affect the overall well-being and life satisfaction of people with disability. Less clear are the ways in which location may affect social participation and access to social support among people with disability. Although it has been argued that regional or rural living facilitates social connectedness and access to social support, the validity of this theory in the context of disability has not been assessed. This study investigates different types of community involvement, levels of perceived social support, and self-reported life satisfaction among regional people with disability relative to their counterparts living in major cities. Regional people with disability report higher involvement in volunteer work, more frequent attendance at community events, and stronger feelings of being part of their community, which partially supports the hypothesis that location and social participation are related. The findings show that despite greater relative socioeconomic disadvantage regional living can be associated with enhanced social connectedness.

Keywords

disability, regional, participation, exclusion
Disability is also related to lower levels of employment participation. Over the period from 1988 to 2003, employment participation rates for people with disability in Australia were around 25 to 30% lower than for people without disability, despite a small increase in employment participation for people with disability that coincided with strong growth in the labor market during the latter part of that period (Australian Institute of Health and Welfare, 2008). In 2003, almost half (47.2%) of people with disability aged between 15 and 64 years were not in the labor force, compared with less than one-fifth (19.2%) of people without disability (Mavromaras et al., 2007). Similarly, unemployment rates among people with disability are consistently higher than for persons without disability (Australian Institute of Health and Welfare, 2008), and people with disability who are of prime working age (that is, between 18 and 45 years old) can experience considerable economic disadvantage relative to people without disability (Jenkins & Rigg, 2004).

Disability and Social Connectedness

Whereas disability has commonly been studied in the context of employment and education, less studied are the social dimensions of disability, such as the relationship between disability and social connectedness (or social isolation—the lack of connectedness). It has been argued that social connectedness, indexed by measures such as levels of social support and community participation, relates positively to an individual’s mental health and overall well-being (Moore, Townsend, & Oldroyd, 2007). The few Australian studies of relationships between social connectedness and wellbeing are consistent with this proposal. For example, Ziersch, Baum, Darmawan, Kavanagh, and Bentley (2009) found that trust of others and social involvement were positively related to mental health, and earlier work showed a positive association between perceptions of neighborhood relationships and mental health (Ziersch, Baum, MacDougall, & Putland, 2005). Similarly, Moore and colleagues (2007) found higher life satisfaction among members of community conservation groups, relative to matched controls.

Moving beyond the individual level to a whole of community perspective, the role of social connectedness in building strong and resilient communities has been highlighted (Sobels, Curtis, & Lockie, 2001; Tonts, 2005). Conversely, relationships between social isolation, poor mental health, and lower levels of self-reported life satisfaction and well-being have been documented (Fone, Dunstan, Lloyd, Williams, & Watkins, 2007; Hawthorne, 2008), as have links between social isolation, a lack of community resources, and low community cohesion (Cattell, 2001). Despite growing awareness of the potential importance of social connectedness for both individual and community well-being, relatively little Australian research has examined social connectedness among people who face an elevated risk of exclusion from full participation in community life. It is often assumed that individuals who may be excluded from opportunities in areas like education and employment will (either as a consequence or an independent correlate) face similar exclusion from other forms of participation, but this has not been well tested in relation to disability.

Although existing work suggests that social connectedness can be affected by a nuanced interplay of socioeconomic and demographic factors, situational factors that may affect social connectedness for people with disability have not been extensively considered in an Australian setting. One of these factors is location. Location can affect access to a range of services, infrastructure, training, and employment opportunities, and it could also affect social connectedness. This may occur directly, such as increasing the distance that must be travelled to access social opportunities. It may also occur indirectly, for instance by affecting economic participation opportunities, in turn limiting the resources available to facilitate social participation.

Location and Disadvantage: Does Socioeconomic Disadvantage Affect Social Participation?

The proposition that location can detrimentally influence social connectedness is situated against the theory of double disadvantage. The double disadvantage theory suggests that health-related disadvantage (for example, limits on the type or amount of paid work that can be undertaken) is compounded by locational disadvantage (such as a lack of services in a particular area). It has been proposed that people with disability who live outside major cities may, due to the combination of disability and location, face a heightened risk of disadvantage (Gething, 1997). A greater likelihood of disadvantage may in turn increase the risk of exclusion from a range of life opportunities, including social participation. Consequently, it is important to determine whether the double disadvantage theory applies to social participation, and if so, in what capacity. This knowledge can inform ways to support the ability of regional people with disability to participate fully in community life.

The double disadvantage theory rests on three assumptions. The first assumption is that disability and socioeconomic disadvantage are related; there is considerable support for this assumption. The next assumption is that location and disadvantage are related. However, the extent to which working-age people with disability in regional Australia experience locational disadvantage, relative to people with disability living in major cities, has not been quantified. Baseline data are necessary to test the premise.
that location and disadvantage are related for people with disability.

