A Peer E-Mentoring Employment Program for Youth with Physical Disabilities: What Are the Social Supports That Are Needed and Provided?

by

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A thesis submitted in conformity with the requirements for the degree of Master of Science in Rehabilitation Science
Rehabilitation Science Institute
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Abstract

**Background:** The employment readiness of youth with physical disabilities may improve from social support offered through peer e-mentoring. Little is known regarding the nature of social support within a randomized control trial (RCT) of peer e-mentoring.

**Objective:** To explore the social support needs of youth with physical disabilities with regards to employment readiness and to explore the nature of social support in a peer e-mentoring intervention.

**Methods:** Through a focus group, youths’ social support needs were analyzed. Through content analysis of discussion forums the nature of social support in the RCT was explored.

**Results:** Youth suggested they required informational support. In the intervention, the mentored group offered varied social support in comparison to the non-mentored group.

**Conclusions:** This research contributes to knowledge about informational support needs of youth with physical disabilities in the area of employment readiness; and presents the types of social support provided in a peer e-mentoring RCT.
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Chapter 1
A Peer E-Mentoring Employment Program for Youth with Physical Disabilities: What are the Social Supports That Are Needed and Provided?

1 Introduction

1.1 Study Rationale

Youth with physical disabilities are employed at a lower rate compared to their typically developing peers (Lindsay, McDougall, Menna-Dack, Sanford & Adams, 2015). Several methods to improve youth’s employability skills have been tested and tried that aim to enhance youth’s capabilities in finding first time employment (Hanif, Peters, McDougall, & Lindsay, 2017). Despite these efforts, lacking in this research are ways to offer social support to youth with physical disabilities in terms of their first time employment experiences. Social support is important to address and study within employment readiness programs because social support can enhance youth’s self-efficacy and self-esteem necessary for employment by assisting youth with the emotional and social challenges associated with finding work (Shpigelman, Reiter, & Weiss, 2009). Peer mentorship is a method of delivering social support from a unique standpoint of a peer with a similar lived experience and age to a mentee (Karcher, 2005). Despite this, many peer mentorship programs find it difficult to maintain mentors and offer accessible ways of meeting (Kolakowsky-Hayner, Wright, Shem, Medel, & Duong, 2012). Thus, a novel way of delivering social support that offers greater accessibility is through peer e-mentoring (Shpigelman, Reiter, et al., 2009). The literature thus far is focused on barriers and challenges youth with physical disabilities have in terms of employment readiness, but, less is known regarding their specific social support needs and about the types of social support that can be offered in the context of a mentored group and non-mentored group in an RCT of peer e-mentoring for youth with physical disabilities. Studying social support in terms of its typology in these environments will allow for a better understanding of how these groups can offer social support, and can inform future research and development of peer e-mentoring groups.
1.2 Purpose and objectives

The purpose of this research is to understand the social support needs of youth in the area of employment readiness, and to explore the nature of social support provided in a randomized controlled trial (i.e., RCT) of peer e-mentoring examining employment readiness of youth with physical disabilities. It explores the social support needs of youth with physical disabilities in the context of a peer e-mentoring study as they pertain to their employment readiness. Also, this dissertation provides an exploration of the nature of social support provided within the mentored and non-mentored groups included in the RCT. It examines, the nature of social support provided in each group through an examination of whom is providing the support, and the changes in the types of social support provided over the course of the program (i.e., 12 weeks). To accomplish this purpose, the following questions will be addressed:

a. What do youth identify as the social support needs to be addressed in a peer e-mentoring intervention focused on employment readiness? (i.e., manuscript 1)

b. What is the nature of social support provided within the mentored and non-mentored peer groups part of a peer e-mentoring RCT focused on employment readiness for youth with physical disabilities? (i.e., manuscript 2)

   a. What types of social support are sought and provided in the discussion forums?
   b. How does the social support sought and provided in the discussion forums change over time? (i.e., 12 weeks of the intervention)
   c. How does social support compare and contrast between the mentored and non-mentored groups?

1.3 Research Design

This research was situated within the context of a pilot RCT of a peer e-mentoring intervention focused on employment readiness for youth with physical disabilities (Lindsay et al., 2017). An exploratory qualitative study (Green & Thorogood, 2014) was
embedded within the pilot RCT. In this study, qualitative data was collected prior to the intervention (i.e., manuscript 1) and during the intervention (i.e., manuscript 2).

1.4 Terminology

Social support is the main concept explored in this dissertation, specifically, in the context of an employment readiness intervention for youth with physical disabilities. We explored the social support needs of youth living with a disability and the types of social support provided within a peer e-mentoring intervention. In this dissertation, social support is defined as “the offering of guidance through informational, tangible, social and emotional assistance (Shpigelman, Reiter, & Weiss, 2009, p.306). This definition captures the behavioural manifestations of social support that are outlined by the Electronic Socio-emotional Support conceptual framework (i.e., ESES conceptual framework). This framework characterizes and describes a process of a reciprocal relationship between a mentor and mentee, where the exchange of social support is central to the relationship.

Within this dissertation, the term “peer e-mentoring” refers to the conditions of the experimental group under study in the RCT. This term combines two terms: “peer-mentoring” and “e-mentoring”. The peer-mentoring component of this term is defined as an interpersonal relationship between youth who are similar in age and share a common characteristic (i.e., disability type) (Karcher, 2005). The similarities of age and characteristics between a peer mentor and a mentee are important to note because they allow for less of a power imbalance that is seen in traditional mentorship (i.e., with an older adult as a mentor and a youth as a mentee) (Karcher, 2005). A peer mentor offers a level of expertise that the mentee does not yet have (i.e., in this case, achieved employment) and aims to improve one or more aspects of youth’s lives, such as self-esteem or motivation (Karcher, 2005). The mentor-mentee relationship exists in an online environment that is facilitated by computer-mediated communication, and is qualitatively different than face-to-face mentoring (Bierama & Merriam, 2002).
The term “youth” is used to define the population under study in this dissertation. Youth is defined by the United Nations (2010) as individuals between the ages 15-24. This is a fluid term referring to a population transitioning to adulthood and independence (United Nations, 2010). Therefore, the term youth is suitable for the population studied within this dissertation between the ages 15-25 holding no prior employment experience.

The focus of the RCT (Lindsay et al., 2017) that this dissertation is a part of is the employment readiness of youth with physical disabilities. Employability skills include personal (e.g., self-esteem, self-efficacy), interpersonal (i.e., communication), and self-management (e.g., disability related such as pain or fatigue) skills that are relevant to all jobs (Blades, Fauth, & Gibb, 2012). Employability skills are necessary to acquire before finding employment. When the term “employment readiness” is used, this will relate to the development of one’s employability skills necessary for employment (Blades, Fauth, & Gibb, 2012). The RCT related to this dissertation aims to improve any of youth’s employment readiness skills through weekly modules that include resources, evidence based information (mentored and non-mentored groups) and advice from lived experience concerning the topics (mentored group).

Physical disability: according to the World Health Organization’s International Classification of Functioning (World Health Organization, 2002), disability encompasses impairments, activity limitations, and participation restrictions, whereby one’s disability and functioning are shaped by interactions between health conditions (i.e., disorders, diseases, injuries) and contextual factors (i.e., the environment, and personal characteristics). Accounting for this, the ICF classifies physical disabilities as disabilities or chronic health conditions that affect bodily structure and or function (World Health Organization, 2002). For example, physical disabilities include cerebral palsy, spina bifida and arthritis.

1.5 Thesis Organization

This thesis will follow a manuscript style. Chapter one includes the research questions under study, and relevant terms and definitions. Chapter two presents an overview of the literature capturing what is known about youth with physical disabilities in terms of
social support, employment readiness, and peer e-mentoring. Chapter three includes manuscript one, which explores the social support needs of youth with physical disabilities related to employment. It draws on data from a focus group conducted with youth with physical disabilities to elicit their perspectives on their social support needs pertaining to employment readiness. Chapter four includes manuscript two that investigates the nature of social support within the peer e-mentoring intervention in two phases of the intervention: the mentored group (i.e., experimental group) and the non-mentored group (i.e., control group).
Chapter 2

2 Literature review

2.1 Social Support and Peer E-Mentoring

The facilitation of social support throughout the process of peer e-mentoring for employment readiness is central to this dissertation. Social support is a multi-faceted concept and the term is operationalized and defined differently throughout the literature. Most commonly throughout the literature social support is operationalized in two ways (King, 2006). First, as the perception of interpersonal behavior (e.g., feeling cared for) and how this perception affects outcomes of the individual. For example, for youth with chronic illnesses, their perception of social support is often linked to positive outcomes on their health and well-being. Second, social support is also operationalized in terms of provision and is categorized into typologies (King, 2006). Despite the different terminology used, the types of social support of informational, tangible, cognitive and emotional support are common among the categorizations across the literature (Cutrona & Suhr, 1992; Dennis, 2003; King, 2006; LaGreca, 1990). The typologies of social support offer a useful understanding as to how social support operates in certain environments across different relationships (King, 2006), and as presented in the studies of this dissertation, the typologies are used to better understand the provision of social support within an RCT of peer e-mentoring.

Peer e-mentoring is a method of providing social support (Meranos, King, Vidourek, & Nabors, 2016). Corresponding with the two main characterizations of social support throughout the literature; the ESES conceptual framework outlines how the different typologies of social support may be provided in an e-mentoring relationship and how this may affect outcomes in an individual. In this dissertation, the ESES conceptual framework was chosen to support the rationale of this research, develop the research questions, and its typologies loosely guided the analyses (i.e., analyses were not purely deductive). According to the ESES conceptual framework (Shpigelman, Reiter, et al., 2009), social support is the provision of informational, tangible, social and emotional
assistance from one individual to another, or to a group of individuals (Shpigelman Reiter et al., 2009, p.306). This conceptual framework was chosen because it proposes a mechanism through which successful online mentoring relationships develop. It suggests that different types of social support are provided and exchanged along the way which leads to greater self-awareness and changes in youth’s perceptions, behaviors and emotions. This framework is appropriate because it was developed from a pilot study of online mentorship similar to the intervention described in this dissertation (i.e., fully online, and with youth with disabilities). Also, this conceptual framework is informed by two widely used explanations of social support, the Online Social Support Theory (LaCoursiere, 2001) and The Social Support Behavior Code (Cutrona & Suhr, 2009). The Online Social Support Theory describes the process of social support within an interpersonal relationship that develops online. LaCoursiere (2001) describes that online social support has structural, and functional conceptualizations, where the structural involves the social network of an individual, and functional relates to the different types of social support that can be exchanged (i.e., tangible, emotional, etc.). Therefore, the Online Social Support Theory (LaCoursiere, 2001) influenced the ESES’s (Shpigelman, Reiter, et al., 2009) explanation of how an online relationship is developed through the exchange of social support. Similarly, the types of social support described by the ESES conceptual framework were influenced by the Social Support Behavior Code (Cutrona & Suhr, 1992). Cutrona and Suhr (1992) suggest a categorical system for the behavioural manifestations of social support: informational, tangible, network, esteem and emotional. Informational support refers to a message that conveys instruction and advice. Tangible support refers to physical action taken for another individual (e.g., a loan), Network support refers to support that enhances an individual’s social network, Esteem support refers to messages of validation. Lastly, emotional support relates to the expression of empathy and or reciprocated emotion.

