1   Exploring the peer mentorship experiences of adults with spinal cord injury

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Abstract

The purpose of this study was to understand the peer mentorship experiences of adults with spinal cord injury (SCI) through a self-determination theory (SDT) lens. Semi-structured qualitative interviews were conducted with 13 adults with SCI (i.e., mentees) who received mentorship from fellow adults with SCI (i.e., mentors) as part of an existing provincial peer mentorship program. There were two analyses conducted in this study. The first was deductive, which involved organizing relevant data as per the three basic psychological needs of self-determination theory (i.e., autonomy, competence, and relatedness). Concerning autonomy, mentees expressed they were able to make their own decisions and their mentors' personalized their sessions. Specific to relatedness, the mentees discussed that their mentors cared and empathized with them, which helped them connect with their mentor. In terms of competence, mentees explained that their mentors provided verbal encouragement and helped them realize they were capable of successfully completing tasks. Some mentees also highlighted how the mentors did not listen to their needs, indicating need thwarting behaviours. The second analysis was inductive and focused on the participants' descriptions of their experiences. Mentees expressed the importance of their SCI community organization, the impact of mentoring on their families, and the positive outcomes they associated with peer mentorship, such as participation in daily and social activities. Taken together, the present findings extend our understanding of SCI peer mentorship from the perspective of the mentee and particularly from an SDT angle.

Keywords: spinal cord injury, peer mentorship, self-determination theory, basic psychological needs, participation

46 **Impact**

47   •   It is the first study to report, from the mentees' perspectives, mentors' behaviours that

48   support or thwart the basic psychological needs. As such, it provides an understanding

49   of mentors' interpersonal behaviours that support or thwart the psychological needs.

50   •   SCI peer mentorship programs could provide training to their mentors that focus on

51   empathizing with mentees, maximizing mentees' autonomy and decision making in the

52   mentorship process, and enhancing mentees' feeling of capability to complete specific

53   tasks. These programs could also start (or continue) to involve family members in the

54   peer mentorship process as SCI peer mentorship appears to be helpful for both the

55   individual with SCI and their families.

56   Exploring the peer mentorship experiences of adults with spinal cord injury

57   An estimated 86,000 people live with spinal cord injury (SCI) in Canada, and the number

58   of newly injured adults increases each year (Noonan et al., 2012). The physical and physiological

59   adjustment required after SCI is often difficult and may largely impact quality of life (Krause,

60   1997). As such, adults with SCI require strategies to help them adjust to their new post-SCI

61   realities. SCI peer mentorship is one strategy that has received increased attention as an

62   intervention to enhance the lives of adults with SCI. Peer mentors are individuals who provide

63   emotional support and an empathetic understanding to assist mentees (individuals who receive

64   council from a mentor) with the adjustments to living with a SCI (Hernandez, Hayes, Balcazar,

65   & Keys, 2001; Veith, Sherman, Pellino, & Yasui, 2006). Peer mentorship has been shown to

66   have a positive impact on wheelchair skills (Best, Miller, Huston, Routhier, & Eng, 2016), health

67   outcomes, and quality of life (Gassaway et al., 2017; Houlihan et al., 2017; Sweet, Noreau,

68   Leblond, & Martin Ginis, 2016). To gain insight into peer mentorship, an increasing number of

69   studies have used qualitative designs to allow SCI peer mentees to share their experiences

70   (Beauchamp et al., 2016; Haas, Price, & Freeman, 2013; Veith et al., 2006).

71   In one qualitative study, Veith and colleagues (2006) found that mentees expressed how

72   mentorship helped them gain practical skills, receive emotional support, and develop a new sense

73   of identity. Similarly, mentees in Haas et al.'s (2013) study said they received practical

74   information and emotional support from their peer mentors. Mentees in both these studies

75   highlighted that empathy from mentors was one of the most important aspect of their mentorship

76   experience. Indeed, the manner through which peer mentors interact with their mentees has been

77   found to either enhance or diminish the mentorship experience (Haas et al., 2013; Standal, 2011).

78   For example, Standal (2011) noted that peer mentors may not always create an environment that

79   maximizes learning and, that empathetic understanding does not automatically emerge from

80   shared experience. Standal argued that shared SCI experience could actually hinder empathetic

81   understanding. This claim conflicts with previous research as mentees often highlighted their

82   appreciation for their mentor's ability to empathize.

83   In light of these conflicting findings, the complexity of the relationship between mentors

84   and mentees needs further examination, including an exploration of how SCI peer mentorship

85   social contexts are created. Looking at this social context through a theoretical lens could

86   provide a framework to understand successful and supportive peer mentorship. One theory that

87   emphasizes the importance of creating supportive social contexts is self-determination theory

88   (SDT; Ryan & Deci, 2017). According to SDT, three psychological needs are necessary for

89   growth/well-being: autonomy (i.e., volition in your actions), competence (i.e., belief in your

90   actions), and relatedness (i.e., sense of belongingness). The social context plays an important role

91   in the satisfaction of the psychological needs and this tenet has been demonstrated across

92   multiple life domains such as family, work, and leisure activities (Milyavskaya & Koestner,

93   2011), including for adults with a physical disability (Banack, Sabiston, & Bloom, 2011; Saebu,

94   Sørensen, & Halvari, 2013). However, the social environment can also thwart these

95   psychological needs and lead to lower well-being (Deci & Ryan, 2002). SDT could then be an

96   ideal framework to investigate SCI peer mentorship.