There is broad evidence that location and disadvantage are related. On measures such as employment and income, rural and regional Australians are generally less advantaged than are their counterparts in major cities. In recent decades, Australians living in regional and rural areas (particularly areas traditionally connected with agricultural production) have faced increasing levels of unemployment, poor health, and financial hardship—factors that reflect in part the impacts of drought (Alston & Kent, 2004; Hall & Scheltens, 2005), demographic trends (an aging community and negative population growth), primary production policy changes, and a shift away from rural industries (Archer, 2000; Talbot & Walker, 2007).

These effects have not been uniform. Some areas (such as mining towns) have fared relatively well economically in recent years due to the performance of the commodities market (Stimson, Baum, & van Gellecum, 2004). However, with variations noted, the general trend in regional and rural Australia has been toward the withdrawal of services and infrastructure such as banks and retail outlets (Argent & Rolley, 2000; Pritchard, 2000; Smailes, 2000), a shortage of general practitioners and health care providers (Fraser et al., 2005; Talbot & Walker, 2007), reducing political representation due to increasing population concentration in urban areas and subsequent electoral rezoning (Archer, 2000), a lack of jobs for unskilled or low-skilled workers, and outward migration of young people (Alston, 2004; Wilkinson, Gray, & Alston, 2003).

The final premise of the double disadvantage theory is that disability and locational disadvantage have cumulative negative impacts. However, even if this expectation is applicable in regard to socioeconomic circumstances (the full testing of which was not the goal of this study), there is an absence of knowledge about whether socioeconomic disadvantage affects social participation for people with disability. It has been argued that (irrespective of socioeconomic disadvantage) regional and rural living may foster a sense of belonging, enhanced community cohesion, and strong social ties (Boyd, Hayes, Wilson, & Bearsley-Smith, 2008; Gething, 1997; Obst, Smith, & Zinkiewicz, 2002). Regional living has previously been associated with benefits such as greater social support, stronger neighborhood relationships, and increased community participation relative to city residence (Stain et al., 2008).

These findings challenge the assumption that location may have negative impacts on social participation for people with disability; they accord instead with a social cohesion theory. In this context, social cohesion is defined as a sense of belonging, reciprocity, and neighborliness, and it is operationalized through measures like levels of volunteering, engagement with community events, neighborhood relationships, and feelings of being part of the community. From the social cohesion theory, it follows that regional living may mitigate, rather than contribute to, the likelihood of social exclusion among people with disability through increased social connectedness—for example, engagement with community activities and strong support networks. This contrasts with expectations set out under the double disadvantage theory. Therefore, it is important to determine whether people with disability who live in regional Australia are more likely than people with disability who live in cities to report a greater sense of community belonging and social support (in keeping with the social cohesion theory) or whether socioeconomic disadvantages associated with regional living, when coupled with disability, extend to lower participation in community and social activities (as predicted on the basis of double disadvantage).

Limits in Current Knowledge

Despite the potential for working-age people with disability living in regional Australia to be at an elevated risk of social exclusion relative to their counterparts living in major cities, those individuals’ perceptions of their social connectedness have not been well documented. There is evidence for greater social cohesion and social connectedness in rural and regional communities overall, but this finding may not extend to people with disability. For example, some have suggested that where formal support services are absent (such as in areas of greater disadvantage), a community may be less likely to extend informal support to those of its members seen as having high needs (d’Abbs, 1991). It has also been found that the socioeconomic characteristics of individuals are associated with differences in social connectedness (Warburton & Stirling, 2007), consistent with the theory that social capital is facilitated by material resources (Bourdieu, 1986). Therefore, individuals who are socioeconomically disadvantaged—a situation linked with disability—may report very different experiences of social connectedness than individuals who are more advantaged.

This Study: Rationale and Aims

This study tested parts of the double disadvantage theory of disability and regional location as well as its potential application to social participation. For the theory of double disadvantage to be validly applied, a condition that must be demonstrated is that people with disability in regional Australia report greater relative socioeconomic disadvantage relative to people with disability in major cities. A further condition that must be met if the double disadvantage theory applies to social participation is for regional Australians with disability to report lower levels of community involvement and social support relative to people with disability living in major cities. In contrast, if the
social cohesion theory is valid and regional living is positively associated with social connectedness, then higher levels of community participation and social support would be expected among regional residents with disability relative to city dwellers with disability.

Therefore, this study assessed the frequency with which different types of community involvement occurred, levels of perceived social support, neighborhood relationships, and self-reported life satisfaction among working-age people with disability, with emphasis on comparing the experiences of regional and city dwellers. In this context, city residents with disability provide an indicator of the demographic and socioeconomic characteristics and social participation levels associated with disability alone, forming a control group against which regional people with disability—who, in addition to disability, may also experience locational disadvantage—can be compared.

This study had three specific aims. First, it compared life satisfaction, community participation, and social support among prime working-age people with disability as a function of location. Second, it assessed the extent to which differences on those measures could be accounted for by the inclusion of demographic and socioeconomic variables. Finally, it evaluated the hypothesis that regional living is associated with greater social connectedness for persons with disability.