In this dissertation, a peer e-mentoring program for youth with physical disabilities entering into first time employment is studied. Arguably, social support interventions are optimal when social support needs match the social support received (Cohen, & McKay, 1984; Cutrona & Russell, 1990). The following section of this dissertation will summarize the literature on the employment readiness of youth with physical disabilities.
More specifically, youth’s employment experiences and current employment readiness programs will be examined. This will help form the rationale for the importance of an exploration of social support in this context.

2.2 Youth with physical disabilities and employment readiness

For youth with physical disabilities, securing meaningful employment is often a goal in the transition to adulthood (Nieuwenhuijsen, Donkervoort, Nieuwstraten, Stam, & Roebroeck, 2009; Roebroeck, Jahnse, Carona, Kent, & Chamberlain, 2009). Employment can promote financial independence, self-identity, social interaction (van Mechelen, Verhoef, van Asbeck, & Post, 2008), psychological well-being (Blustein, 2008; Neff, 1985; Strauser, 2014), community participation (Trenaman, Miller, Queree, Escorpizo, & Team, 2015) and overall social inclusion (Crowe & Butterworth, 2016). Despite the positive benefits related to employment, finding and maintaining employment is reported as a major challenge by youth with a physical disability (Lindsay, 2011; van Mechelen, Verhoef, van Asbeck, & Post, 2008; Verhoef, Roebroeck, Van Schaardenburgh, Floothuis, & Miedema, 2014). Compared to their typically developing peers, fewer youth with physical disabilities have secured a work position (Verhoef et al., 2014). In a study comparing the employment readiness of youth with physical disabilities to youth without, fewer youth with physical disabilities were employed or had volunteer positions compared to their typically developing peers (Lindsay, McDougall, Menna-Dack, Sanford & Adams, 2015). Youth with physical disabilities experience psychosocial difficulties in pursing adult roles, responsibilities (King, Baldwin, Currie, & Evans, 2005; Magill-Evans, Darrah, Pain, Adkins, & Kratochvil, 2001) such as employment, volunteering and/or higher education.

Despite the growing argument to enhance the employment readiness of youth with physical disabilities, much of the social supports they receive in their natural networks are inadequate to addressing their work readiness needs. Social support delivered through a peer e-mentoring intervention is important to focus on because provision of different types of social support has the potential to establish positive effects on youth’s self-
efficacy and self-esteem in areas related to employment readiness (Shpigelman, Reiter, et al., 2009). These ingredients are critical for addressing employment readiness skills, and meeting challenges before entering first time employment. Youth with physical disabilities often share common experiences when emerging into the workforce including societal stigma, a lack of accessible jobs, and a lack of employment readiness resources (Lindsay et al., 2015). Youth can benefit from social support because of the stressors that come with early employment experiences and because of the critical developmental period these youths are in. Many youth with physical disabilities often have low self-expectations (Stewart Law, Rosenbaum, P., & Wilms, D.G., 2002), low self-esteem (Verhoef, Miedema, Van Meeteren, Stam, & Roebroeck, 2013), and lack of social support from peers and family in relation to school and or work pursuits (Verhoef et al., 2013). A lack of appropriate social support may negatively influence youth’s methods of coping and developing expertise affiliated with employment readiness such as their self-management, navigation of transportation systems, and self-advocacy skills. A lack of social support surrounding one’s employment readiness may translate into a lack of motivation to achieve higher education, and a job (Hamzat & Seyi-Adeyem, 2008).

Similarly, there are many areas of employment readiness where youth must receive more adequate support. For example, life skills, self-care and self-management essential for employment (i.e., managing pain and/or fatigue) and are necessary to develop before finding work (Lindsay et al., 2015; Verhoef et al., 2014).

Most youth with physical disabilities often have to cope with challenges related to employment that are related to societal perceptions (Lindsay et al., 2015). Additionally, these youth often experience challenges influenced by employers, society, and the built environment when preparing for employment (Lindsay et al., 2015). For example, they experience negative attitudes from employers, institutions, and co-workers in terms of costs and accommodations (Burke et al., 2013; Fraser, Robert; Jonson, Kurt, Herbert, James, Ajzen, Icek, Copland, Jana, Brown, Pat, Chan, 2009; Lindsay et al., 2015). In regards to the hiring process, employers generally make assumptions about youth with physical disabilities, capabilities, and assets (i.e., that they require too much support on the job) and are less likely to hire them (Lewis, McMahon, West, Armstrong, & Belongia, 2005; Mitchell et al., 2005; Shier et al., 2009). Youth with physical disabilities
must also consider the accessibility of the work place and physical demands of a position (Lindsay, 2010; van Mechelen, Verhoef, van Asbeck, & Post, 2008) because inaccessible work environments, and difficulty with transportation put youth with physical disabilities at a disadvantage for finding appropriate work positions and being hired (Hammel et al., 2015; Lindsay, 2010; Lindsay, 2010 van Mechelen et al., 2008). There remains a lack of support opportunities to develop the skills necessary to overcome these challenges for youth with physical disabilities (Lindsay, Adams, McDougall, & Sanford, 2012).

2.3 Rationale for peer-mentoring and peer e-mentoring for youth with physical disabilities in the area of employment readiness

Existing employment readiness interventions for youth with physical disabilities include both teaching and experiential components. Employment readiness programs differ in their goals, for instance, some emphasize the teaching of essential skills (Lindsay, Adams, McDougall, & Sanford, 2012) and enhance youth’s access to resources. Other programs aim to facilitate experiential learning, (Verhoef, Robroeck, van Schaardenburgh, Floothuis, & Miedema) and work to improve youth’s attitudes towards work and self-advocacy in the workplace (Wolf-Branigin, Schuyler, & White, 2007). As for teaching (i.e., providing informational support), enhancing youth’s self-efficacy (i.e., providing informational and emotional support) peer mentors can do this in a way that offers less of a power imbalance, while also being a source of experience and guidance that is familiar to youth under similar circumstances (Karcher, 2005). In a recent review of the current employment readiness interventions for youth with disabilities (Hanif, Peters, McDougall, & Lindsay 2017), mentorship was noted as successful component.

Despite the promise of peer-mentoring for youth with physical disabilities, the literature lacks understanding of how mentors provide social support within employment readiness programs, and how this compares to such programs without the use of a mentor. This is critical to understand, because this provides a deeper understanding of how such programs operate in addition to quantitative outcomes measured. Offering social support
through peer mentoring can be effective for youth with physical disabilities entering into first time employment, allow youth to feel less alone in their experiences, offer opportunities for learning and growth, and improve their self-efficacy and awareness (Karcher, 2005). This is especially important for youth with physical disabilities because their natural support networks are often limited, due to social exclusion (Lindsay, 2011; Mitchell et al., 2005; Shaw et al., 2006; Shier et al., 2009), and because social support from their parents and peers are reported to act as a barrier to employment (Lindsay et al., 2014). This is because parents of youth with disabilities often act in an overprotective manner, discouraging their children from working. Additionally, peers of youth with physical disabilities often do not act as a helpful resource (i.e., as peers of typically developing youth do) and they themselves are not employed (Lindsay et al., 2014).

Existing interventions that utilize peer mentors to provide social support to youth with physical disabilities have been evaluated in terms of their effectiveness in areas of employment readiness, academics and self-management, or a combination of these topics (Barnfather et al., 2010; Grenwelge & Zhang, 2013; Kim-Rupnow & Vurgstahler, 2004; Kohut et al., 2016; Kolakowsky, Hayner, et al., 2010). Commonly, across the literature documenting existing peer mentoring interventions for youth with physical disabilities, peer mentors are utilized for the purpose of teaching and/or advice based on experience, buffering stress, and offering youth with the opportunity to feel less alone with their stressors or challenges. In addition, peer mentor programs commonly have overarching aims to achieve positive outcomes in participants’, such as improving self-perceptions, emotions and/or behaviors (Shpigelman Reiter et al., 2009). Peer mentoring interventions across the domains of employment readiness, academics, and self-management differ in their aims, delivery, format, and outcome measures used for evaluation. In this review of the literature, the peer mentoring interventions that have been evaluated will be grouped based on their mode of delivery: face-to-face, combination of face-to-face and non face-to-face, and solely e-mentoring, that is, through computer mediated communication. The majority of peer mentoring interventions reviewed are designed for youth with physical disabilities (i.e., cerebral palsy, spina bifida). This review also contains some studies of youth classified as having chronic illnesses (i.e., arthritis, asthma, chronic pain), because
they experience similar needs to be managed, and stigma attached to their conditions (Kohut et al., 2016).

Due to a lack of studies focused on peer e-mentoring interventions for the employment for youth, much can be learned from face-to-face delivery of peer-mentoring interventions for youth with physical disabilities. Overall, quantitatively, face-to-face peer mentoring interventions have been studied more than e-mentoring (Smith-Jentsch, Scielzo, Yarbrough, & Rosopa, 2008). Research shows that face-to-face peer mentoring interventions have established initial efficacy peer mentors can allow mentees to improve significantly in measured outcomes (e.g., self-efficacy, self-advocacy, comparable to face-to-face support (Smith-Jentsch et al., 2008). Face-to-face delivery of peer mentoring is common among programs based in the community for youth with physical disabilities (Grenwelge & Zhang, 2013). In comparison to one another, face-to-face peer mentoring interventions differ in their overall goals for youth with physical disabilities. For example, face-to-face peer mentoring interventions evaluated thus far aim to develop self-advocacy and leadership for youth with physical and developmental disabilities (Grenwelge & Zhang, 2013), occupational performance for youth with (i.e., addressing work, self-care and leisure) (Verhoef, Roebroeck, Schaardenburgh, Floothuis, & Miedema, 2014), improve access and utility of services available in the community (Kolakowsky-Hayner, Wright, Shem, Medel & Duong, 2012), and to improve self-esteem and diminish psychological distress of youth with chronic illness (Lewis, Klineberg, Towns, Moore, & Steinbeck, 2016). Interventions range in duration, such as, five days (i.e., intensive approach) (Grenwelge & Zhang, 2013), one-year long (Verhoef et al, 2014), on an individual basis (i.e., four months after employment, post-secondary, or community integration were clearly achieved) (Kolakowsky-Hayner et al., 2012), and eight weeks long (Lewis, et al 2016). Delivery of face-to-face peer mentorship often works in conjunction with other in-person curricula, such as speakers, excursions, interactive activities (Grenwelge & Zhang, 2013), job coach sessions, occupational therapy (Verhoef et al., 2014) sessions with specialists in vocational rehabilitation (Kolakowsky-Hayner et al, 2012), and social or recreational events (Lewis et al, 2016).
Overall, the outcomes of face-to-face studies quantitatively demonstrate improvements in some domains related to employment readiness, a mix of goal attainment among participant’s post-intervention, and minimal emotional changes (Grenwelge & Zhang, 2013; Kolakowsky-Hayner et al., 2012; Verhoef et al., 2014). More specifically, participants demonstrate improvements in terms of self-advocacy (i.e., through intervention questionnaire self-reports) (Grenwelge & Zhang, 2013), occupational competence (i.e., through standardized, Canadian Occupational Performance Measure) (Verhoef et al., 2014), and significant improvements in community independence (i.e., through standardized measures of community integration and independence) (Kolakowsky-Hayner et al., 2012). Also, results demonstrate less positive outcomes, such as lack of participant educational goal attainment, and small proportions of participants achieving employment, vocational and educational goals (i.e., for those that had combined goals for the intervention) (Kolakowsky-Hayner et al., 2012). Similarly, as Lewis et al. (2016) explored, no significant effect on youth self-esteem and distress levels post-intervention (i.e., through standardized scales of self-esteem and distress), despite some signs of improvement in self-confidence, resilience and social connectedness during the beginning phases of the intervention (Lewis et al, 2016).

