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An examination of objective social disconnectedness and perceived social isolation among persons with spinal cord injury/dysfunction: a descriptive cross-sectional study

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\textbf{ABSTRACT}

Purpose: To describe objective social disconnectedness and perceived social isolation post-spinal cord injury/dysfunction (SCI/D), and to examine associations among social disconnectedness and social isolation by sociodemographic and clinical characteristics.

\textbf{Materials and Methods:} A telephone-based questionnaire was administered to 170 community dwelling individuals with a SCI/D. Social disconnectedness was measured by social network size, composition, and frequency of contact. Social isolation was measured using the revised three item UCLA Loneliness Scale.

\textbf{Results:} Of the 170 participants, the majority were men (\(n = 136, 80\%\)), had a traumatic injury (\(n = 149, 87.6\%\)), and had incomplete tetraplegia (\(n = 58, 34\%\)). The mean network size was 3.86 (SD = 2.0) of a maximum seven. The mean loneliness score for the sample was 4.93 (SD = 1.87). Factors associated with lower feelings of loneliness included being married, living with a higher proportion of network members, and being employed. Size of networks was not significantly associated with feelings of loneliness.

\textbf{Conclusions:} This study highlights the vulnerability for perceived social isolation among persons with SCI/D. The size of network does not seem to matter as much as the frequency and quality of social interactions. Findings reinforce the complexity of social disconnectedness and the importance in understanding the various indicators of social disconnectedness as they relate to social isolation.

\textbf{IMPLICATIONS FOR REHABILITATION}

- Social relationships have been shown to be a vital component of optimal health and well-being.
- Individuals with a spinal cord injury/dysfunction are faced with a number of challenges in developing and maintaining social relationships and community participation.
- Rehabilitation professionals should encourage opportunities for social inclusion, employment and community participation to optimize health and well-being for this population.

\section*{Introduction}

Social relationships are essential components of optimal health and well-being [1]. Adults who have more social relationships are healthier with a longer life expectancy than those in the general population with less social relationships [1,2]. The lack of social relationships impacts health behavior, physical and mental health [1,2]. For persons with disabilities, such as those with spinal cord injury or disease/dysfunction (SCI/D), social relationships may be negatively impacted due to the challenges of living with neuro-logic impairments (e.g., impaired mobility, neurogenic bowel and bladder) and the associated secondary health conditions (e.g., urinary tract infection, tissue injury) [3,4], as well as the environmental barriers to social participation [4–7].

Poor social relationships are in this study characterized by two key constructs, which are social disconnectedness and perceived social isolation. Social disconnectedness is an objective lack of contact with others, lack of participation in social activities, and small social network [8]. Perceived social isolation is the subjective reaction to being socially disconnected, which may be expressed as a sense of not belonging or feelings of loneliness [9]. Although both constructs have underlying commonalities, the relationship between the two constructs is not entirely clear [10] and in some
instances, they are mutually exclusive [11]. As an example, adults may not subjectively report feeling lonely, despite being objectively socially disconnected (e.g., living alone, smaller networks); thus, placing more emphasis on the quality of relationships within smaller social networks [12].

Despite the considerable literature in the field of SCI/D regarding quality of life, social participation, as well as coping/social skills and social support [4,5,13,14], there is a paucity of research specifically examining social disconnectedness and perceived social isolation. To date, there have only been few studies that have examined social disconnectedness and perceived isolation following a SCI/D [15–18]. Tzonichaki and Kleftaras assessed associations among self-esteem (positive or negative attitude toward oneself), loneliness and life satisfaction among 44 community-dwelling persons with paraplegia in Athens, Greece [15]. Greater feelings of loneliness were associated with lower life satisfaction and self-esteem. Moreover, persons living alone had higher scores on loneliness compared to those living with a spouse or with others (e.g., parents or a roommate). Further, those living with a spouse had lower feelings of loneliness compared to those living with others (non-spouse). Unfortunately, this prior study did not consider the quality of the social relationships or social disconnectedness (e.g., network size), which may have provided additional insights on factors contributing to perceived social isolation.

More recently, Newman et al. conducted a cross-sectional study using secondary data analyses to test a conceptual model of social isolation that included both social disconnectedness and perceived social isolation [17]. In a large sample of 768 participants with traumatic injury (71.9% men), the results showed that perceived social isolation (loneliness) was positively associated with social disconnectedness. Factors associated with social disconnectedness included marital status, number of persons in household, and frequency of social activities. However, both social disconnectedness and social isolation were inversely associated with years post injury and age. Interestingly, these results differ from other studies examining these concepts among older adults without SCI/D, which have identified no significant association between social disconnectedness and social isolation [2,19].