Method

Data Source and Sample Selection

Data were drawn from Wave 6 (2006) of the Household, Income and Labour Dynamics in Australia (HILDA) Survey (a self-report instrument) and sampled Australians who reported that they had a long-term health condition, impairment, or disability that restricts them in their everyday activities and has lasted or is likely to last for 6 months or more. HILDA adopts a broad definition of disability drawn from Australian Bureau of Statistics surveys. In this sense, chronic illness is recognized as a form of disabling condition. Although this broad approach will result in elevated estimates of disability prevalence relative to studies that focus on profound disability or core-activity limitations (i.e., self-care, mobility, and communication), this was not considered problematic given that it was not the purpose of this study to estimate the prevalence of disability by location.

Location

Geographic classifications for the study were drawn from the Accessibility/Remoteness Index of Australian (ARIA) within HILDA, which is based on 2001 Census information collected by the Australian Bureau of Statistics (2001) and categorizes location according to the following groups: major city, inner regional, outer regional, remote, and very remote.

The ARIA was used because it emphasized service access—an important aspect of locational disadvantage. Briefly, the ARIA defines remoteness as the distance people must travel along a road network to get to Service Centres (areas where they can access goods, services, and opportunities for social interaction; Australian Bureau of Statistics, 2001).

There was an insufficient number of remote or very remote respondents to allow meaningful analysis. Hence, only respondents in major cities and regional areas were included. A dichotomous variable was created, that classified respondents into one of two groups as living in regional Australia (0 = living in regional Australia, combining both inner and outer regional areas, 1 = living in a major city).

It should be noted that ARIA classifies the capital cities of Hobart (Tasmania) and Darwin (Northern Territory) as inner regional rather than major cities and that—as a purely geographical index—ARIA does not give a measure of variation in nongeographic characteristics (for example, it does not indicate whether one regional area is more affluent than another).

Demographic Information

Age, sex, and marital status data were examined. Respondents who were younger than 18 years of age, or 45 and older at June 30, 2006, were excluded from the sample. Marital status was coded into one of five groups: legally married, living with someone in a relationship (de facto), divorced/separated, not living in a relationship, or widowed. The highest education level attained by respondents was recoded into one of four categories: Year 11 or below, Year 12, certificate or diploma (excluded certificates or diplomas obtained through graduate tertiary study), and tertiary. Respondents indicated whether they were in paid work, and from this they were classified into one of three broad labor-force categories: employed, unemployed, and not in the labor force (NILF). For the purpose of descriptive analysis, these categories were further disaggregated into employed—full time, employed—part time, NILF—marginally attached to the labor force, and NILF—not marginally attached to the labor force. In the interests of maximizing cell sizes, subsequent analyses used only the three broad categories.

Financial Circumstances

Three financial variables were assessed: equivalized household income (based on gross financial year income), financial perception, and receipt of income support. Income was treated as a continuous variable and equivalized using procedures described elsewhere (Australian Bureau of Statistics,
2003). Financial perception (how well individuals believe they and their family are faring financially, given their current needs and responsibilities) was coded dichotomously (0 = reasonably comfortable to prosperous [doing well], 1 = just getting along to very poor [doing poorly]). Income support was dichotomized (1 = yes if they were in receipt of any income support payment, allowance, or other pension).

**Area Characteristics**

Three separate measures were used: the Socio-Economic Index for Areas (SEIFA) (Australian Bureau of Statistics, 2001) relative advantage/disadvantage scale, housing tenure, and area attachment.

The SEIFA advantage/disadvantage measure considers area characteristics such as the proportion of families with a high income and proportion of people employed in a skilled occupation. The relative advantage/disadvantage index is a continuum on which lower scores indicate greater relative disadvantage and higher scores indicate greater relative advantage. This added a community level component to the broader service access approach used in defining location.

Housing tenure was coded dichotomously (0 = own/paying off, 1 = rent/board/other). Area attachment was assessed on a 5-point Likert-type scale (1 = strong preference to stay, 5 = strong preference to leave the area of current residence). Lower scores therefore indicate higher area attachment.

**Social Participation**

Wave 6 of the HILDA survey (self-completion questionnaire) contains 12 questions about the frequency of community involvement, assessed on a 6-point Likert-type scale (from never to very often). The community involvement scale incorporates contact with friends, family, and neighbors; engagement with civic activities such as volunteering and giving to charity; and involvement with political activism (e.g., contacting local politicians, union activity). Each question was analyzed separately to establish whether location was associated with differences in specific types of community involvement.

Respondents also provided information about whether they were an active member of a sporting, hobby, or community-based club or association (a dichotomous variable, no/yes); if so, they were asked the number of groups of which they were currently members.

**Social Support**

Perceived social support was assessed through a series of 10 statements such as “I often feel very lonely” (reverse-coded item) and “I seem to have a lot of friends.” Respondents indicated the extent to which they agreed with each of the statements on a 7-point Likert-type scale (from strongly disagree to strongly agree). Again, each question was assessed individually. Respondents were also asked how frequently they had social get-togethers with friends or family not living with them.