Within the face-to-face mentoring literature, researchers often comment on difficulties that participants’ experience (i.e., qualitatively explored) in accessing the intervention, such as travelling and time commitments (Lewis et al., 2016). Similarly, while assessing the feasibility of community peer mentorship Kolakowsky-Hayner, et al. (2012) experienced difficulty acquiring available mentors, and sustaining the mentoring relationship over time (Kolakowsky-Hayner, et al., 2012). Kolakowsky-Hayner et al. (2012) suggest more rigorous studies on mentoring and for future research to provide a deeper understanding of the mentor-mentee relationship itself.

Other peer mentoring interventions utilize a combination of face-to-face, e-mentoring components combining in person, telephone and/or computer mediated communication (i.e., email, discussion forums). Interventions that utilize a combination of face-to-face and non-face-to-face interventions aim to develop youth’s self-determination skills, social skills, and academic skills for pursuing postsecondary studies and employment (i.e.,
Disabilities, Opportunities, Internetworking, and Technology DO-IT program) (Kim-Rupnow & Burgstahler, 2004). The DO-IT program included a mixed summer program (i.e., two weeks in duration), and one year long online component (i.e., between mentors and mentees) (Kim-Rupnow & Burgstahler, 2004). Evaluations of peer mentoring interventions that utilize a combination of face-to-face and non-face-to-face delivery present mixed results. Kim-Rupnow and Burgstahler (2004) analyzed participant self-report surveys post-intervention and found that close to half of study participants were employed post intervention, and youth’s perceptions of their improvements over time in the intervention were greatest for areas of college preparedness, and lowest for perseverance. Also, a majority of participants reported that the intervention offered a positive outlook on life and disability (Kim-Rupnow & Burgstahler, 2004).

Peer e-mentoring is the provision of peer mentorship (i.e., from a peer close in age, with a similar experience of disability, but with a higher level of expertise in a certain domain) through use of online communication or computer mediated communication (i.e., either through audio, text via discussion forums, emails, instant messaging). E-mentoring studies offer greater convenience and accessibility compared to face-to-face mentoring interventions (Burgstahler & Cronheim, 2001). The accessibility of e-mentoring programs is especially important for populations such as youth with physical disabilities that experience difficulty with mobility, accessibility, and transportation (Braithwaite, Waldron, & Finn, 1999). Benefits to online communication for youth with disabilities include: access to a larger social network; anonymity, and increased comfort in a de-stigmatizing environment (Bierama & Merriam, 2002; Smith-Jentsch et al., 2008).

E-mentoring interventions developed thus far range in their forms of delivery and duration. For example, Kohut et al. (2016) utilized skype phone calls over eight weeks for youth with chronic pain. Alternately, Shpigelman, Weiss, et al. (2009) studied 13 peer mentor-to-mentee pairs with behavioural and physical disabilities for eight months where participants conversed using asynchronous online communication. Similarly, the pilot form of Shpigelman, Reiter and Weiss’ (2008) intervention spanned three months. In addition, Letourneau et al. (2012) described a three-month online self-management program for youth with chronic conditions (i.e., asthma and allergies). Also, Stewart,
Barnfather, Magill-Evans, Ray and Letourneau’s (2010) intervention for youth with spina bifida and cerebral palsy lasted for six months, where youth had to meet for 25 sessions online through text. Similarly, Barnfather, Stewart, Magill-Evans, Ray and Letourneau (2011) evaluated an e-mentoring intervention of 25 sessions over six months for youth with spina bifida and cerebral palsy. Lastly, Cantrell, Fischer, Bouzaher and Bers (2010) utilized an online virtual community to establish peer e-mentoring for youth transplant recipients (i.e., a variety of serious illnesses, this is included here because these participants will be living chronically with transplant self-management).

Outcome measures of peer e-mentoring studies vary based on the intervention goals and are greatly focused on the initial feasibility interests and youth experiences compared to evaluations of face-to-face interventions (Kohut et al., 2016; Letourneau et al., 2012; Stewart et al., 2010). Quantitative outcomes pre- and post-intervention are less documented among peer e-mentoring interventions, but are relevant to our understanding of its effectiveness in comparison to face-to-face programs. For example, Kohut et al. (2016) described that youth in the intervention group (i.e., mentored group compared to regular treatment) had significant improvements in self-management of their chronic pain at the time of post-intervention. Where youth described a higher degree of satisfaction with their ability to cope with pain in the mentored group. In another study of chronic condition self-management in youth (i.e., with asthma and allergies) Letourneau et al. (2012) assessed a three-month peer e-mentoring intervention through assessment at pre- and post-intervention, where feelings of loneliness (i.e., through standardized measure) significantly improved at post-intervention. Similarly, Stewart et al. (2010) found that youth with spina bifida and cerebral palsy had significant improvements in their sense of community (i.e., through standardized outcome measure) after a six-month peer e-mentoring intervention. Thus, there is a lack of exploration surrounding the employment readiness of youth in the context of research on peer e-mentoring (i.e., outcomes and qualitative exploration).

A variety of qualitative approaches are used in studies of peer e-mentoring (Barnfather et al., 2011; Kohut et al., 2016; Letourneau et al., 2012). Overall, youth are accepting, and comfortable with the social support delivered from peers through peer e-mentoring, and
enjoy the online delivery (i.e., easy and non-judgmental for use) (Letourneau et al., 2012). For example, the majority of youth within a chronic pain self-management intervention reported satisfaction with the program and felt that the benefits to the peer component included: meeting someone else close in age that they could relate to, seeing someone older that is moving on in life despite their condition, and receiving advice from someone with the experience of chronic pain (Kohut et al., 2016). Likewise, youth reported the benefits of exchanging experiences in a non-judgmental atmosphere (Barnfather et al., 2011), and doing so allowed them to feel less isolated (Letourneau 2012). Similarly, although significant improvements were not seen in terms of self-efficacy, youth stated that advice from peer mentors improved their confidence, and decision-making abilities (i.e., in terms of school, bullying) (Letourneau 2012). Related to this, youth described that they had felt improved confidence, social acceptance, and decreased feelings of loneliness post-intervention (Stewart et al., 2010). Peer mentors provide a much needed role model for their mentees with a disability, particularly because they may reveal a mentee’s potential for circumstances that they would not otherwise think were possible (i.e., obtaining full-time work in an area of interest) (Shpigelman et al., 2009).

Beyond the exploration of participant experiences in peer e-mentoring interventions, other qualitative approaches are used to understand components of the process such as the mentor role, the content of discussion, and as proposed in this dissertation, the types of social support provided in such interventions. For example, mentors were the main presence in the relationship by maintaining intervention related and non-intervention related discussion (Cantrell et al., 2010, Shpigelman, Weiss, et al., 2009), and they initiated the majority of conversation throughout the length of the relationship (Cantrell et al., 2010). Also, Cantrell et al. (2010) found that participants spent more time discussing topics related to non-curriculum items, and mentors tended to focus on the curriculum itself. In addition, participants tended to direct conversation to other participants rather than to mentors (Cantrell et al., 2010). Further describing the mentorship process over time, Shpigelman, Weiss, et al. (2009) found that self-disclosure (i.e., of personal information) increased over time, and most informal language was used in the middle of an eight-month peer e-mentoring intervention, which they argue suggests the formation
of a deeper connection between mentor and mentees. In terms of social support (Barnfather et al., 2011) found that mentors and mentees shared emotional (e.g., friendship, fears, inspirations, hopes), affirmational (e.g., advice, feedback), and informational support (e.g., advice on post-secondary, accommodations, career planning, accessibility). Similarly, mentors provided all forms of social support and discussion centered around management, psychological strategies for coping, future concerns (e.g., school and employment), and physical coping strategies (Kohut et al., 2016).

Previous peer e-mentoring studies have suggested future studies to explore user preferences and characteristics underlying social support needs and provision among participants (Barnfather et al., 2011; Cantrell, 2010; Kohut et al., 2016). Commonly, peer e-mentoring interventions experience a high rate of drop out from participants, where researchers suggest further exploring the needs and preferences of youth to design tailored peer e-mentoring. For example, Kohut et al. (2016) found that 40% of pairs were unable to meet online every week (i.e., of an eight-week intervention), and suggested that the intensive nature of meeting weekly for eight weeks may foster deeper connections for youth but this may not be what the population felt was necessary to maintain the relationship. Also, participation rates in peer e-mentoring were noticeably lower for males than females (Cantrell, 2010; Kohut 2016; Barnfather et al., 2011). Potentially, males may not find peer e-mentoring as a desirable way to achieve their employment, academic or self-management goals. However, the male perspective and participation in such studies are largely unknown. Also, Barnfather et al. (2011) suggest age of participants could affect youth’s ability to connect with one another, and exchange social support. In addition, participants recommend more tangible cues throughout the peer e-mentoring relationship to establish better connection, trust, and expectations throughout the relationship (i.e., affecting social support exchanged) (Barnfather, 2011; Shpigelman, Reiter, et al., 2009).

The peer e-mentoring literature suggests that initial efficacy of such interventions for youth with chronic conditions in terms of delivering social support, and improving youth goals pertaining to the intervention. Despite this, the delivery of social support through peer e-mentoring alone has not been studied with a focus on social support in the context
of employment readiness of youth with physical disabilities. Due to the challenges, stressors, and potential for improvements of emotions, perceptions and behaviors (Shpigelman, Reiter, et al., 2009), social support delivered through peer e-mentoring ought to be studied to learn more about what youth need in this context, and how it is sought and provided within a peer e-mentoring intervention for youth with physical disabilities.