Overall, there is a paucity of research that has examined these important concepts of social disconnectedness and social isolation among persons living with chronic SCI/D. The limited literature on social isolation post-SCI/D has focused only on a single dimension of this complex phenomena [15], has had a small sample size [16], or has adapted measures of other psychosocial constructs to examine social isolation [17]. To further advance our understanding, the objective of this study was to describe social disconnectedness and social isolation post-SCI/D, and to examine the associations among social disconnectedness and social isolation by sociodemographic and clinical characteristics.

**Methods**

**Design and participants**

A cross-sectional study was conducted with survey data collected between November 2016 to December 2017. Participants were adults with SCI/D who were current or former patients of a tertiary SCI/D rehabilitation center in Toronto Ontario. Participants were identified from two sources: 1) the Jousse Long-term Follow-up database (hereafter Jousse database); and 2) the Rick Hansen Institute Spinal Cord Injury Registry. The Jousse database is a research platform that tracks the long-term health and quality of life outcomes of an aging cohort of Ontarians with SCI/D [20–22]. Participants enrolled in the Jousse database provided written and/or verbal consent for study participation and their consent for ongoing monitoring of their health status over time. For the present study, 360 persons were identified from the Jousse database as potential participants. The Rick Hansen Institute Spinal Cord Injury Registry is a national Canadian registry of persons who have sustained a traumatic SCI/D, with 31 participating sites in nine provinces, including Ontario [23,24]. The system collects data on sociodemographic factors, medical history, injury details, diagnoses and interventions, neurologic impairment, complications and patient-reported outcomes. A total of 199 participants from the Rick Hansen Institute Spinal Cord Injury Registry local Toronto site had provided consent for future research contact and were identified from the database as potential participants. Thus, a total of 559 potential participants were identified and invited to participate.

The inclusion criteria for participation were English-speaking adults (18 years and older) with traumatic or non-traumatic SCI/D (Neurological Level of Impairment C2-L4, American Spinal Injury Association Impairment Scale A-D [25]), who were at least two years post-injury and who were living in the community. Persons with significant hearing and/or speech impairments that prevented clear communication over the telephone, or self-reported significant cognitive impairments, were excluded from the study at the time of screening (n = 13). Of the 559 potential participants, 51 were deceased, 229 were lost-to-follow-up (invalid contact information, did not return calls after initial contact), 13 were not eligible, and 96 declined. The final sample consisted of 170 adults with traumatic and non-traumatic SCI/D.

This study was approved by the Research Ethics Board of the various investigators’ institutions (University Health Network - Toronto Rehabilitation Institute and York University). All the applicable institutional and governmental regulations concerning the ethical use of human volunteers were followed.

**Measures**

**Sociodemographic and clinical characteristics**

The A.T. Jousse Long-term Follow-up Questionnaire is a non-standardized survey and was used to gather sociodemographic data, impairment and health status post-SCI/D [14]. Age, sex, marital status, employment, net income per month, level of education, the number of years post-injury, neurologic level of injury, and the American Spinal Injury Association Impairment Scale [26] were collected. The first three digits of the postal code were collected to identify whether participants were living in a rural or urban environment and smartphone/internet ownership was assessed.

**Social disconnectedness.** Several measures were used to determine social disconnectedness: social network size, composition and frequency of contact. Social networks were assessed following a similar approach used by the National Social Life, Health and Aging Project [11,27,28]. Participants were asked to provide an initial list of five people from the past 12 months with whom they often discussed important matters [11]. If there were additional persons the respondent wished to add (who they deemed as very important or especially close), they were allowed to add up to two persons. Thus, the maximum network size was seven. Follow-up questions assessed the respondent’s frequency of interaction (volume of contact), and likelihood of discussing health matters with network members. These data provided the basis for assessing network size, volume of contact with network members, network intimacy, network composition, and network proximity. 
Social network range or diversity captures the extent to which a respondent’s network comprises different types of relationships. Different types of ranges were examined, which included the proportion of network members who were family (kin), the proportion of members who were female, and the proportion of members who had a disability. These distinctions were made because there is evidence that family members often serve as the most important sources of support in both routine and crisis situations [29,30] and that women typically provide more informal caregiving support than men [30–32]. The proportion of social network members who live in the household provides an estimate of the physical proximity (distance) of one’s network members. Finally, frequency of contact with network members indicates an individual’s exposure to network members.