**Life Satisfaction**

The life satisfaction scale in HILDA includes eight items sampling self-reported satisfaction in areas such as an individual’s financial situation, health, and free time. There is also one stand-alone measure of global satisfaction, sampled by the item “All things considered, how satisfied are you with your life?” Each life satisfaction item is scored on a scale from 0 to 10, with 0 representing the lowest level of satisfaction and 10 representing the highest level of satisfaction.

**Neighborhood Relationships**

Neighborhood relationships were evaluated using five items, with a 7-point scale of agreement for statements such as “This is a close-knit neighborhood” and “People in this neighborhood can be trusted.”

**Analyses**

Comparisons of regional and city dwellers on demographic and socioeconomic variables and measures of community involvement, social support, life satisfaction, and neighborhood relationships were undertaken using independent samples t tests or logistic regression as appropriate.

Items where locational differences were identified using bivariate analysis were selected for inclusion in multivariate analysis to determine whether demographic and/or socioeconomic factors could account for the observed differences. Multivariate analyses were undertaken using a series of multiple linear regressions (missing data excluded pairwise). The full model contained six steps:

1. Base model (location only) (reference category = regional living)
2. Base model, demographics (marital status reference category = legally married; sex reference category = male)
3. Base model, demographics, education (reference category = Year 12)
4. Base model, demographics, education, labor force status (reference category = employed)
5. Base model, demographics, education, labor force status, economic circumstances (income support reference category = not receiving support; financial perception reference category = doing well)
6. Base model, demographics, education, labor force status, economic circumstances, area characteristics (housing reference category = own/paying off home)

Results

Demographics

A total of 963 respondents reported disability, lived in a major city or regional Australia, and were between the ages of 18 and 44 years. Of these, 109 respondents did not provide sufficient self-report information to enable further analysis and were excluded from the sample. This yielded a total of 313 regional respondents with disability (151 men, 162 women) and 541 city respondents with disability (242 men, 299 women). The mean age of regional respondents was 34.16 years \((SD = 8.22)\), and for city respondents the mean age was 32.93 years \((SD = 7.76)\). Table 1 contains additional descriptive information.

Relative to regional dwellers, people with disability in major cities were more likely to have a Year 12 or tertiary education and less likely to be unemployed or not in the labor force. People with disability in regional areas were more likely to be in receipt of income support. Proportional distributions within the different marital status and housing tenure categories did not differ across locations.

Regional dwellers were significantly more likely to see themselves as doing poorly financially (55.2%), compared with 44.3% of city residents (OR: 0.65, \(p = .002, CI = 0.49–0.86\)).

Relative Advantage or Disadvantage

In keeping with the assumption of locational disadvantage, a larger proportion of people with disability in regional Australia lived in areas of greater relative disadvantage, compared to city respondents; 71% of regional respondents were in the lowest four deciles. In contrast, around half of

<p>| Table 1. Demographic and Socioeconomic Characteristics by Location |
|-----------------|-----------------|----------|----------|----------|</p>
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Location</th>
<th>OR (CI)</th>
<th>(p) value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital status</td>
<td>Major city</td>
<td>Regional</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>40.1</td>
<td>37.4</td>
<td>1.12 (0.84–1.49)</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>12.6</td>
<td>14.7</td>
<td>0.83 (0.56–1.25)</td>
</tr>
<tr>
<td>Living in a relationship (de facto)</td>
<td>16.1</td>
<td>17.3</td>
<td>0.92 (0.63–1.33)</td>
</tr>
<tr>
<td>Not married, not living in a relationship</td>
<td>31.1</td>
<td>30.4</td>
<td>1.03 (0.76–1.40)</td>
</tr>
<tr>
<td>Housing tenure</td>
<td>Own/paying off mortgage</td>
<td>55.8</td>
<td>55.3</td>
</tr>
<tr>
<td>Rent/board/other tenure</td>
<td>44.2</td>
<td>44.7</td>
<td></td>
</tr>
<tr>
<td>Employment status</td>
<td>Employed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>47.7</td>
<td>34.2</td>
<td>1.83 (1.37–2.44)</td>
</tr>
<tr>
<td>Part time</td>
<td>22.7</td>
<td>22.4</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Looking for work</td>
<td>5.5</td>
<td>10.5</td>
<td>0.50 (0.30–0.83)</td>
</tr>
<tr>
<td>Not in labor force</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marginally attached</td>
<td>8.5</td>
<td>13.4</td>
<td>0.64 (0.47–0.88)</td>
</tr>
<tr>
<td>Not marginally attached</td>
<td>15.5</td>
<td>19.5</td>
<td></td>
</tr>
<tr>
<td>Highest education level</td>
<td>Tertiary</td>
<td>22.7</td>
<td>12.5</td>
</tr>
<tr>
<td>Certificate/diploma</td>
<td>32.5</td>
<td>37.4</td>
<td>0.81 (0.60–1.08)</td>
</tr>
<tr>
<td>Year 12</td>
<td>20.5</td>
<td>13.4</td>
<td>1.67 (1.13–2.45)</td>
</tr>
<tr>
<td>Year 11 or lower</td>
<td>24.2</td>
<td>36.7</td>
<td>0.55 (0.41–0.74)</td>
</tr>
<tr>
<td>Income support receipt</td>
<td>27.8</td>
<td>45.2</td>
<td>0.47 (0.35–0.63)</td>
</tr>
<tr>
<td>Equivalized income – FY (Financial Year)($)</td>
<td>45,950</td>
<td>32,944</td>
<td>(t = 38.92)</td>
</tr>
</tbody>
</table>