97   Our group recently demonstrated through a static group comparison design that peer

98   mentorship predicted greater satisfaction of the needs of competence and relatedness (Sweet et

99   al., 2018). Other quantitative investigations have also supported the role of SCI mentorship on

100   improving mentees' self-efficacy, a concept similar to the need of competence in SDT

101   (Gassaway et al, 2017; Haas et al., 2013). In their qualitative study, Beauchamp et al. (2016)

102   investigated the nature of effective SCI peer mentorship from the perspective of mentees using

103   transformational leadership (Bass & Riggio, 2006), a popular theory in the field of leadership, as

104   their guiding framework. In addition to supporting the tenets of transformational leadership,

105   Beauchamp and colleagues presented findings that were not captured by this framework. These

106   results could however be related to constructs from SDT. For example, the mentees expressed a

107   greater sense of competence (e.g., "… he taught me [that] if you can do it once, it'll get easier.

108   Keep doin' it and you'll be able to do it without thinking about it. And he was right") and

109   relatedness (e.g., "I could talk to him, […] he really was able to connect with where I was at that

110   moment."; Beauchamp et al., 2016, p. 1890). As such, SDT could explain these findings and

111   provide a new perspective to understand peer mentorship experiences among adults with SCI. To

112   date, no study has used SDT to describe SCI peer mentorship. This study was the first to

113   investigate the social context and mentoring behaviours that could support or thwart the mentees'

114   basic psychological needs.

115   The objective of this qualitative study was to understand SCI peer mentorship through a

116   self-determination theory lens by gathering mentees' perceptions of their experiences with their

117   mentors. The specific research questions we attempted to answer were: To what extent did the

118   mentees feel the social context created by their mentors aligned with SDT's basic psychological

119   needs? In what ways did the mentees feel that peer mentorship impacted their life? Which peer

120   mentorship strategies did the mentees perceive to be particularly effective?

121   **Methods**

122   By using a qualitative design, participants articulated aspects of their SCI peer

123   mentorship experiences that they felt were relevant and important to this context. The present

124   study was guided by a critical realist epistemology. Critical realism follows many of the ideals of

125   traditional, objective science (i.e., quantitative research), but acknowledges that "reality is

126   imprecisely apprehendable" (Daley, 2007, p. 30). Thus, there is inherent subjectivity with the

127   knowledge generated from this study.

128   **Participants**

129   Participants were members of the provincial organization and received mentorship from

130   experienced mentors employed by provincial organization's mentorship program. The mentors

131   received basic training on the organizational resources and counselling strategies, but were not

132   trained in SDT. Some mentors did have educational backgrounds in counseling related degrees

133   (e.g., social work). This provincial organization's mentorship program is unstructured as it

134   focuses on the needs of the mentees, thus number of interactions varied by mentees. As a result,

135   participants received formal mentorship from the mentors within inpatient rehabilitation and/or

136   community-based settings and informal mentorship from mentors during events held by the

137   organization. The peer mentoring interactions were open-ended and may have included general

138   conversations about SCI, discussions with family members, or informal social outings.

139   For this study, convenience and criterion sampling was used to select participants. That

140   is, participants who indicated an interest for this qualitative study from the larger quantitative

141   study that recruited peer mentees from the provincial organization's peer mentorship program

142   were contacted (Sweet et al., 2018). Further, participants were required to have: (a) a SCI, (b)

143   been involved in at least four peer mentorship interactions within the past five years[1], (c) not

144   been diagnosed with a cognitive or memory impairment by a medical or health professional, (d)

145   been over the age of 18, and (e) had the ability to converse in either French or English.

146   In total, 13 adults met the criteria and provided consent to participate in this study. The

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[1] According to the community-based organization's peer mentors and staff, meaningful discussions typically began around the fourth interaction. The first and second interactions are introductory discussions.

147   sample consisted of 9 men and 4 women with a mean age of 49.3 years who have been living

148   with SCI for an average of 15.3 years. More than half had a traumatic SCI (77%), had paraplegia

149   (54%), used a manual wheelchair (61%), were single (54%), and had at least a bachelor's degree

150   (61%). Five mentees reported interacting with one mentor only, and eight reported interacting

151   with two to four mentors. We continued scheduling interviews with eligible participants until the

152   point where we were no longer generating new concepts from the interviews (i.e., data

153   saturation). Our research team concluded that we had reached data saturation after the 13th

154   interview.

155   **Procedures**

156   Approval from our university research ethics board was obtained. A female research

157   assistant with a Master's degree and qualitative interviewing experience contacted the

158   participants by telephone to outline the purpose of the study. She completed online modules on

159   SCI given she had no prior contact with these participants or other adults with SCI. Telephone

160   meetings were selected to help accommodate participants' mobility impairments, and because

161   our sample resided in different geographical locations. Prior to the telephone meeting, each

162   participant was sent a copy of the consent form so they could review the conditions of the study

163   as well as their rights as a research participant. At the beginning of the phone meetings, the

164   consent document was verbally explained to each participant and participants responded to the

165   following statement: "If you understand and accept these conditions, please indicate your

166   consent by verbally informing me 'Yes, you consent' or 'No, you do not consent'. All 13

167   participants provided verbal consent to participate in one interview.