**Perceived social isolation (i.e., loneliness)**

Loneliness was measured using the revised three-item UCLA Loneliness Scale [33,34]. Respondents are asked to rate how often they felt a “lack of companionship, left out, or isolated” from others ranging from hardly ever, some of the time to often. Responses to each question are summed, with higher scores indicating greater loneliness (max score of 9). The revised shorter version was created to be better suited for a telephone survey, and has demonstrated good internal reliability in an older adult (57 to 85 years) sample, with a Cronbach’s $\alpha$ of 0.81 [33]. Further, the UCLA Loneliness Scale has been previously used and validated in community-dwelling persons with SCI/D [35].

**Procedures**

Letters of introduction to the study were mailed to potential participants ($N = 559$), who were then contacted by telephone by trained interviewers to obtain informed consent. Individuals who consented to participation underwent the telephone cross-sectional survey, which lasted approximately 45 min. Once completed, participants were sent a $10.00 gift card.

**Analysis**

Descriptive statistics and frequencies were calculated for the demographic, social disconnectedness and social isolation variables. There were no outliers, missing data, or non-normal distributions. Pearson correlation coefficients were used to examine relationships among variables and independent $t$-tests were utilized to examine differences in social network structures and loneliness between different sociodemographic (e.g., sex; marital status, living situation, education, geography) and impairment characteristics (e.g., tetraplegia vs. paraplegia). A one-way analysis of variance was conducted to determine differences in social network variables and loneliness across income groups (persons earning less than $2,500 \text{ CAD per month}$ vs. those earning between $2,501$ and $4,000 \text{ CAD per month}$ vs. those earning $4,100 \text{ CAD or more per month}$). Data were analyzed using SPSS (v25; IBM SPSS Statistics c/o IBM Corp., Armonk, NY).

**Results**

**Sociodemographic and clinical characteristics**

Of the 170 participants, the majority were men ($n = 136$, 80%), had a traumatic injury ($n = 149$, 87.6%), and had incomplete tetraplegia ($n = 58$, 34%; see Table 1). The mean age at the time of the survey was 58.9 years (range 25–95) with mean 21.9 years post injury (SD = 13; range 3–51). The majority of participants were: married/common-law ($n = 102$, 60%), living with others ($n = 129$, 75.9%), living in an urban setting ($n = 136$, 80%), able to access the internet ($n = 165$, 97%), had at least post-secondary education ($n = 129$, 75.9%) and not working at the time of the interview ($n = 125$, 73.5%).

**Social disconnectedness and perceived social isolation**

Table 2 provides a summary of the participants’ social network characteristics and UCLA Loneliness Scale scores. The mean network size was 3.86 (SD = 2.0) of a maximum 7. Forty-three percent ($n = 73$) had a network size of one to three persons, and 39.4% had a network of four to six persons, and only 14% had a network of seven individuals. There were six individuals who reported having no one in their networks to whom they felt they could discuss important things and these individuals were excluded for subsequent network analyses which were not applicable. The average number of days per year respondents ($N = 164$) interacted with persons identified in their networks was 190.2 (SD = 97.8), which translates to several times per week. The mean general network intimacy was 3.10 (SD = 3.63), with a mean health-related network intimacy of 1.62 (SD = 0.57). Persons who scored higher on network intimacy, also scored higher on health-related network intimacy ($r = 0.30, p < 0.01$). There were slightly higher proportions of network members who were kin (0.59; SD = 0.35), female (0.56; SD = 0.30) and a lower proportion who also had a disability (0.34; SD = 0.12).

