Investigating Characteristics of Quality Peer Mentors with Spinal Cord Injury

RUNNING TITLE: Quality Peer Mentorship

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Abstract

Objective: To identify characteristics 1) of high and low quality SCI peer mentors; and 2) that should be used to match spinal cord injury (SCI) peer mentors and mentees.

Design: The study was conducted in partnership with three Canadian provincial SCI Organizations using an integrated knowledge translation approach. The Delphi exercise was completed in three rounds. In Round 1, people with SCI completed a thought-listing exercise to identify characteristics of high and low-quality peer mentors and for matching. In Rounds 2 and 3, people with SCI and community organization staff rated characteristics from the previous round on an 11-point scale. After the final round, the remaining characteristics were thematically analyzed.

Setting: Community-based peer mentorship programs in three Canadian provinces.

Participants: People with SCI and SCI community organization staff (Round 1, n = 45; Round 2, n = 27; Round 3, n = 25).

Interventions: Not applicable.

Main Outcome Measures: Consensus-based list of characteristics.

Results: Participants reached consensus on 215 characteristics of quality peer mentors and 11 characteristics for peer mentor-mentee matching (ICC = 0.96). A consensus-based characterization of high and low-quality peer mentorship was created and included six overarching themes: competencies, personality characteristics, emotional state, mentor outlook, reason for mentoring, and role model.

Conclusion: A consensus-based characterization of quality peer mentorship was co-developed with input from over 50 members of the SCI community. Findings highlight that peers have both interpersonal and intrapersonal characteristics that contribute to quality mentorship. The findings highlighted the importance of matching mentors on lived experience and shared interests. Findings will inform future research and SCI peer mentorship programs.

Key Words: Consensus; spinal cord injury; peer mentorship; Delphi

Abbreviations: Spinal Cord Injury (SCI); Integrated Knowledge Translation (IKT)
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Introduction

A spinal cord injury (SCI) can impact almost every aspect of a person’s life. While primary goals of rehabilitation are to prepare individuals for returning to community living, research indicates that participation in daily activities and social roles is compromised among the SCI population (1, 2). To support people with SCI after an injury, several Canadian community service organizations have established peer mentorship programs, as have several other community organizations in different regions of the world. SCI peer mentorship is defined as a peer interaction that aims to provide encouragement, counsel, and information to individuals who share similar lived experiences (3). Often SCI organizations will match peers mentors and mentees on demographic characteristics such as age or gender (4, 5).

Qualitative and descriptive evidence indicates that peer mentorship may be an important and valuable service to support people with SCI to adjust, adapt, and thrive after an injury (2, 3, 6-8). Yet, very little research has examined the mechanisms by which peer mentorship achieves positive outcomes. Qualitative research by Veith and colleagues outlined five components that differentiate peer mentorship relationships from other supportive relationships (i.e. credibility, equitability, mutuality, acceptance, normalization). Similarly, psychological and leadership theories and approaches (e.g., transformational leadership, self-determination theory, and motivational interviewing) have emerged as frameworks that may explain quality peer mentorship (9-11). Because these studies were grounded in theory, they provided top-down evidence (i.e. deductive) of peer mentor characteristics that were embedded within their respective theories. Although theoretically important, examining an array of characteristics through one theoretical lens may limit our understanding of peer mentorship interactions. However, we have yet to establish an understanding of the characteristics of peer mentors that the SCI community
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believes are important or whether these characteristics differ from those specified in theories developed by researchers. To fully understand the characteristics that define high and low-quality peer mentorship, a bottom-up approach (i.e. inductive) that focuses on the perspectives and direct experiences of people with SCI providing and/or receiving peer mentorship and community organizations providing peer mentorship services is needed.

Integrated knowledge translation (IKT) is an approach ideally suited to inductive approaches as research users work in equitable partnership with researchers throughout the entire research process (12-14). Through an IKT approach, evidence-based solutions that address the priorities and needs of communities can be identified and developed. Consensus methodology is one IKT strategy used to put decision-making power in the hands of those who are most affected by the decision (15-19). Delphi methodology is a type of consensus method that may hold promise for harnessing the insights of communities (15, 19) and is commonly used in medical, nursing, and health services research (16, 18, 20). It has the advantage of establishing consensus in a large, heterogeneous, and geographically dispersed communities such as the SCI community (i.e. people with SCI and SCI-focussed community organizations providing peer mentorship services). The opinions of each expert are also equally valued, allowing for a wider range of direct knowledge and experiences to inform decisions and solutions (21-24). Establishing consensus among the SCI community regarding characteristics of peer mentors may be an important first step to understanding the characteristics of quality peer mentorship. Identifying these characteristics is invaluable for informing and improving peer mentorship programs offered by SCI organizations.