2.4 Conceptual Framework

The ESES framework is a conceptual framework developed for youth with disabilities and is used to describe the process of peer e-mentoring, and the ways in which support is provided over time (Shpigelman, Reiter, et al., 2009) (see Figure 1). Also, this conceptual framework outlines the components necessary for a successful e-mentoring relationship to develop and suggests the e-mentoring is a way of delivering social support. According to the ESES framework (Shpigelman, Reiter, et al., 2009) the beginning phase of mentoring requires the motivation of individuals to participate (i.e., intrinsic and or extrinsic). From there, logistical components must be fulfilled such as access to a computer, adequate computer literacy, and mentor experience and training. If these requirements are fulfilled during an intervention, certain levels of support can be provided, such as informational (e.g., providing advice about a certain problem, and resources to accompany this), tangible (e.g., providing to offer goods or services in relation to a problem), social (e.g., communicating the belonging to a group with similar interests), and emotional (e.g., reassurance, respect, caring statements) (Shpigelman, Reiter, et al., 2009). Over time, support is influenced by moderators (i.e., mentee and mentor demography, personality, health, and environment). Also, ongoing activities such as online communication, self-disclosure, and coordination of expectations co-occur with the provision of support as part of the relationship. Ideally, such support leads to perceptual, emotional, and behavioural changes that include self-empowerment, self-efficacy, improved self-awareness and interpersonal skills) (Shpigelman, Reiter, et al., 2009). These changes occur if youth have generalized, or applied what was learned from the program into other circumstances outside of the online environment and relationship. These gains will enable the mentee to achieve the goals of the intervention (i.e., in this
case, coping related to employment readiness). This framework will be used to inform the study context and act as a guide for the interpretation of results of both manuscripts. This framework describes social support types ideal for an e-mentoring intervention to occur and flourish. Thus, manuscript one will attempt to understand how youth with physical disabilities suggest types of social support to be provided and delivered in this intervention. Within manuscript two, the typology defined by this framework will be used to understand the types of social support provided within the discussion forums. Also, this framework provides a purpose for understanding social support in this context, because it suggests that it is a function of the e-mentoring process leading to positive outcomes.
Figure 1. Adapted from Electronic Socioemotional Support Conceptual Framework (Shpigelman, Reiter, & Weiss, 2009, pp.306)
Chapter 3

Exploring the social support needs of youth with physical disabilities to address within a peer e-mentoring intervention focused on employment readiness

3.1 Introduction

Securing employment is an important goal for youth with physical disabilities transitioning to adulthood and independence (Nieuwenhuijsen et al., 2009; Roebroeck et al., 2009). Despite their desire to work, youth with physical disabilities experience many challenges emerging into the workforce (van Mechelen et al., 2008; Achterberg et al., 2009; Lindsay, 2011). Compared to their typically developing peers, fewer youth with physical disabilities have secured a work position (Nieuwenhuijsen, Donkervoort, Nieuwstraten, Stam, & Robroeck, 2009; Verhoef, 2014). Many employment readiness programs are targeted for youth with a broad range of disabilities and do not consider the specific needs of youth with physical disabilities, and are lacking peer components.

Offering social support to youth with physical disabilities through peer mentoring may be effective for youth with physical disabilities entering into first time employment and allow youth to feel less alone in their experiences, offer opportunities for learning and growth, and improve self-efficacy and awareness (Karcher, 2005; Shpigelman, Reiter, & Weiss, 2009). Social support is especially important for youth with physical disabilities because their natural support networks are often low, due to social exclusion (Lindsay, 2011; Mitchell et al., 2005; Shaw et al., 2006; Shier et al., 2009). In addition, social support from their parents, due to overprotection, and support from peers in their natural networks are often inappropriate; such providers of social support are reported to act as a barrier to employment (Lindsay et al., 2014).

Social support for youth with physical disabilities may alleviate some of the issues that come with emerging into the workforce with a physical disability (Verhoef et al., 2013). Specifically, social support through peer-e-mentoring has demonstrated to provide
information, advice, and emotional support (e.g., empathy, listening) (Braithwaite, Walrdon & Finn, 1999; Shpigelman, Reiter, & Weiss, 2008b; Stewart, Barnfather, Magill-Evans, Ray, & Letourneau, 2011) that may otherwise not be accessible to participants due to geographical barriers, or due to the nature face-to-face communication (Braithwaite, Walrdon & Finn, 1999; Shpigelman, Reiter, & Weiss, 2008b; Stewart, et al., 2011).

Cutrona and Russell (1990) and Cohen and McKay (1984) suggest that social support received is likely to predict outcomes when the support is optimally tailored to match the demands of the context. Therefore, understanding the types of social support needs of youth with physical disabilities is critical to understanding social support in the context of a peer e-mentoring intervention focused on employment readiness. Less is known regarding the types of social support that youth with physical disabilities would require during an online peer support group intervention.

The literature focuses on the barriers youth with physical disabilities experience when trying to secure employment. These barriers are important indicators of the types of social support needs this population has, and thus, should be addressed appropriately in an e-mentoring intervention. Several studies identify personal, and disability-related barriers that affect the employment for youth with disabilities (Hammel et al., 2015; Lindsay et al., 2015; Shier et al., 2009; Stewart et al., 2014). For instance, this population typically experiences negative attitudes from employers and co-workers in terms of their abilities and any costs related to providing accommodations (Burke et al., 2013; Fraser, Robert; Jonson, Kurt, Herbert, James, Ajzen, Icek, Copland, Jana, Brown, Pat, Chan, 2009; Lindsay et al., 2015), and discrimination during the hiring process (i.e., especially for individuals with mobility issues or wheelchairs) (Lewis et al., 2005; Mitchell et al., 2005; Shier et al., 2009). In addition to the negative attitudes, inaccessible work environments and difficulty with transportation (Hammel et al., 2015; Valtonen et al., 2006) are common barriers for youth seeking employment. Common personal barriers related to employment that youth identify are low expectations of self, (Stewart Law, Rosenbaum, & Willms., 2002) and difficulty with self-care (Lindsay et al., 2015). Therefore, while acknowledging the barriers to employment for this population is
important, understanding their potential social support needs in the context of an online peer support group, provides a deeper understanding to support a pilot randomized, controlled trial (RCT).

With a growing number of Internet support groups for people to share interests, caring, and information, Shpigelman, Reiter, et al. (2009), developed a conceptual framework to characterize electronic socio-emotional support (ESES) processes for people with disabilities. The ESES framework proposes a pathway in which the interpersonal relationship of e-mentoring develops. This pathway includes the essential starting components, moderators, activities, and support that operate within the e-mentoring path that lead to the end goal of youth’s self-development (Shpigelman, Reiter, et al., 2009). The types of social support outlined in this conceptual framework, will assist with understanding the social support needs of the population under study. As Shpigelman, Reiter et al. (2009) describe, through online communication, the mentor-mentee relationship develops through activities that build trust, and acts of self-disclosure and empathy. Throughout these activities, four types of support are potentially exchanged throughout the relationship. The types of support outlined are based off of typologies of face-to-face support suggested by Cutrona and Suhr (1992) and are similar to those outlined by LaGreca (1992). These typologies are commonly found and described in peer support literature. The types of support within the ESES framework are informational, tangible, social and emotional (Shpigelman, Reiter, et al., 2009). Informational support refers to providing details, facts, and or solutions to an individual regarding a stressful event (Shpigelman, Reiter, et al., 2009). Tangible assistance refers to an individual offering a service, resource, materials needed to overcome a stressful event (Shpigelman, Reiter, et al., 2009). Social support is the communication of similar experiences, interests, concerns and the essence of belonging to a particular group of individuals (Shpigelman, Reiter, et al., 2009). Lastly, emotional support refers to instances of caring, respect, encouragement, and belief in one’s abilities. According to the ESES framework, participant specific moderators such their demographic information, personality traits, and nature of communication influence their subsequent behaviors and activities within the e-mentoring relationship (i.e., the supportive behaviors, informational, tangible, social and emotional) (Shpigelman, Reiter, et al., 2009). Therefore, the types of social support
within this framework will act as the focus in understanding the social support needs of youth in the context of an online peer employment program. Also, the findings of this study may add to the prerequisites of e-mentoring outlined in this framework.

3.2 Methods

3.2.1 Objective

The aim of this study was to explore the social support needs of youth with physical disabilities in the context of a peer e-mentoring intervention focused on employment readiness. The research question addressed was: what do youth identify as the social support needs to be addressed in the context of a peer e-mentoring intervention focused on employment readiness? Youth’s social support needs were understood as the types of social support and areas of support that were essential to further develop their employment readiness.

This research was conducted through an exploratory qualitative design that preceded a pilot randomized control trial (i.e., RCT). A focus group was appropriate for the aims of this study to explore the social support needs of youth prior to conducting the intervention. A focus group was appropriate because this allowed for discussion between individuals surrounding the initial modules of the proposed online employment program. This is typically appropriate when individuals are presented with an idea or content for an intervention (Green & Thorogood, 2014). Youth’s social support needs were important to understand if the program was designed tailored to their social support needs.

3.2.2 Sample and recruitment

A convenience sample was drawn from a large urban pediatric rehabilitation centre in Ontario, Canada. Potential participants had to fulfill all of the following criteria: (1) aged 15-25; (2) have a physical disability; and (3) speak English (4) have no cognitive impairment.
Ethical approval was obtained from a pediatric rehabilitation hospital, and a university Research Ethics Board. Recruitment posters were placed on bulletin boards throughout the hospital and online (via our ‘participate in research’ page) to invite interested individuals to participate in the focus group. Recruitment flyers were also posted to the hospital’s internal website. Youth that expressed an interest were screened for eligibility and invited to participate by the Principal Investigator (S.L). If youth accepted the invitation they were asked to complete a written consent form prior to taking part in the focus group. Each youth received a $10 gift card as a token of appreciation of their time, as recommended by the ethics board.

### 3.2.3 Data Collection

A focus group was conducted to understand social support needs of youth as it related to the teaching modules (i.e., curriculum for 12-week study) designed for the peer e-mentoring study. Focus groups are a preferred method to collect data to elicit specific preferences, and experiences, regarding a range of topics typically where little research has been conducted (Kroll & Barbour, 2007). For individuals with disabilities, personal experiences are often neglected within quantitative studies; however, focus groups offer an opportunity to acknowledge their preferences and experiences (Kroll & Barbour, 2007). Past studies with similar objectives (i.e., to garner thoughts and experiences prior to beginning an intervention) have also conducted focus groups for the purpose of getting a more in depth understanding of the needs of the population (Mackner, Ruff, & Vannatta, 2014; Nicholson et al., 2016). Many researchers concur that an optimal size for a focus group is between six to ten participants (Morgan 1998; Crabtree & Miller 1999; Barbour 2005; Krueger & Casey 2000).

The focus group was moderated by two researchers (CC and SL) with training in qualitative methods, and transition to adulthood among youth with disabilities. After providing informed consent and introducing one another, participants were asked to review the module topics outlined on a sheet in front of them, that were developed for an employment readiness e-mentoring intervention (see Appendix A) (Lindsay et al. 2017) designed for youth with physical disabilities who have not acquired first time
employment. The design, content, and length of the 12-week employment readiness e-mentoring intervention (Lindsay et al, 2017), was informed by two systematic reviews (Hanif, Peters, McDougall, & Lindsay, 2017; Lindsay et al., 2015), one scoping review (Lindsay, Goodfellow, Stergiou-Kita, Kirsh, & Leck, 2017) and three needs assessments (Lindsay et al., 2014, 2012; Lindsay et al., 2015) in the areas of employment readiness and mentoring for youth with disabilities.