### Table 1. Sociodemographic and clinical characteristics of participants ($N = 170$).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value ($N = 170$)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>136</td>
<td>80.0</td>
</tr>
<tr>
<td>Women</td>
<td>34</td>
<td>20.0</td>
</tr>
<tr>
<td><strong>Etiology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traumatic</td>
<td>149</td>
<td>87.6</td>
</tr>
<tr>
<td>Non-traumatic</td>
<td>21</td>
<td>12.4</td>
</tr>
<tr>
<td><strong>Impairment (Severity)</strong></td>
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<td></td>
</tr>
<tr>
<td>Incomplete tetraplegia</td>
<td>58</td>
<td>34.0</td>
</tr>
<tr>
<td>Complete tetraplegia</td>
<td>30</td>
<td>18.0</td>
</tr>
<tr>
<td>Incomplete paraplegia</td>
<td>40</td>
<td>24.0</td>
</tr>
<tr>
<td>Complete paraplegia</td>
<td>40</td>
<td>24.0</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Mean age (range) years</strong></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>58.9 (25–92)</td>
<td></td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
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<td></td>
</tr>
<tr>
<td>Married/common-law</td>
<td>102</td>
<td>60.0</td>
</tr>
<tr>
<td>Single/divorced/separated/widowed</td>
<td>68</td>
<td>40.0</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
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<tr>
<td>&lt; Post-secondary</td>
<td>41</td>
<td>24.1</td>
</tr>
<tr>
<td>$\geq$ Post-secondary</td>
<td>129</td>
<td>75.9</td>
</tr>
<tr>
<td><strong>Employment status</strong></td>
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<td></td>
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<tr>
<td>Working (full-/part-time/student/etc.)</td>
<td>45</td>
<td>26.5</td>
</tr>
<tr>
<td>Not working (unemployed/retired)</td>
<td>125</td>
<td>73.5</td>
</tr>
<tr>
<td><strong>Net Income per Month</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$&lt; $2500 per month</td>
<td>38</td>
<td>22.4</td>
</tr>
<tr>
<td>$2501–$4000 per month</td>
<td>37</td>
<td>21.8</td>
</tr>
<tr>
<td>$4001 or more per month</td>
<td>68</td>
<td>40.0</td>
</tr>
<tr>
<td><strong>No response</strong></td>
<td>27</td>
<td>15.8</td>
</tr>
<tr>
<td><strong>Living situation</strong></td>
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<td></td>
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<tr>
<td>Living alone</td>
<td>41</td>
<td>24.1</td>
</tr>
<tr>
<td>Living with others</td>
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<td>75.9</td>
</tr>
<tr>
<td><strong>Geographic region</strong></td>
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<td></td>
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<tr>
<td>Urban</td>
<td>136</td>
<td>80.0</td>
</tr>
<tr>
<td>Rural</td>
<td>34</td>
<td>20.0</td>
</tr>
</tbody>
</table>

Values expressed as n (%), mean (range), or mean $\pm$ SD.
The mean score on the UCLA Loneliness Scale for the sample (N = 170) was 4.93 (SD = 1.87). Further, 53 persons (31%) had a score of 6 or higher on the UCLA Loneliness Scale, which indicates that approximately one third of the sample felt lonely at least “some of the time” to all three items on the scale. Lower feelings of loneliness were associated having a greater number of average days interacting with one’s network (r = −0.18, p < 0.05) and greater levels of intimacy (r = −0.27, p < 0.01). Size of the network was not significantly associated with loneliness.

### Associations between sociodemographics, clinical characteristics, social disconnectedness, and perceived social isolation

**Sex**

There were no significant differences between network size for women (t [52.6] = −1.59, ns; M = 4.44, SD = 1.68) compared to men (M = 3.89, SD = 1.93). Those with a higher proportion of women in their networks had a higher proportion of network members living in the household (r = 0.21, p < 0.01; see Table 3). Women were more comfortable asking for health advice from their network members (t [73.39] = −3.34, p < 0.01; M = 0.68, SD = 0.27) than men (M = 0.53, SD = 0.31). There were no significant sex differences on the UCLA Loneliness Scale.

**Marital status and living arrangement**

Persons who were married (n = 101) had a higher proportion of network members living in the household (t [162] = −5.60, p < 0.01; M = 0.38, SD = 0.30) than those who were not married (n = 63; M = 0.12, SD = 0.27), and had a higher average number of days interacting with network members (t [162] = −3.38, p < 0.01; M = 210.00, SD = 97.51) than those who were not (M = 158.48, SD = 90.39). Persons who were married had a higher proportion of network members who were kin (t [162] = −5.94, p < 0.01; M = 0.70, SD = 0.32) than those who were not married (M = 0.40, SD = 0.30). Persons who were married (n = 102) had a significantly lower score on the UCLA Loneliness Scale (t [168] = 2.36, p < 0.01; M = 4.56, SD = 1.82) than those who were not married (n = 68; M = 5.49, SD = 1.82).