Using a community-based Delphi methodology, the present study aimed to develop understanding of quality peer mentorship from the perspectives and direct experiences of people with SCI providing and/or receiving peer mentorship and community organizations providing peer
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mentorship services. Specifically, we aimed to establish consensus among the SCI community regarding 1) characteristics of high and low-quality SCI peer mentors; and 2) characteristics that SCI organizations should consider using when matching SCI peer mentors and mentees. Using these characteristics, we aimed to co-develop a consensus-based characterization of quality peer mentorship. Because peer mentorship programs are offered in both hospital- and community-based settings, we examined characteristics in both settings. To our knowledge, this study represents the first community-based Delphi exercise specifically involving people with SCI and SCI community service organizations.

Method

Integrated Knowledge Translation

This study was designed using an IKT approach (14). To understand peer mentorship across different contexts, the researchers partnered with three provincial SCI community organizations who offer SCI peer mentorship programs (Spinal Cord Injury Alberta, Spinal Cord Injury BC, Spinal Cord Injury Ontario). The team included people with lived experience of SCI and peer mentorship, researchers with experience conducting community-based SCI research, and administrators within each organization with the authority to make decisions regarding their peer mentorship program. Together, our team applied for and received funding, refined the research question, developed the methods, analyzed the data, and disseminated the findings. At each of these stages of the research process, the team met online to discuss and refine next steps.

Design and Participants

The Delphi methodology was approved by the University of British Columbia Okanagan’s Behavioural Research Ethics Board. The study used a three-round Delphi methodology to address the research questions. Delphi methodologies have been considered as a reliable means for
reaching consensus when a minimum of six expert participants are included (24). Therefore, we aimed to recruit a minimum of six experts from each target group (i.e. peer mentors, mentees, and SCI organizations). In Round 1, only SCI peer mentors or mentees (i.e. people who have previously received and/or provided peer mentorship) completed the questionnaire. To ensure our findings were relevant to organizations that provide peer mentorship programs, Rounds 2 and 3 included participants who had either received or provided peer mentorship as well as SCI organization staff who support SCI peer mentorship programs.

**Procedures**

Informed consent was obtained from all participants. In addition to completing demographic questionnaires and mentorship experience questionnaires, participants completed up to three rounds of online Delphi questionnaires. The language in each questionnaire was targeted to specific participant groups (i.e. mentors, mentees and SCI organization staff) and copies of questionnaires are provided in supplementary files and on Open Science Framework (see DOI 10.17605/OSF.IO/GJTCY).

In line with the Delphi methodology, participants completed six thought-listing exercises in Round 1. In exercises 1 to 4, participants were instructed to list all the characteristics of a peer mentor who provides excellent, high-quality peer mentorship in a hospital-based setting (exercise 1); poor, low-quality peer mentorship in a hospital-based setting (exercise 2); excellent, high-quality peer mentorship in a community-based setting (exercise 3); and poor, low-quality peer mentorship in a community-based setting (exercise 4). Before listing characteristics, the individuals were instructed to visualize the peer mentor for two minutes. In exercises 5 and 6, participants were instructed to list all the characteristics that need to be considered when matching a peer mentor with a mentee in a hospital-based setting (exercise 5) and a community-based setting.
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(exercise 6). In all exercises, participants were instructed to list as many characteristics as possible and were reminded there were no right or wrong responses.

In Round 2, participants were presented with characteristics of peer mentors and matching characteristics generated from Round 1. All characteristic lists were divided into the same six sections used in Round 1 and the order in which characteristics were presented was randomized. Participants were asked to rate all characteristics on an 11-point scale from zero to ten (0 = strongly disagree to 10 = strongly agree). For Sections 1 to 4, participants used the scale to indicate the extent to which they agreed that each characteristic could be used to identify the peer mentor described. For Sections 5 and 6, participants again used the scale to indicate the extent to which they agreed that the characteristic should be considered when matching a peer mentor and mentee in the given context.

In Round 3, participants were provided with randomized lists of characteristics of peer mentors and matching characteristics that remained after Round 2. The format for the questionnaire was identical to Round 2, with the exception that each characteristic was presented with its corresponding Round 2 consensus statistics (i.e. average score, lowest score, highest score). In line with Delphi methodology, participants were instructed to consider this information when re-rating each characteristic and criterion listed using the 11-point scale.

Analysis

The analysis included two steps: 1) Delphi analysis; and 2) thematic analysis. Analyses associated with each step are outlined below.