168   **Data Collection**

169   Interviewing is a type of qualitative method that has been commonly used by social

170   scientists (Sparkes & Smith, 2014), including to study SCI peer mentorship from the perspective

171   of mentees (e.g., Haas et al., 2013; Veith et al., 2006). During the one-on-one interviews,

172   participants are encouraged to reflect, re-construct, and expand upon their knowledge of and

173   experiences with a phenomenon (Rubin & Rubin, 2012). Interviewers are active participants in

174   the co-creation of knowledge during interviews, as they listen to the insights and perspectives of

175   the knowledge holders (i.e., interviewees) and then ask probing questions based on the comments

176   provided. The knowledge generated through qualitative interviews provides an in-depth and

177   relevant understanding of real-world issues as perceived by the individuals who have the most

178   experience with phenomena.

179   In these interviews, we asked participants to reflect about their formal or informal peer

180   mentorship interactions with the provincial organization's mentors. We allowed participants to

181   discuss any interactions with these mentors, regardless of when (i.e., days to years earlier), which

182   context (i.e., during rehabilitation or in the community), and how (i.e., a scheduled mentorship

183   interaction or informally at an event). We created an interview guide to direct these

184   conversations with participants (see Appendix A in supplementary online material). The same

185   interview guide was used with each participant. However, conversations between interviewer

186   and participants occasionally deviated from the interview guide to allow for a natural dialogue as

187   well as to inquire into unforeseen topics that arose during the interviews. Participants also had

188   the opportunity to clarify/provide additional comments, or ask questions related to the study.

189   **Data Analysis**

190   Audio recordings of the interviews were transcribed verbatim and the data were stored

191   and analyzed using version 10 of the NVivo software package (QSR International Pty Ltd). We

192   used a content analysis because it is a well-established method of organizing and describing

193   participants' experiences through analyzing, identifying, and reporting themes in a data set

194   (Sparkes & Smith, 2014). There were two analyses conducted in this study (see Figure 1). The

195   first was deductive (i.e., top-down); that is, we used a directed content analysis to organize the

196   interview data into themes using SDT. Through this process, we found that most of the interview

197   data were related to basic psychological needs outlined in SDT. However, some data were not

198   related to SDT but were relevant to the participants' experiences. As a result, the second part of

199   the analysis used an inductive (i.e., bottom-up) approach called hierarchical content analysis to

200   organize the qualitative data, in which we did not use a guiding theoretical framework and

201   focused solely on participants' language and descriptions of their experiences to direct the

202   generation of themes.

203   **Deductive.** The three basic psychological needs of SDT (autonomy, competence, and

204   relatedness; Deci & Ryan, 2002) were the higher-order themes for this analysis (see Figure 1).

205   The deductive analysis began by KC reading the interview transcripts several times to gain

206   familiarity with the data. KC then organized data extracts, which are blocks of text that

207   encapsulate a coherent idea or piece of information, into either autonomy, competence, or

208   relatedness (i.e., the higher-order themes). These three higher-order themes were further

209   organized into lower-order themes, through a two-step process. First, data within higher-order

210   themes that had similar meanings were grouped together and, second, they were assigned a label

211   (i.e., lower order theme) that was consistent with the characteristics of each basic psychological

212   need. For example, within the higher-order theme of *Autonomy*, we identified two lower-order

213   themes that we labeled *Perceptions of the Decision-Making Process* and *Personalized Peer*

214   *Mentorship*. Organizing the data into lower-order themes was a collaborative and iterative

215   process involving KC, JC, and SS. Specifically, the definitions and names of lower-order themes

216   were debated and discussed over the course of 13 face-to-face meetings (approximately 25

217   hours). To finalize the deductive portion of the analysis, each lower-order theme was given a

218   description to ensure that each higher- and lower-order themes were distinct from the rest of the

219   themes in the analysis.

220   **Inductive.** For this analysis, KC began by focusing on the data that were not related to

221   SDT (see Figure 1). Given that the interview data were separated into data extracts as part of the

222   deductive analysis, KC grouped the remaining data extracts that had common features together

223   and then assigned each group a label (i.e., lower-order theme name). KC, JC, and SS discussed

224   the lower-order themes during face-to-face meetings and grouped the lower-order themes into

225   higher order themes. Care was taken to ensure that themes generated from the inductive and

226   deductive portions of the analysis were distinct.

227   **Trustworthiness**

228   We selected criteria that we felt best matched the contexts and purposes of our research

229   (Smith & McGannon, 2017). Specifically, we used an *audit trail* and *critical friends* to

230   demonstrate the quality of our findings. For the audit trail, we provided a detailed account of

231   recruitment, consent procedures, and the steps we followed for data collection and analyses. For

232   the critical friends, JC and SS worked closely with KC throughout data analysis to act as a

233   theoretical sounding board and to enhance her reflexive self-awareness (Sparkes & Smith, 2014).

234   Overall, the audit trail and critical friend were implemented to help ensure that the data,

235   interpretations, and outcomes represented participants' experiences with their peer mentorship

236   experiences.

237   **Results**

238   Deductive and inductive themes are presented sequentially and are described using direct

239   quotes from participants. To provide additional context to the quotes, each participant (i.e.,

240   "mentee") was assigned a pseudonym matching their sex and their age and level of SCI was also

241   presented.

242   **Deductive Analysis: Basic Psychological Needs**

243   The mentees' comments were coded based on the three basic psychological needs. Given

244   the content of the interviews, we primarily focused on the mentees' description of the social

245   context created by mentors and their interpersonal behaviours that align with autonomy,

246   relatedness, and competence. Further, a need thwarting theme was included given some mentees

247   reported interpersonal behaviours that would thwart rather than support the psychological needs.