Persons who lived alone (n = 37) had a lower proportion of network members who were kin (t [162] = −5.66, p < 0.01; M = 0.33, SD = 0.31) than those who lived with others (n = 127; M = 0.66, SD = 0.32) and had a lower average number of days interacting with their network members (t [79.58] = −5.71, p < 0.01; M = 126.30, SD = 70.62) than those who lived with others (M = 208.81, SD = 97.00). Those who lived alone had lower levels of network intimacy (t [162] = −2.76, p < 0.05; M = 2.86, SD = 0.59 vs. M = 3.18, SD = 0.62) but had no differences in network size (t [162] = 0.69, ns; M = 4.19, SD = 1.96 vs. M = 3.94, SD = 1.88). Lower feelings of loneliness were associated with having a higher proportion of network members living in the household (r = −0.24, p < 0.01) and who were kin (r = −0.25, p < 0.01).

### Impairment

Participants with tetraplegia (n = 85) had a lower average number of days interacting with their social networks (t [146.33] = −2.36, p < 0.05; M = 173.48, SD = 84.94) compared to persons with paraplegia (n = 78; M = 209.60; SD = 107.65). Having a greater proportion of persons with a disability in one’s network was associated with having a lower proportion of women in the network (r = −0.21, p < 0.05), as well as a lower proportion of kin (r = −0.27, p < 0.01). Having a higher proportion of persons with disabilities in one’s network was associated with a lower average of days of interacting with one’s network (r = −0.17, p < 0.05). There were no significant differences in network size or loneliness scores by level of impairment.

### Education, employment, and income

Persons with higher levels of education (n = 124) had a lower number of average days of interacting with network members (t [162] = 2.54, p < 0.05; M = 179.35, SD = 95.87) than those with lower levels of education (M = 223.80, SD = 97.39). They also had a lower proportion of network members who were kin (t [162] = 2.12, p < 0.05; M = 0.56, SD = 0.35) than those with lower levels of education (M = 0.68, SD = 0.33). Persons who were employed (n = 45) were significantly less lonely (t [168] = 2.54, p < 0.05; M = 4.33, SD = 1.64) than those who were not employed (M = 5.14, SD = 1.90). However, there were no significant differences in loneliness or network size by level of education, geographic location, and income.
Discussion

This descriptive cross-sectional study aimed to describe the objective social disconnectedness and perceived social isolation post-SCI/D, and to examine associations among social disconnectedness and perceived social isolation by sociodemographic and clinical characteristics. Findings suggest that participants had relatively small networks and approximately one third of the sample felt lonely at least “some of the time” to all three-items on the UCLA Loneliness Scale. Interestingly, there was no significant association between network size and feelings of loneliness. However, having a greater number of average days interacting with one’s network and greater levels of intimacy were associated with lower feelings of loneliness. Therefore, the size of network does not seem to matter as much as the frequency and quality of social interactions. These findings reinforce the complexity of social disconnectedness and the importance of understanding the various indicators of social disconnectedness as they relate to perceived social isolation.

The present study’s finding of smaller and stronger ties within networks aligns with previous work on SCI/D [16]. Guilcher et al. [16] found social networks of persons with SCI/D tended to be robust and of quality, yet smaller than social networks observed in the general population. The average size of the intimate network was 3.10 in the present study which is similar to that of Guilcher et al. [16] (median network size 2.5). Intimate network size for persons with disabilities have been previously shown to be smaller [36–38] especially when compared to the general population [39–41]. Further, previous work has shown that network size following a SCI/D changes, both in size and quality. In a qualitative study by Isaksson et al., female participants with SCI/D described losing connections with colleagues and friends following their injury but strengthening their connections with family. Further, Isaksson et al. found that new relationships were established among persons with disabilities, which were helpful for peer support [42]. The present study found that the majority of persons within a network did not have a disability; however, of those that did, they were more likely to be male which likely reflects more persons in the sample being male. More research is required to better understand the composition characteristics of social networks, and how they might influence outcomes for the SCI/D population.

Interestingly, the smaller but quality networks align with age-related changes identified in aging adults [43]. Older adults tend to shift priorities and time towards interactions with smaller and closer personal network members who provide meaningful interactions and sense of belonging [43,44]. The socioemotional selectivity theory suggests that as people age, time remaining in life is perceived to be shorter, and their goals change to be more focused on emotional meaning and closer connections [45]. Aligned with this theory, older adults gain more positive emotional and health-related benefits interacting with close members of their social network compared with acquaintances [43,46]. Participants in the present study may demonstrate similar socioemotional selectivity in the composition of their networks and the allocation to whom their time is allocated. Further research is needed to explore this theory among persons with SCI/D as well as other populations with disability and the intersection of aging with a disability.