The moderators moved chronologically through the modules to gain insight into participant’s preferences for types of social support required throughout the different domains identified (see Appendix A for sample questions). Data were collected in January of 2016. The focus group lasted 51 minutes and was audio recorded.

3.2.4 Analysis

The project drew on descriptive qualitative methods (Caelli, Ray, & Mill, 2003; Sandelowski, 2010), an appropriate method for synthesizing and summarizing participant perspectives. The audio file was transcribed verbatim. The data analysis software NVivo 10 (NVivo, 2012) was used to manage the data. Data were analyzed using an open-coding, inductive thematic analysis (Braun & Clarke, 2006) technique. Thematic analysis is a method for discovering, examining and reporting common threads within data (i.e., themes) (Braun & Clarke, 2006). Thematic analysis revolves around the generation of themes from the data set. Generally, themes are defined as important compilations of the data that represent some sort of commonality throughout the data set in relation to the research question (Braun & Clarke, 2006).

Following the steps from Braun and Clarke (2006), the data were coded openly, using an inductive approach to thematic analysis due to the exploratory nature of the research question. An inductive approach allows for open interpretation of the information that participants provided, and the data was not tied to a pre-existing coding frame or analytic preconceptions (Braun & Clarke, 2006). Using the inductive approach allows for the themes to be data driven rather than theory driven. To arrive at the themes presented for the focus group, the researcher was fully immersed in the data generated (i.e., physically
present in the focus group, transcript read several times, outlined interesting features of
the data, considered relevance to the research question to shape the initial codes). From
here “codes”, were drafted. The codes are meaningful groups of related data (Tuckett,
2005). Coding was first done manually using highlighting and hand-written notes, and
completed the same on NVivo10 to keep an electronic audit trail of changes. Examples of
initial codes include: co-op, disclosure advice, employer’s perspective, decision making,
and entering post-secondary advice (not an exhaustive list of codes). After generating a
list of codes, all codes that were relevant to one another were grouped into potential
subthemes. For example, resource related information such as codes of “co-op, employers
perspectives” were collated into the subtheme “connecting to resources” and skills based
advice relating to codes such as “advice for entering post-secondary, disclosure advice”
were grouped into the subtheme “sharing strategies for skill development”. At this point
in the data analysis process, two research volunteers, one with a background in disability
and gender studies, and another in biomedical sciences, independently reviewed the
transcript using the same steps as myself, and provided initial codes and themes. Through
peer debriefing and research team discussions, themes were reviewed and discussed until
consensus was reached regarding the final codes.

3.3 Results

Eight youth with physical disabilities participated in the focus group, two males and six
females (see Table 1 for an overview of participants). Ages of the participants ranged
from 17-24, and three of them used a mobility device. All participants had volunteer
experience and five had participated in an employment training program provided by the
hospital. All participants were part of a youth mentoring group affiliated with a large
urban pediatric hospital as youth mentors and were capable of commenting on the
proposed modules (i.e., curricula) of the online peer employment program and to account
for social support needs (i.e., what types of social support and content areas youth
thought would be helpful for participants of the program).

One central form of social support (i.e., theme) emerged from this focus group. Youth
highlighted the need for informational support to be focused on within online peer
employment program. Two subthemes emerged from the data (1) connect to resources (2) share strategies for skill development and employment readiness. These subthemes were discussed as important to include within the modules of the proposed e-mentoring intervention.

Table 1. Participant characteristics

<table>
<thead>
<tr>
<th>Participant #</th>
<th>Age</th>
<th>Gender</th>
<th>Use of a mobility device</th>
<th>Participation in an employment training program</th>
<th>Volunteer experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>Female</td>
<td>No</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>19</td>
<td>Female</td>
<td>No</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>17</td>
<td>Female</td>
<td>No</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>Male</td>
<td>Yes</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>19</td>
<td>Female</td>
<td>Yes</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6</td>
<td>23</td>
<td>Female</td>
<td>No</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>7</td>
<td>19</td>
<td>Male</td>
<td>Yes</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8</td>
<td>24</td>
<td>Female</td>
<td>No</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
3.3.1 Informational support

Similar to how informational support was operationalized in the ESES conceptual framework (Shpigelman, Reiter & Weiss, 2009), informational support emerged from the data as helpful information, resources, facts pertaining to certain problem areas or stressors that youth associated with and/or experienced when attaining employment readiness. Youth described informational support as the most important type of social support that should be addressed within the online employment program, through two similar ways: (1) connect to resources and (2) share strategies for skill development and employment readiness.

3.3.1.1 Connect to resources

All youth of the focus group expressed the benefits and need for specific resources to be shared and discussed within the peer e-mentoring modules as a result of their experiences with resources that were particularly helpful during their pathway to employment and or post-secondary education attainment. Specifically, all youth expressed the benefit for certain resource types to be shared and used among youth within the online peer employment program. Namely, youth felt strongly that the intervention ought to provide connections to opportunities to explore career pathways (i.e., events for youth), exposure to the different disability services in post-secondary education (i.e., their reputations), information of funding agencies and scholarships available to youth with disabilities, links to professionals with disabilities, understanding employers’ perspectives, and online tools specific for youth with disabilities looking for first-time employment. For example, three youth described the importance of connecting to disability services within a post-secondary institution. Where they regarded disability services as a resource type that needed to be shared and discussed among youth of the pilot RCT. To highlight this:

Participant 5: “Yeah and know the reputations of the disability services.”
Participant 8: “…A lot of people don’t know about disability services, for instance at [X institution], or all colleges and universities, but I could’ve gotten a grant.”

Similarly, one youth attested to the benefits of connecting with disability services: “…When I got in touch with disability services, they were like just tell us everything you need and we’ll try and fit it in, and work with you.” - Participant 3

Similarly, youth discussed the importance of connecting youth to job search websites that were tailored for youth with disabilities, where employers involved would be willing to make accommodations, and provide accessible work environments:

“I think it would be nice, like you know, all those online sites that show you jobs, if there was one, I don’t know if you guys would be able to put it together, I don’t know work with another group like that, but just have one specifically for young people with disabilities.” - (Participant 8)

The need for the connection to accessible resources tailored for youth with disabilities was further described:

Participant 6: “I think maybe having a service that young people with disabilities can go to.”

Moderator: “Okay that you don’t have to pay for?”

Youth 6: “Yeah, you don’t have to pay for, and you can get career services out of that tend to your specific needs.”

In summary, participants discussed informational support when they referred to the value of particular resources for their employment readiness needs, and thus emphasized that this should be underscored in the study intervention. Youth of this focus group highlighted the importance of exploring and utilizing tailored resources for youth partaking in the proposed peer e-mentoring intervention.
3.3.1.2 Share strategies for skill development and employment readiness

All participants explained the importance of strategies for skill development and employment readiness to be imparted to youth within the online peer employment program. Participants suggested broader areas to receive support in the form of sharing strategies related to certain skills. Specifically, they recommended volunteering and co-op placements to enhance youth’s potential. Also, they highlighted important skills to foster within the peer e-mentoring intervention such as self-advocacy (i.e., including disclosure of disability and asking for accommodations), decision-making (i.e., career path and post-secondary decisions), networking, and marketing oneself. For example, two youth suggested the importance of sharing personal advice and strategies regarding disclosure and receiving accommodations. To illustrate:

Participant 7: “Yeah, I feel also it’s important to note the way you disclose.”

Participant 5: “Be as positive as possible.”

Participant 7: “Like don’t talk about so much about what you can’t do but you can talk about what you can do and how you can overcome your challenges.”

Participant 5: “Be as positive as possible and always have solutions to...And like just [having] webinars about how to disclose, and things that are important in getting a job.”

All participants discussed the importance of learning about and sharing strategies related to disclosure and accommodations, where one participant suggested the individualized nature of social support demands as it pertains to disclosure and accommodations. For example:

“I really think you should disclose it the moment you have an interview with them, because that’s what I do all the time. Because I mean, I have an invisible one,
they’re not going to necessarily know what’s wrong or what my disability is, so if they don’t know how are they going to be able to support me? And like when I’m having memory problems or I’m having other issues that are not visible to them, how are they going to know if they can’t even see it?” (Participant 1)

Further, participants described the importance of learning about interview preparation within the online social support group. For example:

“And keep up with your personal skills. Like yeah you can do all these skills they are looking for, but what puts you apart from other people like your ability to relate to your bosses or co-workers?” (Participant 3)

In summary, participants emphasized the importance of informational support within the peer e-mentoring intervention, namely through sharing useful strategies for skill development. Many skills and strategies were suggested as important to address, learn about, share, and discuss between youth part of the peer e-mentoring intervention.

3.4 Discussion

The findings of this study did not alone allow for changes to the development of the online intervention (i.e., other methods of development were prominent such as consultations with parent leaders, mentors) therefore, results will not be discussed in terms of how this affected the RCT (Lindsay et al., 2017) study development. However, the results provide insight into the social support needs of youth in the context of an online peer employment readiness program for youth with physical disabilities. The results from this study indicate that youth suggest a need for more informational support. Specifically, youth emphasized that the proposed intervention ought to allow youth to (1) connect to resources; and (2) share strategies for skill development and employment readiness. With regards to the RCT (Lindsay et al., 2017) that this study occurred prior to, results confirmed the specific informational support needs to be addressed specifically in regards to content of the online employment program. This study addresses several important gaps within the literature on social support, mentoring, an online support groups focused on employment readiness, by addressing the social support needs.
pertinent to a study of online social support. First, there has been little empirical evidence on social support needs of youth specific for interventions addressing employment readiness, online social support, or mentoring, from the perspectives of youth with physical disabilities. Second, most studies on employment readiness for youth with disabilities have often not considered individuals with physical disabilities. Doing so is important to address because they may have different needs than youth with intellectual or developmental disabilities. Lastly, of the few studies that do explore employment readiness they tend to focus on the barriers youth with disabilities experience when acquiring employment, and utilize quantitative outcomes, rather than being action focused on a potential solution.