**Delphi Analysis.** Round 1 generated over 1,000 characteristics. To reduce participant burden, one researcher streamlined the characteristic lists by removing duplicates and synonyms using the Oxford dictionary. The decisions and resulting list were discussed by four members of
the research team. A second researcher led an inductive thematic analysis of all characteristics as per the steps outlined by Braun and Clarke (2006). Upon completion, two members of the research team completed a deductive coding task, where characteristics not associated with humans (e.g. inanimate places or things) were removed. The final streamlined characteristic lists included themes as well as stand-alone characteristics that could not be accounted for by the themes identified.

In Rounds 2 and 3, the research team calculated the mean score, highest score, and lowest score for each characteristic rated by participants. Characteristics that received a mean score of greater than or equal to 8.0 or two-thirds of participants (approximately 66%) rated the characteristic as 8.0 or higher were retained in the list. All other characteristics were removed from the list. For the final round (i.e. Round 3), consensus was met when characteristics were no longer removed from the list, as all characteristics met pre-established criteria noted above. Intraclass Correlation Coefficients (ICC) were used to measure reliability across ratings because there were two or more raters (25). Values of 0.00-0.50 correspond to poor reliability, 0.50-0.75 to moderate reliability, 0.75-0.90 to good reliability, 0.90 and above to excellent reliability (26).

**Thematic Analysis.** The final lists included several overlapping characteristics after Round 3. To improve the usefulness and interpretability of findings, SCI organizations requested that the final characteristic list be further synthesized. Three researchers conducted an inductive thematic analysis of the final characteristics. This process was guided by Braun and Clarke’s steps to conducting a thematic analysis (27, 28). The researchers independently read and re-read the final list of characteristics. Each researcher formulated initial codes to reflect the characteristics. Over several meetings (> 6 hours total), the three researchers then worked together to review and organize the codes into overarching themes and sub-themes and, subsequently, named and defined
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each theme. The entire team reviewed the themes to ensure they were distinct, clear, and supported by the data.

Results

Participants

In Round 1, 45 people with SCI participated in the thought-listing exercise. In Round 2, 27 people with SCI and/or staff of an SCI organization completed the questionnaire. In Round 3, 25 people with SCI and/or staff of an SCI organization completed the questionnaire. Reasons for participant non-participation in each round were not collected. Detailed participant demographics are presented in Table 1.

Results of the Delphi Consensus Analysis

The total number of included and excluded characteristics across all contexts and for each specific context are presented in Table 2. Supplementary File 1 provides the complete raw lists and outlines the themes associated with each characteristic across the six lists as well as the Round 2 and 3 mean scores and range for each characteristic. In Round 1, participants listed 1,110 characteristics across all six lists. Once all lists were refined, 348 characteristics were included across the six lists. In Round 2, 226 characteristics met pre-established consensus criteria (mean score of greater than or equal to 8.0 or were rated as an 8.0 or higher by 66% of participants) and 122 characteristics were removed from the list. In Round 3, 225 peer mentorship characteristics met pre-established consensus criteria, and one characteristic was removed from the list. Reliability of ratings was excellent across all participants (ICC = 0.96) as well as among mentors (ICC = 0.86), mentees (ICC = 0.80) and SCI organization staff (ICC = 0.87).

Results of the Thematic Analysis
Six overarching themes relating to quality peer mentorship and six sub-themes related to competencies were identified: competencies (sub-themes: general, communication, autonomy support, emotional intelligence), personality characteristics, emotional state, mentor outlook, reason for mentoring, and role model. The sub-theme of emotional intelligence included both self-awareness and social awareness. The majority of themes were observed in both contexts (i.e. hospital and community) and levels of quality (i.e. high and low). For example, the characteristic ‘positive attitude’ was observed for both high-quality community and hospital settings whereas a ‘negative attitude’ or ‘poor attitude’ was seen in low-quality hospital and community settings respectively. Definitions and descriptions of each theme and sub-theme are presented in Table 3.

The number of characteristics and exemplar characteristics associated with each theme are presented in Table 4. Supplementary File 1 provides all characteristics retained after Round 3 and the theme or sub-theme assigned to the characteristic.

After Round 3, only eleven matching characteristics received a mean score of greater than or equal to 8.0 or were rated as an 8.0 or higher by 66% of participants. In a hospital setting, final matching characteristics included ‘language’, ‘understanding each other’, ‘availability’, ‘disability level/functional ability’, ‘and ‘experience with similar challenges’. In a community setting, final matching characteristics included ‘mentor’s knowledge matches mentee’s needs’, ‘time availability’, ‘outlook and approach’, ‘knowledge about community-based resources’, ‘similar lifestyle goals that the mentee wants to achieve/experience’, and ‘experience with similar challenges that the mentee might encounter’.