Another key finding from this study was that employment status was found to be protective against feelings of loneliness. Employment has been shown to provide a sense of purpose, belongingness, social inclusion, and increase social networks [47]. Engaging in meaningful employment has also been associated with physical health, mental health, and overall well-being [1,48–53]. Unfortunately, employment rates after SCI/D are low, ranging from 35 to 40% [54,55], despite social policies intended to be more inclusive for persons with disabilities [56,57]. These findings reinforce the importance of developing and evaluating interventions targeted to increase return to meaningful vocation for persons with SCI/D. A recent systematic review has highlighted significant benefits to employers as well as persons with disabilities, including improvements in profitability, inclusive work culture, and improved quality of life for persons with disabilities, enhanced self-confidence, increased social networks, and stronger sense of community [58]. More explicit effort is needed from health and social sectors to help transitions persons with SCI/D back to employment following their injury.

Another key finding in the present study is that not all of the social disconnectedness variables were significantly associated with feelings of loneliness. While there was no significant association between network size and feelings of loneliness, the greater number of average days interacting with one’s network and greater levels of intimacy were associated with lower feelings of loneliness. These results are supported by Newman et al.’s recent work [17]. In their secondary data analysis of cross-sectional data, these researchers used structural equation modeling to examine the relationships between social disconnectedness and social isolation. Similar to the present study’s findings, Newman et al. identified frequency of contact, number of days getting out, frequency of social activities, and marital status to be significant predictors of a latent variable “social disconnectedness.” This latent variable of social disconnectedness was constructed from seven-items from the Life Situation Questionnaire (LSQ), and several items from the Mobility, Occupation, and Social Integration sub-scales of the Craig Handicap Assessment and Reporting Technique (CHART). Social disconnectedness was also found to be significantly associated with perceived social isolation. However, the authors did not measure size of social networks and examine the extent to which size of networks influences social isolation.

Given the differential associations between frequency of contact and size of social networks, the present study’s findings suggest the importance of understanding the relationship of these indicators of social disconnectedness separately. Importantly, size may not be as critical as to the composition of networks (e.g., spouse, kin, close friends) and their respective characteristics and supporting roles. For example, marital status was found to be significantly negatively associated with feelings of loneliness, that is persons who were married were less likely to be lonely. Barclay et al. [5] in a qualitative study found that persons within one’s network, especially their attitudes, influences the extent to which people with SCI/D are engaged in the community. These findings reinforce the importance of supporting caregivers of persons with SCI/D in their supportive roles, as higher perceived support has been shown to be associated with better health and well-being outcomes [5,59]. Further, given social networks are relatively small, persons with SCI/D may be especially vulnerable if they were to lose member(s) of their caregiving network.

Limitations

This study has a few limitations worth noting. While the findings did not show an association between years post injury and social disconnectedness and perceived social isolation, the sample of participants were older, and the majority had sustained their injury greater than 10 years. It is possible that factors associated with social disconnectedness and social isolation may vary by age
and years post injury, but the present study’s cohort did not have enough variation in participant demographics to fully examine these relationships. In a larger cohort, Newman et al. found age and years post injury to be negatively associated with social disconnectedness and social isolation. Of note, the participants in this study were at least three years post injury. Future longitudinal research would be useful in examining social disconnectedness and social isolation following injury among a cohort of participants over time and unpacking how aging with a SCI/D impacts social disconnectedness and perceived social isolation.

The present study’s sample was also primarily comprised of men and persons with a traumatic injury living in an urban setting. Given the difference in etiology of injury between non-traumatic and traumatic, it would be of value to examine these associations by type of injury with a larger sample. Despite these limitations, this descriptive study was purposefully designed using validated measures of social disconnectedness and social isolation.

Conclusions

This study highlights the vulnerability for perceived social isolation among persons with SCI/D, as approximately a third of our sample reported feelings of loneliness. Participants had smaller networks; however, size of networks does not seem to matter as much as the frequency and quality of social interactions. These results suggest the need to enhance support of caregivers due to their importance on feelings of loneliness. Further, these findings reinforce the complexity of social disconnectedness and the importance of future research to understand the various indicators of social disconnectedness as they relate to social isolation.

Disclosure statement

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