248   **Autonomy.** The mentees expressed that their peer mentors created a social context that

249   was supportive of their autonomy by involving them in the *decision-making process* and

250   *personalizing* the mentorship. For example, mentees noted that their mentors provided them with

251   choices and did not impose decisions:

252   *Emily (a 38-year-old women with paraplegia)*: He [my mentor] gave me resources so I

253   can [search for information] and make my own decision…We talked a lot about

254   empowerment. About feeling resourceful because he allowed me…he gave me the tools

255   that I needed to make decisions and choices.

256   Based on their comments, there appeared to be two distinct ways that mentors personalized

257   sessions to meet the mentees' needs. First, when probed to discuss their mentors' personality and

258   the ways in which they interacted, the mentees felt their mentors allowed them to direct the

259   content of each session. Specifically, they appreciated that they could ask questions and direct

260   the conversation based on their problems and concerns: "First, it was always focused on me. It

261   wasn't him who said 'hey yesterday I did this'. If I wanted to talk about him, I would have to ask

262   him questions. He really put me first (*Meredith, a 48-year-old woman with tetraplegia*)".

263   In addition to individualizing the content, the mentees indicated that flexibility in

264   scheduling their mentorship sessions was important and appreciated. When probed to discuss the

265   initiation and the duration of a mentoring session, some mentees expressed that they enjoyed

266   how their sessions were not constrained by a time limit: "If I wanted to talk for 2 minutes, we

267   talked for 2 minutes. If I wanted to talk for a half hour, we talked for a half hour (*Adam, a 68-*

268   *year-old male with paraplegia*)". Others explained that if they needed to discuss a problem with

269   their mentor, they felt that they could call or approach them to arrange a session. For example,

270   *Samantha (a 39-year-old woman with tetraplegia)* noted: "her office was always open. So if I

271   was not feeling well, all I had to do was knock on her door".

272   Overall, the mentees felt that they had control over their sessions from both a content and

273   scheduling perspective, which aligns with the SDT need for autonomy. Based on their

274   comments, the mentees also felt their mentors were approachable, which links to the need of

275   relatedness.

276   **Relatedness.** The mentees felt that their mentors demonstrated *care and empathy* during

277   their interactions. For example, a number of mentees discussed how their mentors were

278   approachable and actively listened to their questions and problems. When asked why he decided

279   to continue with peer mentoring, Chris (*a 65-year-old male with paraplegia)* explained how his

280   mentor invested more time speaking with him about his (Chris') problems—and attempting to

281   help him—than some health professionals:

282   *Chris*: He [mentor] gave me important information that the doctors didn't have time to

283   give me. They [the doctors] are always busy. If you get to ask them [the doctors] a

284   question, they answer you, and then pouf! They're gone. But when I sit with [name of

285   mentor], he takes the time to answer my questions.

286   The mentees noted that interactions with their mentors were friendly and informal. *Emily*

287 explained that her mentor always went out of his way to help:

288   *Interviewer*: Can you elaborate on the different experiences that you had with your

289   counselor? The experiences that you appreciated or that you appreciated less.

290   *Emily*: [Name of mentor] really went above and beyond his working hours at [name of

291   SCI community organization]. It was not always necessary with me, but, he was always

292   available. Even just to accompany people outside. More than once, I saw him take

293   someone in his own car to see a movie, just to lift their spirits. As a mentor, he really had

294   a "best buddy" kind of attitude.

295   Because mentors were peers who had similar lived experiences, the mentees perceived

296 their mentors understood them and their situation especially compared to other health care

297 professions. This personal understanding facilitated a sense of connection between the mentee

298 and mentor:

299   *Interviewer*: what types of things did you appreciate about the mentoring program? What

300   were some of the things you did not like as much?

301   *Emily*: What I liked was that they [SCI peer mentors] also experienced it [a SCI]. So

302   there were no reactions like, "You'll see, everything will work out fine". Or, "Yes it's

303   difficult [right now], but time will make it…" No. They [SCI peer mentors] didn't belittle

304   us because they have also lived it. They were sensitive. I felt truly understood because

305   they [SCI peer mentors] have lived it.

306   Similarly, the mentees described how they believed their mentors were excellent

307   listeners, who were always interested and engaged in conversations. For example, when asked

308   for her thoughts on her interactions with her mentor, *Samantha* noted:

309   that's what's fun, she's interested. I know that she knows a lot of people. But when I'm

310   with her, she gives the impression that it's just her and I. She doesn't think about a dozen

311   people at the same time.

312   *Meredith* added: "feeling listened to is very important to me. Also, it was encouraging to see that

313   he really wanted to let me express myself and [he wanted to] understand what I wanted before

314   telling me what he thought".

315   According to the mentees, another key component of the peer mentorship process was

316   that the mentees felt comforted knowing their experiences and problems were common among

317   other adults with SCI. For example, when probed to discuss the obstacles her mentor had helped

318   her overcome, *Chelsey (a 39-year-old woman with paraplegia)* explained that when she spoke to

319   her mentor about issues related to bladder control, her mentor helped reassure her that she was

320   not alone in her concerns:

321   Everything was going good, until the moment where I started to have problems

322   controlling my bladder. The first morning that happened, I was not happy, and it was

323   happening more and more. I spoke to him [my mentor], and he told me "Chelsey, you're

324   not the only one". They [SCI peer mentors] are used to addressing those types of things.