In correspondence with the ESES conceptual framework for people with disabilities, youth predominantly indicated the need for informational support (i.e., providing an individual with advice, facts, a potential solution to a stressful event or challenge) as described by the subthemes “connect to resources” and “share strategies for employment readiness”. The role of social support is largely understudied in the context of employment readiness interventions for youth. However, for the purpose of relating the findings of this study to the broader literature, much can be compared from studies that explore the needs of youth with disabilities during their transitions to vocational (i.e., work, volunteer), and academic pursuits. In a study that was conducted to understand prevocational and early employment needs of youth with juvenile arthritis, participants felt underestimated by members of society such as teachers, career advisers, and potential employers, and a lack of skill development from their employment experiences; due to a lack of support and advocacy in securing these positions (Shaw et al., 2006). In this case, potential informational support and skill development in the areas of self-advocacy are missing and required. As described in this study, youth highlighted the importance of the peer e-mentoring intervention to include strategies to improve one’s self-advocacy. In addition, youth have suggested their need for more support and advice in the context of preparing for careers (i.e., interview skills, self-advocacy) (Shaw et al., 2006). Similarly, several participants noted that relevant information could be curated on a website for greater access to supports (Shaw et al., 2006). Similar to the findings of this study, youth proposed that the peer e-mentoring intervention were to attempt to include a current
online job search engine for youth with disabilities emerging into the workforce, and tailor the informational support (i.e., include resources, and strategies, subtheme one and two).

3.6.1 Limitations and Future Directions

A main limitation of this study is that one focus group was used to gather perceptions of youth on their social support needs. The goal of this specific study was not to change or develop the modules but to explore social support needs from the perspectives of youth. The module development of the peer e-mentoring intervention were supported by two systematic reviews (Hanif, Peters, McDougall, & Lindsay, 2017; Lindsay et al., 2015), one scoping review (Lindsay, Goodfellow, Stergiou-Kita, Kirsh, & Leck, 2017) and three needs assessments (Lindsay et al., 2014, 2012; Lindsay et al., 2015) in the areas of employment readiness and mentoring for youth with disabilities. Also, throughout the project four family leaders (i.e., parents who are staff on the project) and youth mentors were on this team assisted with changes and the development and facilitation of the peer e-mentoring intervention. Also, the nature of the small sample size provides a lack of generalizability to all youth with different types of disabilities. Nevertheless, the sample size is consistent with the recommended optimal size for a focus group (Morgan 1996; Crabtree & Miller 1999; Barbour 2005; Krueger & Casey 2000). Future studies should consider usability sessions with the website and/or more focus groups that include different groups of knowledge users and service providers. A third limitation was that the sample was taken from a large urban hospital, and the needs of youth with physical disabilities in rural areas may be different. Future research should focus on including more diverse perspectives in understanding social support needs. A fourth limitation of this study was that details regarding participants’ extent of volunteer and work experience were not further explored or provided. This limits transferability and understanding of such findings in this context. Future studies should gather more details regarding the sample with regards to work and volunteer experience to get a better sense of the transferability and credibility of findings. A fifth limitation of this study is that participants had previous participation in youth mentoring and an employment training program at the pediatric hospital where this research took place. Results could have
varied and different forms of social support could have been developed as themes if different youth from varying levels of work and academic experience were invited to participate. Future studies should have youth from various levels of experience (i.e., those that have not participated in a youth at work or mentoring program) to better understand social support needs that are transferable to youth aiming to improve their employment readiness skills for first time work experience. A sixth and final limitation of this study is that the framework used to frame the question and align analyses could have established a narrow understanding of youth’s needs. Future studies should consider openly conducting focus groups with a more open theoretical framework to better understand youth’s preferences for an intervention (e.g., the look and feel) in addition to content development.

3.6.2 Clinical Recommendations and Conclusions

The findings have important implications for clinicians working with youth with physical disabilities, and researchers designing similar interventions. First, when considering the design of similar interventions, researchers should look towards allowing participants to be active in the construction of the content to achieve balance with the evidence and participant needs. This study confirmed the informational support needs of youth through a focus group where youth were given an opportunity to discuss the potential content of the online employment readiness program (i.e., evidence-based resources and information). Additionally, this research offers insight into the experience of employment readiness for youth with physical disabilities, and the types of skills and resources they are missing in areas they require more support. For example, greater informational support through the sharing of strategies was deemed important to youth and the need for more transparent resources. Potentially, these areas related to employment readiness can be further explored with the population. Further, different peer support interventions for youth with physical disabilities can further refine and develop the ESES conceptual framework to better encompass the relevant factors for e-mentoring with this population.

Youth with physical disabilities that were previously part of an employment training program and or youth mentoring program were interviewed within the focus group for
this study. The aim was to address topics initially created for modules of an online employment readiness intervention to understand the social support needs of youth pertaining to employment. Gaining perspectives through this method was important for the preliminary understanding of the social support needs as part of a larger quantitative pilot study. Overall, the results from the focus group indicated youth’s need for social support in the form of informational support.
Chapter 4

4 The nature of social support in a peer e-mentoring program for youth with physical disabilities

4.1 Chapter introduction

This chapter contains a manuscript that presents the exploration and interpretation of textual data from two groups of a peer e-mentoring randomized control trial (i.e., a mentored group and a non-mentored group). Prior to the commencement of the peer e-mentoring intervention, youth highlighted their need for informational support (i.e., Chapter three findings). Building from this knowledge, this chapter aims to explore and compare the nature of social support (i.e., types of social support provided, changes over the course of the intervention) in the discussion forums of the first two groups partaking in the randomized control trial (i.e., a mentored group and a non-mentored group). The findings from this chapter will allow for a better understanding of the nature of social support in the context of a peer e-mentoring intervention for youth with physical disabilities entering employment.

4.2 Abstract

Objective: This study aimed to describe the nature of social support provided within the discussion forums of a peer e-mentoring study for employment readiness of youth with physical disabilities comparing a mentored group (i.e., experimental group), and a non-mentored group (i.e., control group).

Methods: Using a descriptive qualitative approach, textual data from discussion forums of two groups (i.e., experimental versus control) within an online employment readiness intervention (Lindsay et al. 2017) were analyzed through a content analysis. This was provided a description of social support interactions between varying participants over time in each group. Both groups were exposed to 12-weeks of evidence based employment readiness resources (Lindsay et al. 2017) and teaching components fully
online. The mentored group was led by a paid peer mentor that facilitated discussions, while the non-mentored group solely contained the content and participants (i.e., no mentor). The Electronic Socio-emotional Support conceptual framework informed the analysis of the data.

**Results:** The mentored group consisted of nine youth with physical disabilities, aged 15-21 (mean age, 18), and the non-mentored group included seven youth with physical disabilities, aged 14-19 (mean age, 16). Three overarching themes related to the types of social support were derived from the data: (1) solution-focused support; (2) sharing experiences; (3) emotional support through positive feedback. Differences in theme and subtheme development were evident between the mentored group and non-mentored group. The mentored group allowed for solution-focused support, sharing experiences, and emotional support to be provided and the non-mentored group lacked emotional support provision.

**Conclusion:** The mentored group offered unique forms of social support throughout the 12-week of the intervention, compared to a non-mentored group. Mentors facilitated the provision of different types of social support in the mentored group. Clinicians interested in ameliorating the psychosocial demands of youth with physical disabilities emerging into the workforce should consider using an e-mentor in addition to clinical practice.
4.3 Introduction

A large proportion of youth with physical disabilities are unemployed compared to their typically developing peers, and are often unprepared as they leave high school to pursue first time employment or further education (Carter, Trainor, Ditchman, Sweden, Owens, 2009; Lindsay, McDougall, Menna-Dack, Sanford, & Adams, 2015). A lack of work participation may compound negative effects of one’s disability through reduced income, social isolation, and psychological health (Lindsay 2011; Shaw, Hackett, Southwood, & McDonagh, 2006; Van Campen & Cardol, 2009).

Youth with physical disabilities could benefit from social support tailored to the areas they are currently lacking in relation to their employment readiness. Much of the literature on employment readiness of youth with physical disabilities focuses on their barriers to employment. For instance, studies document that youth with physical disabilities have low self-expectations (Stewart Law, Rosenbaum, & Willms, 2002), low self-esteem (van Mechelen et al., 2008; Verhoef et al., 2013), and low social support from peers and family in relation to school and or work pursuits (van Mechelen et al., 2008). In addition, managing one’s disability, life skills for work, discrimination, disclosure and accommodations, and transportation and accessibility prior to work often act as barriers for youth with physical disabilities to acquire work (Lindsay et al., 2015 Verhoef, 2014; Hammel et al., 2015; Valtonen, Karlsson, Alaranta, & Viikari-Juntura, 2006; Lindsay, 2010 from Verhoef, 2014).

A method of delivering social support in conjunction with a skill related intervention is through peer mentoring and support (Miller & Griffiths, 2005; Shpigelman, Reiter, & Weiss, 2009). To assist with positive development during this critical time in youth’s lives, social support provided through peer support interventions have demonstrated to address feelings of isolation, motivation and improve self-management. Peer support components in employment readiness related interventions are associated with a greater likelihood of work participation, self-awareness, and competency in work-related skills (Arksey, 2003; Stumbo, 2009).
Peer e-mentoring is an effective and accessible delivery of mentoring through the exchange of social support regarding employment and academic related goals (Miller & Griffiths, 2005), and may address coping with negative stereotypes, social and physical exclusion (McDonald, Bakazar, & Keys 2005). For youth with physical disabilities, online mentoring offers added benefits related to accessibility. First, the online delivery of peer e-mentoring is a practical solution to the barriers of face-to-face mentoring for this population because online communication breaks the reported barriers of time, geographic location, mobility, verbal communication, and accessibility (Braithwaite, Waldron, & Finn, 1999). By redefining the barriers, youth with disabilities can access a larger social network, and may be introduced to a de-stigmatizing environment provided through the online community (Bierama & Merriam, 2002; Smith-Jentsch et al., 2008). Secondly, the potential social support provided through peer e-mentoring may address the lack of psychosocial components within current employment readiness interventions (Arksey, 2003; Stumbo, 2009) and improve the social isolation (Devereux, Bullock, Gibb, & Himler, 2015) often experienced by youth with physical disabilities.

Despite the large amount of work on the effectiveness of peer e-mentoring interventions, less is known regarding the dynamics, essence and contexts of e-mentoring, especially in terms of social support (Bierema & Merriam, 2002; Shpigelman, Reiter, and Weiss, 2009; Bierema & Merriam, 2002) for youth with physical disabilities in the context of an employment readiness intervention (Lindsay et al. 2017). Thus, the focus of this paper is to uncover the nature of social support within a peer e-mentoring study, comparing the nature of social support under two different circumstances, a mentored peer group, and a non-mentored peer group (Lindsay, et al. 2017).