Discussion

Using community-based Delphi methodology, a consensus-based characterization of quality peer mentorship was co-developed with input from of over 50 members of the SCI community with expertise in peer mentorship. By ensuring the SCI community was involved in
the decision-making process, the Delphi exercise revealed a vast array of characteristics associated with peer mentors providing high or low-quality mentorship in both hospital and community settings (> 225 characteristics). The findings outline aspects of quality peer mentorship that focuses both on interpersonal (e.g. communication, autonomy support, and emotional intelligence) and intrapersonal characteristics (e.g. emotional state, personality, mentor outlook, reason for mentoring, and being a role model). Minimal differences in characteristics were observed between the hospital and community settings. While characteristics of quality peer mentors are diverse, the SCI community was only able to come to consensus for relatively few matching characteristics that primarily relate to the lifestyle and experience of the mentor rather than demographic characteristics. This finding is noteworthy and may indicate that it is important to match peer mentors with mentees based on lived experience rather than traditional demographic characteristics that have been used in previous work such as age or gender (4, 5).

The findings from this study closely align with previous work that has demonstrated SCI peer mentorship’s congruence with motivational interviewing, self-determination theory, and transformational leadership (4, 9-11, 29). For example, characteristics associated with ‘role model’ and ‘personality’ align with the transformational leadership concepts of idealized influence (i.e. emulating desired behaviours by acting as a role model) and inspirational motivation (i.e. articulate a compelling vision for the future, display enthusiasm, and optimism) respectively (9). Likewise, characteristics associated with emotional intelligence, autonomy support, and communication skills align with the concepts of autonomy and relatedness in self-determination theory, as well as the spirit of motivational interviewing (10, 11, 30). This alignment with multiple theories and approaches may point to the value of training peer mentors in a variety of different underlying theories and approaches.
Our consensus-based characterization of quality peer mentorship may begin to provide new insights into characteristics of peer mentors are able to help individuals adjust to life after injury, teach others, and facilitate participation in daily activities and social roles. Our findings indicated that peer mentors need the competencies to communicate and be knowledgeable about topics related to SCI, but they must also have the intrapersonal and interpersonal skills necessary to motivate and support others. Furthermore, the overarching themes closely align with the five unique components peer mentorship identified by Veith and colleagues (i.e. credibility, equitability, mutuality, acceptance, normalization) (3). However, our findings also point to other considerations about mentorship not mentioned by previous work. Namely, the mentor’s outlook and emotional state. In particular, our findings indicate that it is important that mentors are in a positive emotional state prior to mentoring. Further research is needed to understand if and how the characteristics of quality peer mentorship influence outcomes associated with SCI mentorship and how SCI organizations can feasibly train individuals to or select individuals who can effectively share their lived experiences, address their emotional state, and build their capacity for emotional intelligence.

Our finding that it is important to match peer mentors with mentees based on lived experience rather than traditional demographic characteristics is noteworthy. Previous work has matched individuals based on demographic factors such as age or gender (4, 5). Further research is needed to understand how peer mentorship programs can facilitate matching on lived experience and interests as well as whether these matches lead to better outcomes for the mentee and mentor.

A particular strength of this research is the use of IKT and consensus methodologies. Using a Delphi methodology within an IKT approach, we aimed to shift the power and ownership over the research to the SCI community. This shift supported strong participation from the community.
and has made the translation of our findings into tangible tools and resources a natural future direction for this research. In particular, our findings can be used by SCI Organizations to develop and select training methods that align with our characterization of quality peer mentors, inform evaluation criteria for their programs, and match peer mentors with mentees. The team will work to create tools and resources that support the partner organizations to disseminate and apply the findings to their daily practices. In turn, future directions for this research will be to test the validity and impact of the findings within peer mentorship programs.

**Study Limitations**

Despite the value of our IKT approach, this research has limitations that must be acknowledged. First, participants were only recruited from three mentorship programs from across Canada. While participants demographics were broadly representative of the Canadian SCI population (31), it is possible that these findings may not generalize to other countries organizations that use a different peer mentorship approach. Second, participants were asked to only list characteristics in their own words. The context or rationale for listing these characteristics was not explored and it is possible that other participants may have interpreted these characteristics differently. Finally, the study was only conducted in English which may have led to a view of peer mentorship that precludes the diverse experiences of people with a SCI who do not speak English. Further efforts are needed to understand how we can include a diverse group of people with SCI in our research.

**Conclusions**

As a whole, this research begins to shed light on the SCI community’s opinions regarding the interpersonal and intrapersonal characteristics associated with providing quality peer mentorship. This research also emphasizes the importance of matching mentors on lived
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experience and shared interests. Findings are both valuable for understanding the mechanisms of peer mentorship as well as for improving SCI peer mentorship programs.
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