325   That reassured me.

326   Overall, the mentees reported that their mentors took the time to listen, went out of their

327   way to help them, and comforted them, which helped the mentees feel connected. Interestingly,

328   some mentees provided information that could be interpreted as supporting more than one of the

329   psychological needs. For example, we interpreted providing reassurance (e.g., addressing bladder

330   control) as a relatedness-supportive behaviour because the mentor provided comfort. However,

331   in this example, providing reassurance could have been interpreted as a competence-supportive

332   behavior as highlighted in the verbal persuasion on capability sub-theme within the broader

333   competence theme below (see Appendix B in online material for coding definitions).

334   **Competence.** The mentees believed their mentors were influential in helping them feel

335   more capable of successfully completing tasks. For example, when asked about the impact her

336   mentor had, *Meredith* noted, "I know that he [the mentor] is part of the reasons that I felt the sky

337   was the limit, and that everything was possible". When asked how their mentors affected their

338   lives, some of the mentees described that observing their mentors being successful in social

339   settings gave a sense that they could also be successful:

340   *Andrew (a 58-year-old male with paraplegia)*: … seeing him arrive all alone with his

341   wheelchair. He was exiting his car and that impressed me. I didn't think that we could

342   become independent. I wasn't even able to get out of my bed by myself. When he arrived

343   in my room, I thought "wow". That peaked my curiosity. That impressed me. When it's

344   the first time you see it, you have that impression.

345   *Chelsey*: I always say, "if a quad like him can have a positive life, be married, and have a

346   child, there is nothing stopping me from being happy". He is worse off than me, and you

347   see that he is happy. He does what he can with his circumstances. There are things you

348   can do as a paraplegic.

349   In addition to seeing them as role models in social situations, the mentees discussed how

350   observing their mentors successfully complete specific tasks raised their feelings of competence.

351   For example, *Andrew* explained that watching a mentor successfully transfer him or herself was

352   "… more meaningful than having a social worker tell you that one day you will be able to…".

353   *Chris* described similar perspectives in relation to activities like driving:

354   *Chris*: I saw him parking his car. That reassured me that I would one day be independent

355   and would be able to drive myself. [I felt] that it was possible because he was completely

356   paralyzed. But I still had some recovery to do. But now I could lift myself out of my

357   wheelchair to get to the bed. I told myself "I will be able to drive".

358   Verbal communication was also identified by the mentees as being an important part in

359   their recovery, particularly with respect to improving their competence. The mentees also

360   explained that their mentors gave them reassurance. For example, when discussing how their

361   mentors helped them overcome obstacles, mentees explained that they felt worried about

362   accessibility in public places or changing urinary products until speaking to a peer: "He took a

363   lot of stress off me because I was afraid (*Jason, a 53-year-old male with tetraplegia*)". They

364   attributed this sense of reassurance to the fact that the mentor had already lived a similar

365   experience. *Chelsey* spoke about how her mentor reassured her when she was nervous about

366   undergoing a medical procedure to improve urinary tract functioning: "She said to me, 'Listen,

367   up until now it's gone very well. I recommend it [the surgery]. But maybe if I hadn't met her, I

368   would have 'freaked', and I would have said, 'No I don't want that…'". When discussing peer

369   mentorship interactions, some of the mentees expressed that although their mentors helped to

370   reassure them, they appreciated that they were also realistic about their recovery in that it will

371   not always be an easy process. For example, *Andrew* noted that, "He [mentor] tried to answer

372   without sugar coating it. [He didn't tell me] 'Everything is good, everything will be easy,

373   because that's not true".

374   The mentees explained that their mentors helped support their competence as they acted

375   as role models and reassured them when they expressed a concern. In sum, results from the

376   deductive analysis revealed that mentees felt that their mentors exhibited behaviors that were

377   supportive of their competence, autonomy and relatedness.

378   **Need thwarting.** In opposition to a need supportive environment, SDT posits that need

379   thwarting occurs when need satisfaction is being obstructed or frustrated (Deci & Ryan, 2002).

380   When a mentor was providing a social context that was not supporting the psychological needs,

381   the mentees took notice. When discussing how it was difficult to be a mom and return to work

382   after her accident, *Emily* described how her mentor did not support her basic psychological needs

383   by not listening to her desire to return to work and even discouraging her to accomplish that

384   goal:

385   *Emily*: I wanted to start a full time job—5 days a week. But I felt a lot of reluctance from

386   my mentor. In the sense that they [SCI peer mentor] tried to discourage me. Or at least

387   that's what I felt. I found that a little difficult because it was as if they didn't understand

388   who I was. Yes, I am a mother, but my career is very important to me.

389   As Emily pointed out, need thwarting behaviours can create a disconnect between the mentor

390   and mentee. She therefore sought advice from a different mentor who approached her situation

391   from another perspective.

392   *Emily*: I never felt from [name of mentor] that I would never be capable. It was really,

393   "Listen, you want to go back [to work]. Put a smile on. It will be difficult but you can do

394   it. You always have the option to turn back if it isn't working. Yes it will be difficult but

395   you are capable. And if you want to do it, I am sure you are able to do what it takes to

396   make it happen".

397   She highlighted that this mentor who provided a need supportive social context made her feel

398   more autonomous and competent in returning to work. Emily's example highlights that moving

399   away from a need thwarting to a need supporting social context can result in positive outcomes

400   for the mentees.

401   **Inductive Analysis: Beyond the Basic Psychological Needs**

402   In the inductive analysis, mentees discussed topics related to their perspectives on their

403   community SCI organization's structure, the role of individuals who are not mentors, and

404   perceived outcomes associated with peer mentorship.