Some evidence from qualitative studies demonstrate that online peer support environments can provide a space to reassure others who are experiencing similar circumstances, establish confidence, (Stewart, Letourneau, & Masuda, 2013) and discuss issues that are related to disability impact as well as those not related to one’s disability (Kohut et al., 2016). For example, Kohut et al. (2016) analyzed the content of online calls between mentors and mentees, where individuals shared, sought, and described topics related to their disease impact, self-management, and non-disease related experiences.
Mentees shared challenges, experiences concerning the three main categories of discussion. Mentors often shared their experiences with mentees to normalize the situation discussed, and described coping strategies. Similarly, in a content analysis of a 12-week e-mentoring study for youth with various disabilities, the mentor’s role enabled the sharing of personal information, and he/she worked to listen, advise, provide constructive feedback and encouragement to mentees (i.e., providing emotional, instructional, and educational support). Over time in this study, the mentor’s role was defined by reinforcing conversation and correspondence, promoting the relationship through openness regarding disability issues, personal problems, and self-reflection. Overall, the mentor helped to establish trust and rapport with participants (Shpigelman, Reiter, & Weiss, 2008). In a similar study of a six-month peer e-mentoring intervention aimed at providing generalized social support for youth with cerebral palsy and spina bifida, participants reported satisfaction with the online mentor-mentee relationship and the information exchanged (Barnfather, Stewart, Magill-Evans, Ray, & Letourneau, 2011). Peer mentors were well received because they provided experiential knowledge and stimulated social exchange among the mentees (Barnfather, Stewart, Magill-Evans, Ray, & Letourneau, 2011). These findings are important to characterize how a mentor acts as a facilitator of conversation within an online peer group, but are limited because there is not a clear understanding of how peers would interact and exchange social support related to employment readiness on their own.

According to Shpigelman, Reiter and Weiss (2009), social support is a main component of the peer e-mentoring process and its outcomes. Throughout the literature, social support is discussed from the two perspectives of: 1) the recipients and its outcome on recipients, and 2) the providers, and the types of social support delivered (King, 2006). In this way, different frameworks have attempted to categorize social support. Despite the different terminology used, the concepts of informational, tangible, cognitive and emotional support are common among different frameworks (Cutrona & Suhr, 1992; Dennis, 2003; King, 2006; LaGreca, 1990). Across different categorizations, social support is discussed as a dynamic interaction where some sort of psychological and or material resources are given or received with the intention of benefitting the individual (Cohen, 2004).
The conceptual framework chosen to guide the interpretation of the data under study (i.e., used to understand the types and nature of social support) is the Electronic Socio-Emotional Support Conceptual Framework (Shpigelman, Reiter, & Weiss, 2009). This framework was developed for youth with disabilities to explain the process of peer e-mentoring. This process is organized into sections (i.e., initial phase, mediating factors, ongoing activities, exchange of social support and outcomes) following how a successful e-mentoring relationship flourishes (Shpigelman, Reiter, et al., 2009). To begin the process, individuals must be intrinsically, and/or extrinsically motivated to begin, and preconditions such as access to a computer, adequate computer literacy, and appropriate mentor experience and training (see Figure 1, Chapter 2). Throughout such a relationship, Shpigelman, Reiter, et al., (2009) describe the concept of social support involving informational (e.g., providing advice about a certain problem, and resources to accompany this), emotional (e.g., reassurance, respect, caring statements), social (e.g., communicating the belonging to a group with similar interests), and tangible assistance (e.g., providing to offer goods or services in relation to a problem), that are a central part of the peer e-mentoring process, that affect its outcomes (i.e., behavioural, emotional, perceptual changes). Over time, certain moderators (i.e., mentee and mentor demography, personality, health, and environment) influence these types of support being exchanged (Shpigelman, Reiter, et al., 2009). Also, ongoing activities such as online communication, self-disclosure, and coordination of expectations co-occur with the provision of support (Shpigelman, Reiter, et al., 2009). In order for youth to use the support, learn and or change their behaviors, perceptions and emotions, in response to e-mentoring, personal processes described as assimilation and generalization must occur. That is, youth learn how to apply what was learned to different circumstances outside of the e-mentoring relationship. Ideally, this leads to changes in one’s perceptual, emotional, and behavioural self-empowerment (i.e., self-efficacy, identity, and interpersonal skills) (Shpigelman, Reiter et al., 2009). These gains will enable the mentee to achieve the goals of the intervention (i.e., in this case, employment readiness skills). This conceptual framework provides an outline of an optimal e-mentoring process, explicating the exchanges of social support between mentor and mentee along the way.
4.4 Methods

4.4.1 Objective

As part of a pilot RCT of peer e-mentoring, (Lindsay et al., 2017) this study aimed to describe the nature of social support exchanged within an online peer employment group comparing a mentored group (i.e., experimental group), and a non-mentored group (i.e., control group).

4.4.2 Research Design

This research focused on the qualitative data that was part of a peer e-mentoring study for the employment readiness of youth with physical disabilities (Lindsay et al., 2017). Using a qualitative design that was embedded (Green & Thorogood, 2014; Palinkas, Horwitz, Green, Wisdom, Duan, & Hoagwood, 2015) within a broader intervention (Lindsay et al., 2017) was justified to extend the understanding of social support in this context. A qualitative descriptive method (Caelli, Ray, & Mill, 2003) was utilized with the ESES conceptual framework (Shpigelman, Reiter, et al., 2009) as a lens to understand the nature of social support among two groups of participants in a peer e-mentoring RCT (i.e., mentored group non-mentored group). Data were collected from text within the online discussion forums (i.e., participant and mentor posts) and their usage information (i.e., number of logs, if they posted) throughout the 12-week peer e-mentoring intervention (Lindsay et al., 2017). Similar methods have been applied to studies with related goals of interpreting social support through online textual data (Poole, Smith, & Simpson, 2015; Vayreda & Antaki, 2009).

Therefore, this study will provide a descriptive qualitative account comparing social support provided in a mentored and non-mentored peer group part of an RCT of peer e-mentoring for employment readiness of youth with physical disabilities. This work cannot establish efficacy for mentoring but will offer a qualitative description that will complement and further inform the outcomes established by the quantitative findings of the RCT (Lindsay et al., 2017).
4.4.3 Sample and recruitment

Research Ethics Boards of a hospital where the research was conducted and a university approved of this study. This qualitative research draws on a sample of participants of a pilot RCT (Lindsay et al., 2017). The pilot RCT compared outcomes of a mentored and non-mentored peer groups, and participants were assigned to each group as they enrolled in the study.

The sample from this study was recruited concurrently with the larger study (Lindsay et al., 2017). The inclusion criteria for participants were as follows: (1) able to read/write in English; (2) youth with a diagnosed physical disability (i.e., cerebral palsy, muscular dystrophy, spinal cord injury etc.); (3) currently enrolled in or have completed a high school diploma in the applied / academic stream (to screen for cognitive impairment); (4) aged 15-25; (5) live in Greater Toronto Area; (6) have access to a computer and internet; (7) have no paid work experience (Lindsay et al., 2017). Individuals were excluded from the study if they recently completed or are currently participating in another employment readiness or peer support intervention (Lindsay et al., 2017).

Several recruitment techniques were utilized for this study (i.e., mail-outs, phone calls, emails to patient lists from medical records, advertisements around hospital, online advertisements through the “participate in research” page of the hospital’s website, and electronic advertisements sent to relevant agencies, and the University of Toronto) (see Figure 2). All forms of recruitment were completed from June to September 2016. First, the research team obtained a list of patients from the health data records (with ethical approval to do so) at the pediatric rehabilitation hospital who fit the age, and general diagnosis criteria for the study. A total of 330 patients met this criterion. All potential participants were mailed a recruitment and information package inviting them to take part in the study. The team followed-up either via phone (n=298) or email (n=97) depending on the contact information provided. All calls and emails for recruitment were completed by a summer research student, a research assistant and myself. Patients were called three times, with a voicemail sent on the third attempt. From all modes of communication 193 were assessed for eligibility (i.e., could not reach 137 of the 330). Of the 193 individuals contacted, 173 were excluded. Of the 173 excluded, 18 were not eligible to participate
due to cognitive abilities (i.e., not enrolled in high school, a requirement for participant in this study), 117 expressed they were not interested in participating, two reported it was an inconvenient time for them to commit due to other responsibilities, 36 were unable to be reached after their initial interest. Overall, 20 individuals expressed interest and provided their consent.

Youth who were interested in participating were screened for eligibility by the individual that recruited them (i.e., research summer student, research assistant or myself) and invited to participate if eligible. If they accepted the invitation they were asked to complete a written consent or assent form prior to taking part in the peer e-mentoring intervention. Participants, who agreed to take part in the study and provided their consent, were randomized using a blocked randomization method. Using a block size of 10, participants were randomly assigned to the mentored group as they enrolled in the study until the block was completed. Then the following 10 participants were assigned to the non-mentored group. Participants were blinded to treatment allocation. Each youth received a $20 gift card as a token of appreciation of their time, as recommended by our research ethics board.
Figure 2. Recruitment procedures

Enrollment

Assessed for eligibility (n=193)

Excluded (n=172)
• Not meeting inclusion criteria (n=18)
• Declined to participate (n=117)
  Not interested=117
  Not a convenient time=2
  Did not provide reason=36

20 participants to block randomization

Allocation

Allocated to mentored group (n=13)

Discontinue intervention during first week, did not complete post-survey (n=1)
Discontinued intervention due to medical complications (n=1)

Allocated to non-mentored group (n=10)

Discontinued intervention during first week, did not complete post-survey (n=3)

Follow-Up

Analysis

Analysis (n=9)

Analysis (n=7)
4.4.4 Procedures and data collection

After providing informed consent, participants were instructed to register and log onto the website AbilityOnline (www.abilityonline.org). This website is a secure online peer networking website designed for youth with disabilities and their parents. For this study, participants accessed a password protected area of the website specific for this research to interact with their group (Lindsay et al., 2017). Participants were informed that the information discussed within the public forum was private to their group, and would be used for the study’s purposes. The discussion posts for both groups were asynchronous, meaning response in real time was not necessary, and the posts would stay up on the forum to see or respond to for the duration of the study unless deleted by participants. There was an option for participants to have private chats with one another, and or their mentors; however, these were not visible to our research team, and participants were informed that these would not be used for research purposes, if they had to discuss something they did not feel comfortable sharing with the group.

Both the e-mentored and non-e-mentored groups (i.e., experimental and control) had access to the same evidence-based employment readiness resources, this included an interactive power-point presentation on the week’s topic, links to instructional videos, and links to relevant websites pertaining to the topic (Lindsay et al., 2017). The e-mentored group (i.e., experimental group) received a post from their mentor on the discussion forum every week pertaining to the topic (i.e., where mentors could elaborate on personal experience related to the topic, and or ask questions and make statements directly to the group). Participants in this e-mentored group received personalized responses and interactions with the group members. The non-e-mentored (i.e., control group) was given one general group post that pertained to the topic of the week and directed participants to the resources and presentation for the week. A research assistant did not participate any more than the one introductory post per week (i.e., per topic), and did not answer questions or respond to posts. Therefore, the non-e-mentored group lacked the experiential components to the discussion (i.e., personal stories, solutions) and personalized components (i.e., tailored responses from mentors, feedback).
Two mentors (paid positions) facilitated the mentored group at the same time. Mentors were hired based on expertise in roles advising and or mentoring youth, and had to have achieved employment experience. One was a 20-year-old female, who was responsible for facilitating posts for weeks one, two, three, four, five, nine, and 11; and mentor two was a 19-year-old male, responsible for weeks six, seven, eight, and ten. Both had work, volunteer and post-secondary school experience. The mentors had prior training and experience in mentor roles (i.e., completed formal mentor training at the pediatric rehabilitation hospital) and were also trained for the specific delivery of e-mentoring intervention and trained to offer the different types of social support outlined in the ESES conceptual framework (Shpigelman, Reiter, et al., 2009). Mentors were instructed to relate posts to their personal experiences. Thus, their posts were led by their personal experiences with each weekly topic, and were included in the analysis. The mentored group proceeded from mid-June to mid-September 2017, and the non-mentored group from mid-September to mid-December 2017 (i.e., for 12 weeks each). These groups were sequential due to logistics of mentor and participant schedules.