Percentages may not sum to 100 due to rounding.

a. \(n = 541\).

b. \(n = 313\).

c. Two widowed respondents were recorded, one in each location group.

d. Of this category, the majority—approximately 90%—were rentals.
the city dwellers (49.6%) lived in areas in the top four deciles (full results available from the author).

Given that SEIFA measures are based on variables such as skilled labor, access to services and businesses, and family incomes, the SEIFA relative advantage/disadvantage distribution provides a community-level indicator that in this case confirms that regional people with disability live in less advantaged areas relative to their city counterparts.

Despite the differences in relative advantage or disadvantage, preferences to stay in their area of current residence did not differ between groups. Both groups reported, on average, a moderate preference to continue living in that area (Regional: $M = 2.08, SD = 1.17$; City: $M = 2.01, SD = 1.16$; $p = .435$), with responses positively skewed around a strong preference to stay.

### Social Participation

There were small but significant differences between regional and city respondents on a number of social participation items. Whereas people with disability in major cities had more frequent contact with friends and family and more often made time to catch up with friends, regional respondents had more frequent contact with their neighbors and were more frequently involved in volunteer work and community events (see Table 2).

An additional single-item measure of participation, club membership, was considered. Although regional respondents were slightly more likely than city dwellers were to be active members of a sporting, hobby, or community-based club or association (29.3% and 27.2%, respectively), this difference was not statistically significant. The number of clubs of which respondents were active members did not differ by location ($p = .752$).

### Perceived Social Support

There was little evidence of differences in perceived social support by location, with the exception of often needing help but not being able to get it. On that item, regional respondents expressed a significantly higher level of agreement than did city respondents (see Table 3).

In terms of social get-togethers, the most commonly reported frequency of contact within each group was about once a week. Regional respondents were twice as likely as city respondents were to report that they had social contact with family or friends not living with them less than once every 3 months (RR: 0.48, CI = 0.270–0.856, $p = .013$), but there were no significant differences within any other frequency categories.
Life Satisfaction

Although overall life satisfaction was broadly consistent between groups, regional and city respondents differed in regard to satisfaction with their employment opportunities and financial situation (city respondents were more satisfied) as well as levels of satisfaction with their home and feelings of being part of the local community (regional respondents were more satisfied). Table 4 shows these differences.

Neighborhood Relationships

There was evidence for locational variation in perceived neighborhood relationships. Regional respondents were more likely to agree that they lived in a close-knit neighborhood, that people were willing to help their neighbors, and that people in their neighborhood could be trusted (see Table 5).

Multivariate Analysis

Items for which bivariate analysis found significant differences were examined further using multivariate modeling. When demographic, social, and economic factors were controlled for, regional living continued to be associated with 8 of the 14 items that bivariate analysis identified as significantly different between people with disability living in major cities compared with regional Australia. The extent to which variance was accounted for by the full model differed between items, ranging from 6% (volunteering) to 32% (satisfaction with financial situation). These outcomes are summarized in Table 6.3
After taking demographic and socioeconomic factors into account, location continued to be associated with differences on three social participation items: the frequency with which respondents chat with their neighbors; attend events that bring people together such as fetes, shows, festivals or other community events; and volunteer their spare time to work on boards or organizing committees of clubs, community groups, or other nonprofit organizations. Other factors with explanatory utility in each of the three items were sex (women reported more frequent social participation) and area attachment (a stronger preference to stay in the area was associated with more frequent participation).

However, including control variables ameliorated the association between location and the frequency with which respondents had telephone, e-mail, or mail contact with friends or relatives living elsewhere; made time to keep in touch with friends; and saw members of their extended family (or relatives not living with them) in person.
Including labor force status in the model negated locational differences in the frequency of telephone, e-mail, or mail contact with friends or relatives. Irrespective of location, relative to employment, unemployment was associated with less frequent contact (B = –0.570). In the full model, receipt of income support was associated with less frequent contact (B = –0.322), whereas stronger attachment to the area was associated with more frequent contact (–0.099, recalling that lower scores indicate higher area attachment). Labor force status also mitigated the relationship between location and making time to keep in touch with friends, although in the full model employment status was not related to any differences in keeping in touch. Again, a stronger preference to remain in the area was a significant predictor of the frequency of keeping in touch (B = –0.119).