405   **Role of the SCI community organization.** When asked about the structure and

406   programming offered by the SCI community organization, the mentees raised some concerns.

407   For example, they mentioned that certain activities organized by the peers or by the community

408   organization were not accessible for them due to issues with transportation, scheduling, or time

409   of season (e.g., winter).

410   *Jason*: Sometimes they organize gatherings. I would really like to go but I can't because

411   either my physical condition does not allow me or it's too far away. Sometimes they

412   organize nice meeting at [name of restaurant], but I would get home too late at night. I'm

413   not able to [go to gatherings] in the Winter because I almost never drive. Sometimes there

414   are things that we would like to do in Winter but we can't.

415   In addition to structural aspects of the SCI community organization, when prompted, the

416   mentees also spoke about the importance of their mentors and others who are employed by the

417   organization. For instance, *Derek (a 69-year-old male with tetraplegia)* explained that his mentor

418   was as important as other health professionals in his recovery: "…I had excellent experiences

419 with occupational therapists, physiotherapists, kinesiologists, personal nurses, doctors…I am

420 very proud of the dozen specialists that I encountered and my mentor is one of them."

421   **Impact of peer mentorship on family members.** Although the mentees noted that their

422 mentor-mentee relationship was important in their own recovery, participants also felt the

423 benefits of mentoring transcended into the mentee's family environment. That is, mentees said

424 that their mentors helped them and their families adjust to their new post-SCI realities. For

425 example, *Meredith* noted, "[peer mentoring] must have been as reassuring for everyone around

426 me because it [a SCI] does not happen only to me. It happens to the people around me as well.

427 Mentoring reassures everyone". When asked about the evolution of their mentoring sessions,

428 *Emily* explained that whenever her parents wanted to organize an activity, they were able to turn

429 to her mentor for support and information.

430   *Emily*: My father was saying, "yes, we would like to bring Emily to see the butterflies so

431   she can have an outing with her son. She would like to do that but we don't have

432   transportation. We don't know how to transport her". So he [the mentor] would give

433   advice to my dad, "You have this or this company who can give you adapted transport, or

434   you can go see this company or that company to adapt your van". So, for my parents, [my

435   SCI peer mentor] offered support by sharing advice and helping us find resources.

436   **Outcomes of peer mentorship.** Mentees explained that they gained emotional and

437 psychological benefits, resources for living with an SCI, and the opportunity to participate within

438 a community. Mentees expressed feeling emotional/psychological benefits from speaking with

439 their mentors, even beyond what they received from health professionals such as psychologists:

440   *Emily*: Sometimes I think it's just a moral benefit that helps us. Sometimes, you are

441   feeling low and just chatting with [the mentors] lifts your spirits. It's not necessarily

442   always going to be something that is tangible. Sometimes it's a phone call or a chat in the

443   corner that makes the difference. It helps the psychological side of things.

444   Mentees also explained that because of their mentoring, they gained knowledge,

445 resources, and learnt to adapt to living with an SCI. For example, when asked about how her

446 mentor impacted different aspects of her life, *Samantha* explained how she approached her

447 mentor about managing a pressure injury.

448   *Samantha*: I called her [the mentor] because I had a pressure ulcer. I asked if she had any

449   information because I was looking for resources. I met my first surgeon who didn't want

450   to take on my case. So I called her [the mentor] to see if she had any knowledge on it. But

451   she didn't, so she informed herself and came back to me with some resources.

452   Finally, whether it was through learning about new activities or being involved in group

453 trips, mentees felt that interacting with mentors and the SCI community organization helped

454 them meet other people who are dealing with similar situations. Through peer mentorship, the

455 mentees explained that they were given the opportunity to become part of a community.

456   *Interviewer*: And is there something that you appreciated in particular?

457   *Luc*: You meet other people who have more experience than you. You talk with other

458   people who have other experiences, different types of spinal cord injuries, similar and

459   different disabilities. That gives a lot of… how can I say this… gives a lot of ideas on

460   how you can adapt [to your injury] or change your lifestyle.

461   Mentees discussed many factors associated with their peer mentorship including, the

462 mentees' perspectives on their community SCI community organization's structure, the role of

463 individuals who are not mentors, and perceived outcomes associated with their interactions.

464 While each mentee benefited differently from their peer mentorship relationships, it is clear that

465   the mentees had a positive experience. *Meredith* summarized her peer mentorship experience in

466   the following way:

467   *Interviewer*: Can you elaborate on the way your mentors affected your life?

468   *Meredith*: 25 years later, it's still stuck in my head and in my heart: [my life] would not

469   have been the same without him [peer mentor] and [SCI community organization].

470   **Discussion**

471   The purpose of this study was to qualitatively explore SCI peer mentees' perceptions of

472   their peer mentoring experiences through a SDT lens. The present findings complement an

473   emerging body of research that has suggested theory could help to gain an understanding SCI

474   peer mentorship (e.g., Beauchamp et al., 2016; Gassaway et al., 2017; Ljunberg, Kroll, Libin &

475   Gordon, 2011). To our knowledge, this qualitative study was the first to explore mentees'

476   experiences with SCI peer mentorship using SDT. Overall, results from this study indicated that

477   SDT was a useful framework to organize mentees' experiences with and perceptions of SCI peer

478   mentorship. Indeed, the mentees detailed the ways in which their mentors fostered a need

479   supportive social context, through SDT's three basic psychological needs.