Controlling for demographic characteristics accounted for locational differences in the frequency with which respondents saw members of their extended family. In the full model, age and sex were related to scores on this item, with younger people (B = –0.018) and women (B = 0.426) reporting that they more frequently saw their extended family.

**Perceived Social Support**

When education level was included, location ceased to be significantly associated with needing help from other people but not being able to get it. In the full model, relative to those with a Year 12 education, having an education level of Year 11 or below was associated with higher levels of agreement about being unable to get help (B = 0.430). Relative to the employed group, being not in the labor force was associated with higher levels of agreement with this statement (B = 0.374), as were a lower level of attachment to the area of residence (B = 0.262) and SEIFA decile (B = –0.051). Financial perception was also associated with needing help but not being able to get it; people who saw themselves as faring poorly were more likely to report not being able to get help (B = 0.587). Finally, relative to being married, being divorced or separated (B = 0.745) or not living in a relationship (B = 0.384) were related to a higher perception of not being able to get help.

**Life Satisfaction**

After the inclusion of demographic and socioeconomic variables, regional location continued to be associated with higher respondent satisfaction with the home in which they live and feelings of being part of their local community. In the full model, financial perception (doing well) and stronger area attachment were associated with higher levels of satisfaction with the home (B = –0.548 and B = –0.572, respectively), and higher satisfaction with feeling part of the local community was positively associated with area attachment (B = –0.530) and greater relative advantage (higher SEIFA decile; B = 0.086).

Controlling for education level accounted for locational differences in satisfaction with employment opportunities, although education offered little explanatory power in the full model, where (relative to being employed) unemployment and being not in the labor force were strongly associated with lower satisfaction with employment opportunities (B = –1.851 and B = –2.434, respectively). Satisfaction was negatively associated with area attachment (B = –0.169) and poor perceived financial prosperity (B = –0.584). Regarding financial situation satisfaction, locational differences became nonsignificant when demographic factors were controlled for, although these factors were not significant in the full model. In the full model, unemployment and being not in the labor force were associated with lower levels of financial satisfaction (B = –1.356 and B = –0.728, respectively). Again, lower satisfaction was related to poor perceived financial prosperity (B = –1.968) and a stronger preference to leave the area (B = –0.241).

**Neighborhood Relationships**

Controlling for demographic and socioeconomic variables did not diminish the relationship between location and perceived neighborhood relationships. Regional living continued to be associated with higher ratings of the close-knit character of the neighborhood, neighbors’ willingness to help one another, and trustworthiness. There were consistent relationships between area characteristics and ratings on each of the three neighborhood relationship items; all items were associated with area attachment (close-knit character: B = –0.325; willingness to help: B = –0.295; trust: B = –0.272). Ratings of trust were also related to housing tenure. Relative to home ownership, rent/board/other tenure was negatively associated with trust (B = –0.294), whereas SEIFA decile was positively related to levels of trust (B = 0.088).

**Discussion**

This study explored disability and regional living, with specific emphasis on levels of community engagement and social support. It first assessed whether people with disability in regional Australia were less advantaged on key socioeconomic indicators relative to their counterparts in major cities. Determining the degree of relative socioeconomic disadvantage among people with disability in regional Australia, compared with people with disability living in major cities, tested one part of the double disadvantage theory. Specifically, it confirmed the assumption that location and socioeconomic disadvantage are related, for people with disability.
Second, the study examined whether the greater levels of relative socioeconomic disadvantage reported by people with disability in regional Australia were associated with lower levels of social support and community participation (which would be expected if the double disadvantage theory applies to social participation) or whether (irrespective of socioeconomic circumstances) regional living was associated with enhanced social participation relative to living in major cities (in accordance with the social cohesion theory). Collectively, these findings test parts of the double disadvantage theory in relation to disability and regional living and compare that theory with the alternative proposal that regional living is associated with greater social cohesion relative to living in a major city.

**Location and Disadvantage**

**Socioeconomic indicators.** The findings support the expectation that, for people with disability, regional living was associated with greater relative socioeconomic disadvantage—specifically, a greater likelihood of being unemployed or not in the labor force as well as a higher incidence of income support receipt, relative to people with disability who lived in major cities. Regional living was also associated with lower levels of education and equivalized household income and a lower likelihood of perceived financial prosperity, relative to respondents who lived in major cities. This is consistent with previous research undertaken into general populations and supports one premise of the double disadvantage theory—that for working-age people with disability, location and socioeconomic disadvantage are indeed related.

**Life satisfaction measures.** There was support for a relationship between greater relative socioeconomic disadvantage and specific aspects of life satisfaction, which is consistent with the double disadvantage theory. On the measure of satisfaction with employment opportunities, where bivariate analysis indicated lower satisfaction among regional respondents, locational differences were mitigated by the inclusion of labor force status, and demographics reduced to nonsignificance the relationship between location and respondents’ satisfaction with their financial situation. Labor force status provided significant explanatory power in the full model. Collectively, these observations suggest that education and employment circumstances can affect the specific aspects of life satisfaction most directly connected with labor force status. From this, it follows that people with disability in regional Australia are more likely to experience low satisfaction in those aspects of life, given the lower levels of educational and employment opportunities in regional Australia.

**Disability and social connectedness.** Support for the theory that greater relative disadvantage in regional Australia would be associated with lower social participation for people with disability was inconsistent and limited. Contrary to the expectation that disability and regional living may be associated with lower levels of social participation, it emerged that relative to people with disability in major cities, regional people with disability participated more frequently in three types of community activities: chatting with neighbors, attending events that bring people together, and volunteering. These differences were robust to the inclusion of demographic and socioeconomic controls.

Furthermore, there were no differences in participation in clubs, organizations, or community associations and, overall, no differences in the frequency of social get-togethers with friends or family. The exception to this was the higher proportion of regional residents among those who saw family or friends less than once every 3 months. Although this may be a matter of personal choice, it could equally reflect an impact of geographical dispersion and distance, capturing an element of wider trends such as outmigration of a respondent’s family or friends to areas with, for example, greater educational or employment opportunities (Alston, 2004).

When socioeconomic factors were held constant, regional living continued to be associated with higher satisfaction with feeling part of the local community as well as stronger perceived neighborhood relationships in terms of neighbors being close knit, willing to help one another, and trustworthy. Collectively, these findings support the proposal that regional living is associated with greater social connectedness, indexed through measures such as levels of volunteering, engagement with community events, and feelings of being part of the community. This is consistent with the social cohesion theory of regional living rather than the double disadvantage hypothesis. Also, these results support and extend international observations that areas of greater relative socioeconomic disadvantage need not experience corresponding disadvantage regarding social cohesion (Cattell & Evans, 1999), which implies that certain aspects of social capital can be created and strengthened independently of institutional and human capital.

**Indirect Influences of Socioeconomic Disadvantage on Social Participation**

Regardless of the greater frequency of participation by regional people with disability in certain aspects of community life, there was some support for the double disadvantage theory in terms of an indirect influence of socioeconomic disadvantage on specific aspects of social participation among regional respondents. For example, on the basis of bivariate analyses, it would be concluded that regional living had a negative influence on the frequency of telephone, e-mail, or mail contact with friends and family; making time to keep in touch with friends; and seeing members of extended family. However, controlling for
labor force status ameliorated the association between location and frequency of contact with friends and family, and it reduced to statistical nonsignificance the association between location and making time to keep in touch with friends and family.

Irrespective of location, unemployment and the receipt of income support were associated with less frequent telephone, e-mail, or mail contact. Given the higher levels of unemployment and income support receipt in regional areas, it logically follows if those factors influence the frequency of non-face-to-face contact, then regional living would be associated with less frequent contact. This does not, however, equate to a direct relationship between regional living and social contact. Rather, it suggests that the greater relative disadvantage reported by people with disability living in regional areas influences the ability to maintain regular contact—for example, through limiting the resources available to put toward telephone or Internet expenditure. Alternatively, it may reflect greater access to these forms of communication for people in employment, via the use of work facilities, for example.

The finding could also reflect the influence of broader location-related factors such as a lack of access to public transportation, which would in turn be exacerbated by an inability to afford private transportation and the costs associated with travel (Currie, 2009). An important piece of information missing from the available data was an indicator of the distance(s) between the respondent and friends or family not living with them, which would have enabled clearer interpretation of these results.

The frequency of making time to keep in touch with friends, while appearing similar to having non-face-to-face contact with friends or relatives, may offer further insight into the relationship between socioeconomic variables and social contact. This item emphasizes friends only, rather than friends or relatives. For this item, the relationship between location and keeping in touch was mitigated by the inclusion of labor force status. This is consistent with qualitative research suggesting labor force circumstances influence social contact among people with disability (Morris & Abello, 2005). Specifically, it has been argued that if disability is accompanied by limited financial resources, then social activities may be curtailed not only due to the lack of resources but also as a result of a sense of embarrassment at that lack—a feeling of not being able to pay a fair share of the cost of a social outing, for example, compared with friends who are employed (Morris & Abello, 2005). In addition, the workplace in and of itself may represent an important source of social contact (Morrison, 2009).

The findings are consistent with the theory that material resources can facilitate social capital (Bourdieu, 1986) and are in keeping with observations that socioeconomic variables can influence social connectedness (Warburton & Stirling, 2007). However, these results highlight that not all aspects of social connectedness seem equally related to socioeconomic variables. For regional people with disability, activities that involve engagement with the wider community (such as volunteering) appear relatively unaffected by socioeconomic factors, whereas connectedness with family and (perhaps more crucially) friends seems affected by socioeconomic considerations.

With the apparent differences in socioeconomic influence noted, variation in the frequency with which each general type of activity occurred should also be considered. Overall, contact with family and friends was relatively frequent, whereas the incidence of broader community-related activities was relatively infrequent. Therefore, the apparent dissociation between socioeconomic factors and community engagement may reflect a low demand on resources by those types of activity, due to their infrequency, and thus a low likelihood of resource availability strongly affecting those activities. In contrast, the relatively higher frequency of contact with family and friends may incur a correspondingly higher need for resources to achieve and/or maintain that frequency of contact.