480   **Basic Psychological Needs**

481   The mentees said they appreciated their mentors' approach by offering choice and being

482   flexible and allowing them to have a sense of control of their sessions. There is reason to believe

483   that flexibility is therefore an important element for quality SCI peer mentorship. In fact,

484   mentees in Veith and colleagues' (2006) study reported that having limited opportunities and

485   choice of when to interact with their mentors reduced the quality of their peer mentoring

486   relationship. Furthermore, mentees in the present study appreciated when their mentors "put

487   them first" by allowing them to determine the focus of each session and provided them with

488   choices in the decision-making process. We interpreted these findings as being consistent with

489   the mentors providing an autonomy-supportive social context (Ryan & Deci, 2017).

490   Mentees in the current study explained that interactions with their mentors were friendly

491   and informal, which aligns with previous SCI peer mentoring research (Balcazar, Kelly, Keys, &

492   Balfanz-Vertiz, 2011; Haas et al., 2013). For example, Balcazar et al. (2011) conducted a mixed-

493   method peer mentoring intervention with 28 individuals with SCI. Among their qualitative

494   findings, Balcazar and colleagues' reported that the mentees' likened their relationship with

495   mentors to that of a friendship, and noted that their mentors cared about them personally.

496   Similarly, Haas et al. (2013) found that SCI mentees cited "friendship" as a benefit of their

497   relationship with a mentor. Although it was not explicitly articulated in either study (Balcazar et

498   al., 2011; Haas et al., 2013), the feelings of friendship described by their participants, as well as

499   the mentees in the present study, appear to be conceptually similar to the need for relatedness

500   from SDT. Thus, it appears that feeling related—perhaps in the form of a friendship—with a

501   mentor is an important aspect of a positive peer mentorship experience.

502   However, there is a fine line between mentorship and friendship, as discussed in peer

503   mentorship research in other contexts (e.g., McLeish & Redshaw, 2015). For example, when

504   providing peer mentorship for pregnant women and early mothers, mentors in McLeish and

505   Redshaw's (2015) study described mentorship as having clear, structured boundaries. On the

506   other hand, these mentors defined friendship as having less structure and boundaries, because

507   "friends" would share personal contact information whereas "mentors" would not. As a result,

508   SCI organizations may consider starting (or continuing) to discuss the expectations and

509   boundaries of their mentorship programs, so that both mentors and mentees have a clear

510   understanding of their relationship from the outset.

511   Another finding that was linked to the concept of relatedness is empathy. More precisely,

512   mentees in the present study felt that their mentors' ability to be empathetic contributed to a

513   positive peer mentorship experience. Participants in Veith and colleagues' (2006) study also

514   believed that the empathetic understanding (i.e., in the form of shared SCI experience) was

515   central to their bond with their mentor and led to increased feelings of trust in their mentors'

516   advice. Beauchamp et al. (2016) found that peer mentees felt that understanding and empathy

517   helped to build relatedness in the mentor-mentee relationship. However, as Standal (2011) noted,

518   researchers should be cautious about concluding that empathetic understanding automatically

519   emerges as a result of shared experience. That is, being an individual with a SCI does not

520   automatically mean that one can accurately provide empathy for someone else's disability-

521   related issues. Indeed, need thwarting was apparent in the results of the present study. Some of

522   the mentees expressed that they did not feel understood during parts of their mentorship, which

523   would be akin to their mentors' not providing accurate empathy. To have an empathetic

524   understanding is to make an effort to understand the person's situation from his/her perspective

525   (Miller & Rollnick, 2013). To maximize the effectiveness of peer mentorship, interventions and

526   programming should ensure that mentors have a clear understanding of accurate empathy.

527   Providing such an understanding might help facilitate the satisfaction of the basic psychological

528   need of relatedness and create a need-supportive social context as per SDT.

529   Mentees in the present study discussed how observing their mentors model specific tasks

530   (e.g., complete transfers, drive automobiles) and receiving reassurance for completing various

531   life tasks (e.g., accessibility in public places, changing urinary products) was important to them

532   and appeared to contribute towards a sense of competence. Findings from a recent quantitative

533   study from our group (Sweet et al., 2018) are aligned with the present results, as peer mentorship

534   was shown to predict competence among adults with SCI. Other quantitative studies have

535   demonstrated the effectiveness of peer mentorship on self-efficacy, a concept similar to

536   competence (Ljunberg et al., 2011; Gassaway et al., 2017). A qualitative study from Beauchamp

537   et al. (2016) found that mentees reported that their SCI mentors acted as role models (e.g.,

538   "seeing somebody in the same shoes doing it, was what made it for me" (p. 1888) and reassured

539   them to try different activities. Findings from the mentees' in Beauchamp et al.'s article appear

540   to align with our findings relating to fostering the feelings of competence among mentees. To

541   gain further appreciation of the competence (and other need) support behaviours of SCI peer

542   mentors, future studies may consider direct observations of peer mentorship interactions. Such

543   observations could further describe the strategies utilized by SCI peer mentors to foster

544   competence (as well as other needs).