The relatively low frequency of community engagement found in this study may indicate preferential allocation of limited resources to activities involving family and friends rather than community activities. Alternatively, this could indicate the presence of barriers to participation in community activities—for example, a lack of activities that can be undertaken by people with disability. However, the more frequent participation of regional respondents relative to city respondents suggests that opportunities for community engagement by people with disability may be greater in regional Australia. This possibility merits further study with a view to understanding specific factors that underlie participation.

Another area where there was indirect evidence for the double disadvantage theory was the ability to access help when it was needed. There was a small but significant difference between regional and city respondents on this measure; regional respondents reported that they were less likely to be able to get help. Although it has been suggested that regional living is associated with seeking help from family members, whereas living in cities is more strongly related to seeking help from friends (Amato, 1993), in all likelihood this item encompasses a range of potential sources of help, including friends and/or family and/or formal assistance (like paid help and support services). Therefore, this item is best viewed not so much as an indicator of social connectedness than as a measure of access to various forms of support. In this instance, the inclusion of education reduced locational differences to statistical nonsignificance, and overall the perception of needing help but not being able to get it was associated with a wide range of interpersonal, socioeconomic, and area characteristics.

Broadly, those least able to get help were people who were divorced, separated, or single; who had an education...
at or below Year 11; who were not in the labour force; or who lived in a less advantaged area. With the exception of relationship status, each of those variables contained a significantly greater proportion of regional respondents than city respondents. This may highlight a need among regional respondents, particularly those who are living alone, have a limited level of education, and are not in paid work, for the receipt of specific assistance to increase their access to help. The role of informal care givers as a source of help could also be considered in future work.

Limitations and Future Directions

The fit of the full multivariate model fluctuated considerably across items. In many instances, the model accounted for less than 15%—and in some cases as little as 6%—of the observed variance. This would be problematic if the emphasis of the study had been on explaining the relative contribution of each variable to the observed results. However, multivariate modeling in this context was used to determine whether observed differences in various types of participation and community engagement were robust to the inclusion of variables that have previously been associated with social exclusion. In this sense, the low explanatory power of the model for some items suggests the presence of additional location-related factors—but seemingly not socioeconomic factors—that should be sought as an explanation for the differences in activities such as volunteering. This points the way for future research.

A second set of comparisons is required to augment these findings. It is necessary to further assess the second premise of the double disadvantage hypothesis through a comparison of how people with disability in regional locations fare relative to people in regional locations who do not have disability. This will test whether the levels of social participation and community engagement among regional people with disability are consistent with a regional sample without disability (in keeping with the social cohesion hypothesis) or whether regional people with disability experience lower levels of social connectedness relative to regional people without disability (as predicted under the second premise of the double disadvantage hypothesis). This work is currently in preparation.

An important direction for future research is to examine whether levels of social participation predict outcomes on measures such as subjective well-being and mental health. Although it is often assumed that higher levels of social participation are associated with enhanced well-being, this requires assessment in the context of regional living and disability and—if community engagement is positively related to well-being—ways to strengthen community participation opportunities also merit investigation. An additional factor not considered in this study was the severity of an individual’s disability and the extent to which their disability affects social participation. Similarly, the possibility of pre-existing socioeconomic disadvantage among people who develop disability, and whether social connectedness is affected by the development of disability, requires further investigation.

Conclusions

This research provides preliminary evidence that the double disadvantage and social cohesion theories can coexist. The findings extend previous research that has looked at either socioeconomic disadvantage or social cohesion by examining both theories across a range of different facets of the lives of regional people with disability. The study suggests that people with disability who live in regional Australia may simultaneously experience locational disadvantage and stronger social connectedness relative to people with disability in major cities. The findings indicate that, for people with disability, regional living can be associated with enhanced participation in certain types of social and community activity despite the greater relative socioeconomic disadvantage in regional Australia. This paves the way for a more nuanced, multidimensional approach to the study of locational disadvantage and disability, with a view to supporting social participation opportunities.

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Notes

1. The term most commonly encountered in existing literature is rural. However, this term is often used in a very broad conceptual sense rather than representing any formal or agreed method of geographic classification. There is also debate over how to define rural (Fuguit, Brown, & Beale, 1989). For this reason, when the phrase rural and regional is used herein it is intended to capture the informal use of rural and the more formal classification designation of regional location, which overlaps with the concept of rural and encompasses the spatial and population elements of rural location (Wilkinson, 1991). The calculation method used to classify a location as regional location is described in the Method section.

2. An additional test is necessary to fully demonstrate this premise; namely, a comparison of regional people with and without disability. Testing this premise will form the basis of a second article in this series.

3. Space constraints limit the presentation in this table of coefficients other than those concerning the location variable. Full tables are available from the author on request.
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