545   In sum, we found that the majority of the mentees' perceptions of peer mentorship could

546   be mapped onto SDT's three psychological needs, meaning the mentors are applying a mentee-

547   centered approach. A growing body of evidence has highlighted the benefits associated with

548   mentee-centered approaches to SCI peer mentorship (Gassaway, 2017; Houlihan, 2017;

549   Gainforth, Latimer-Cheung, Davis, Casemore, & Martin Ginis, 2015). For instance, mentors in

550   Houlihan and colleagues' (2017) study were trained to deliver mentee-centered goal setting and

551   health coaching to optimize self-management practices of adults with SCI. Individuals who

552   received mentee-centered peer mentorship reported greater levels of self-management than

553   individuals who received standard care, which suggests that personalizing and involving mentees

554   in the decision-making process results in positive outcomes. Peer mentorship programs may

555   consider offering opportunities for their mentors to receive additional training to develop skills

556   that will allow them to provide and foster a mentee-first approach, which would help to

557   maximize the impact of their programming. In line with SDT, mentors could be taught how to

558   encourage independent decision making by providing choices and options to enhance autonomy,

559   model specific tasks such as transfers to promote competence, and accurately empathize to foster

560   relatedness. SDT training for peer volunteers in the physical activity context has been shown to

561   better promote maintenance of desired outcomes (Buman et al. 2011).

562   Additionally, some mentees' comments could be linked with more than one of SDT's

563   psychological needs. For example, some mentees highlighted that the advice shared by their

564   mentor helped them feel understood and capable. The mentor's behaviour of giving the advice

565   aligned with providing a social context that supported both the psychological needs of

566   relatedness and competence. This finding was not surprising because Deci et al. (2001) noted

567   that the satisfaction of one domain of SDT increases the likelihood for positive associations with

568   the other basic psychological needs. Although our study was qualitative in nature, findings from

569   the present study appear to support SDT-based research or conceptualizations that hint at the

570   interrelatedness of the basic psychological needs (e.g., Milyavskaya et al., 2009; Van den

571   Broeck, Vansteenkiste, Hans De Witte, & Lens, 2008; Fortier, Sweet, O'Sullivan, & Williams,

572   2007). Specific to the SCI peer mentorship context, future SDT-based studies could specifically

573   examine the interrelationship of the basic psychological needs and identify overlapping

574   techniques or relational styles that foster these needs.

575   **Beyond the Basic Psychological Needs**

576   The mentees also highlighted dimensions of peer mentorship that were beyond SDT.

577   Specifically, they discussed outcomes or processes of peer mentorship that appeared to enhance

578   their participation in daily or social activities. The concept of "participation", defined as the

579   extent to which one engages in daily and social activities, has been well documented in the

580   context of SCI (e.g., Noreau, Fougeyrollas, Post & Asano 2005). In the present study, the

581   mentees discussed elements of their peer mentorship experience that enhanced the quality of

582   their daily activities (Martin Ginis, Evans, Mortenson & Noreau, 2017) such as receiving

583   emotional support (i.e., for their psychological health) and informational support (i.e., for

584   activities of daily living like using a catheter). Mentees also reported that their mentors helped

585   them connect and network with other adults with SCI and their families to adjust to the realities

586   of SCI. Taken together, these findings reinforce the importance of social participation in the SCI

587   context and hint at the facilitative role of mentors in helping mentees engage in their lives.

588   Mentees in this study reported that peer mentorship was also beneficial for their family

589   members. Haas and colleagues (2013) found that family members of mentees reported benefits

590   of mentorship, which they felt included being comforted by "knowing somebody was there",

591   (p.297) if they needed guidance or information. The impact on peer mentorship on family

592   members has received little empirical attention to date. It would be interesting for future studies

593   to investigate how peer mentorship could be optimized to include family members, so they could

594   learn and adapt alongside their family member living with SCI.

595   **Limitations and Future Directions**

596   Although mentees interacted with their mentor in the last five years, some mentees

597   interacted with their first peer mentor approximately 30 years ago, which could have contributed

598   to recall bias regarding the initial phases of their life with SCI. Mentees may have focused more

599   on their positive peer mentorship experiences given their continued support and use of peer

600   mentorship. As such, the results may not accurately reflect mentee experiences related to need

601   thwarting behaviours or unhelpful techniques. Future research should consider discussing with

602   individuals who are not receiving peer mentorship or have decided not to continue with the

603   mentorship to understand the reasons behind not engaging in SCI peer mentorship. Furthermore,

604   mentees included in this study received peer mentorship as part of one SCI community

605   organization, thus our findings cannot be generalized to every model of mentorship.

606   Additionally, each mentor has their own unique mentoring approach that is based on their lived

607   SCI experience as well as their accumulated mentorship experience. Mentees were also

608   interviewed at one time-point. Future studies may consider implementing multiple interviews to

609   allow participants the opportunity for further reflection and the sharing of additional information.

610   As previously suggested by Veith and colleagues (2006), it would be valuable to collect

611   information from various sources (e.g., family members, HCPs, community organization

612   members) to gain a more complete view of the mentoring experience and expand on the work by

613   Hass et al. (2013). In addition to being an SDT-grounded study, the main coder of the results

614   (KC) and one critical friend (SS) are SDT researchers, which inherently increases the likelihood

615   of finding SDT congruent themes. However, another critical friend (JC) has not previously

616   conducted SDT-grounded research and provided an alternate perspective to challenge KC and SS

617   during the deductive and inductive analyses.

Conclusions

619   Overall, mentees in the present study expressed their appreciation for a mentor who

620   provided a social context that supported their basic psychological needs. The mentees also

621   highlighted that peer mentorship had benefits for both daily and social activities. In sum, these

622   findings suggest that psychological theories such as SDT are useful in understanding the

623   experiences of SCI peer mentees. Further, findings from this study could be used to inform the

624   development of a mentee-centered training program that is focused on enhancing the social

625   participation of individuals with SCI and their family members.

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