4.4.5 Analysis

In total, 151 discussion posts were analyzed (i.e., 35 pages of transcripts). A qualitative inductive content analysis (Elo & Kingäs, 2008) was applied to the transcripts of the discussion forums of both the e-mentored group and non-e-mentored group using the ESES conceptual framework (Shpigelman, Retier, & Weiss, 2009) as a guide for the interpretations of themes during the analysis. An inductive content analysis was chosen because this approach is appropriate for large qualitative data sets. Content analyses have been chosen in past research to understand content of discussion, types of social support and other components of conversation that researchers choose to study. The inductive content analysis (Elo & Kingäs, 2008) is an appropriate approach when little research has been conducted with a certain phenomenon (Hsieh & Shannon, 2005) and where greater interpretation and description is required. Also, a content analysis allows for the interpretation of textual data between individuals through messages and mass media (Hsieh & Shannon, 2005); this aligns with the purpose of this study. An inductive content analysis is useful to establish the purpose and focus of one’s analysis but does not require
a researcher to stay within the framework (i.e., to add to the literature or current conceptual understandings of the phenomenon of interest) (Sandelowski, 2010).

Three phases are central when conducting an inductive qualitative content analysis: (1) the preparation phase, (2) organization phase, and (3) the reporting phase (Elo & Kingäs, 2008). These phases were used as a guide to analyze the discussion forum data. The preparation phase began by the researcher immersing herself into the data, where several reads and notes were taken regarding the data as a whole (Elo & Kingäs, 2008). Also in the preparation phase, unit of data analysis were established as sentences (Elo & Kingäs, 2008). For example the sentence was given multiple codes:

“It’s important to stress even though I have the next three to four years of my life figured out doesn’t mean I have the rest of my working career figured out” - Mentor one

During the organization phase, general categories or codes were established. At this point, the ESES conceptual framework (Shpigelman, Reiter, et al., 2009) was important in guiding how the concept of social support would be interpreted (see Figure 1). The overarching themes were not tied to types of support established within the ESES conceptual framework. Coding was completed in a phased approach and Nvivo10 (2012) was used to manage and analyze the data during the initial phases In Phase I, four individuals (volunteers’ initials, EC and CC) independently read through an entire transcript and tracked initial thoughts and interesting features of the data. Then, a sample transcript was independently read and coded by each individual. After this, the group met to discuss the codes, and arrived at consensus to continue. The codes that the team agreed upon were then used to code the rest of the transcript, this was done by two of the four individuals (EC and CC). Any disagreements around codes were discussed with the Principal Investigator (SL). Codes (i.e., latent and manifest) were collated into larger categories (i.e., themes) by CC in a visual method to have an overview of categories and subcategories over the course of the intervention. From here, further discussion with the principal investigator and all individuals involved in the initial coding phase was completed. Thus, in the organization phase, the transcripts of both groups were initially
open-coded to account for themes among the content. Where the ESES conceptual framework was further used to interpret the types of support exchanged, and influenced the sub-objective looking at changes over time (i.e., because the ESES conceptual framework purports different types of support were given over time in an e-mentoring relationship). Next, the reporting phase was completed, by displaying representative quotes and providing connections of final themes to the ESES conceptual framework that guided the research question and understanding of concepts during code and theme development. The ESES conceptual framework worked to focus the analysis of the discussion forum on social support.

4.5 Results

Overall, 16 youth (aged 14-21, mean age 15) participated in the peer e-mentoring intervention (i.e., see figure for reasons for not participating). Nine were in the mentored group (mean age of 18), and seven in the control group (mean age of 16). Posts that were analyzed were from participants that posted in the groups. Seven of the nine participants in the mentored group posted in the discussion forums, where four were females and three were males. Average age of the mentored group participants that posted in the discussion forums was 18 years, with a range of 15 to 21 years. Four of the seven participants in the non-mentored group posted in the discussion forums, where three were females and one male, with an average age of 16 years old, and a range of 14 to 19 years (see Table 2 for participant characteristics). In terms of education status, participants of the mentored group were overall more ahead than the non-mentored group. Of the mentored group participants two were in post-secondary, six completed high school, and two were in high school. Of the non-mentored group participants, one was in post-secondary, and six were working towards their high school diploma. No other relevant information on their experiences was available at the time of collection. All posts were considered for analysis.

Three main themes of social support emerged from the transcripts of the discussion forums: (1) solution-focused support, (2) sharing experiences, and (3) emotional support (see table 3 for schema of themes, and appendix B for participant post interactions in the mentored and non-mentored groups). Each main theme of social support will be
described by how they emerged (i.e., who provided and or sought the support, the content areas support was given) and how they changed over the span of 12 weeks within the mentored and the non-mentored groups. Overall, solution-focused support, sharing experiences and emotional support were all provided in the mentored group. Mentors provided all three forms of social support to participants, and participants solely provided solution-focused support and sharing experiences to the group. The non-mentored group solely contained solution-focused support and sharing experiences shared by participants to the group, with much less social support types provided over the course of 12 weeks. Therefore, the two groups are qualitatively different in terms of the types of social support provided, and how this changed over time.
Table 2: Participant Characteristics

<table>
<thead>
<tr>
<th>Pseudonyms/participant no.</th>
<th>Gender</th>
<th>Age</th>
<th>Disability Type</th>
<th>Use of Assistive Device</th>
<th>Working towards high school diploma</th>
<th>High school diploma attained</th>
<th>Some college or university</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toby</td>
<td>Male</td>
<td>16</td>
<td>Cerebral palsy</td>
<td>Rollator</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sue</td>
<td>Female</td>
<td>19</td>
<td>Charcot-Marie Tooth Disease</td>
<td>Wheelchair</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Alex</td>
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</tr>
<tr>
<td>Pat</td>
<td>Female</td>
<td>17</td>
<td>Cerebral palsy</td>
<td>Cane</td>
<td>✓</td>
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**Mentored group: Participants that posted in discussion forum**
<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Age</th>
<th>Condition</th>
<th>Device/Accessories</th>
<th>Mentored</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bailey</td>
<td>Female</td>
<td>19</td>
<td>Muscular dystrophy</td>
<td>Powered wheelchair</td>
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</tr>
<tr>
<td>Amy</td>
<td>Female</td>
<td>18</td>
<td>Fascioscapulohumeral muscular dystrophy (FSHD)</td>
<td>AFO on left leg</td>
<td>✔️</td>
</tr>
<tr>
<td>Noah</td>
<td>Male</td>
<td>15</td>
<td>Developmental coordination disorder</td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Jake</td>
<td>Male</td>
<td>17</td>
<td>Cerebral palsy</td>
<td>Walker, wheelchair</td>
<td>✔️</td>
</tr>
<tr>
<td>Brynn</td>
<td>Female</td>
<td>18</td>
<td>FSHD, dyslexia</td>
<td></td>
<td>✔️</td>
</tr>
</tbody>
</table>

**Mentored group: Participants that did not post in the discussion forum**
## Non-mentored: Participants that posted in the discussion forum

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Lynn</td>
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<td>19</td>
<td>Physical disability with mobility aid</td>
<td>Wheelchair</td>
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</tr>
<tr>
<td>Lea</td>
<td>Female</td>
<td>15</td>
<td>Cerebral palsy</td>
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<tr>
<td>Monica</td>
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<td>14</td>
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<tr>
<td>Jack</td>
<td>Male</td>
<td>15</td>
<td>Muscular Dystrophy</td>
<td>Wheelchair</td>
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</table>

## Non-mentored group: Participants that posted in the discussion forums

<p>| | | | | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Seb</td>
<td>Male</td>
<td>16</td>
<td>Physical disability with</td>
<td>Walker, wheelchair</td>
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</tr>
<tr>
<td>Name</td>
<td>Gender</td>
<td>Age</td>
<td>Disability Description</td>
<td>Mobility Aids</td>
<td>Additional Notes</td>
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<td>-------</td>
<td>--------</td>
<td>-----</td>
<td>------------------------</td>
<td>---------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Taylor</td>
<td>Other</td>
<td>n/a</td>
<td>Physical disability with mobility aid</td>
<td>Canes, walker, cochlear implants</td>
<td>✔</td>
</tr>
<tr>
<td>Kim</td>
<td>Female</td>
<td>16</td>
<td>Spastic triplegic cerebral palsy</td>
<td>Walker, wheelchair</td>
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Table 3. Schema of themes

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subthemes</th>
<th>Mentored</th>
<th>Non-mentored</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution-focused support</td>
<td>Sharing personal strategies</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Offering solutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing experiences</td>
<td>Sharing emotions</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Disclosing experienced challenges</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Emotional support through positive feedback</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>
4.5.1 Solution-focused support

Solution-focused support was provided in the mentored and non-mentored groups. Solution-focused support was defined as advice based on personal experiences and opinions centered on unfamiliar and/or anticipated challenges related to one’s employment readiness. Solution-focused support aimed to solve challenges that were expressed by participants, or those that were introduced within the weekly module presentation. Two ways that solution-focused support was present in the data was through (1) sharing personal strategies (i.e., present in both the mentored and non-mentored group) and (2) offering solutions (i.e., present in the mentored group only) (see Table 3). Both subthemes encompass descriptions youth provided on how they worked to develop certain skills and how they overcame and or anticipate to overcome challenges related to their employment readiness.

4.5.1.2 Sharing personal strategies

Mentors and participants in both the mentored and non-mentored group discussed the strategies they had planned for the future and their current strategies in situations pertaining to job skill development, and employment preparation and acquisition. For the mentored and non-mentored groups, posts categorized as the subtheme “sharing personal strategies” were interpreted as an indirect way of providing advice, where participants described what they have done, or how they would hypothetically cope, manage, and prepare for a variety of situations related to employment.

In the mentored group, both mentors outlined personal strategies for employment preparation and acquisition to the group regularly for ten weeks of the intervention. Mentor one described their strategies in developing their decision-making, disability management and family collaborations. Mentor two focused on solutions to problems around accommodations, and strategies to excel in marketing one’s disability, networking and communication, and their job search (i.e., including resources). For example, mentor two described how he improved their networking skills. An example of this:
“First, I would start with small talk: how are you? Then because of the academic environment, the conversation would transition towards my courses. At which point I would start talking about the skills the courses taught me. Finally, I would talk about the types of jobs that I might be interested in and say: is there any way that my skills that can benefit your organization? Then after the answer, I would ask for their business card and give them a copy of my resume.” (Mentor 2, Week 8)

In the mentored group, five participants shared their personal strategies for skill development, navigating through a challenge, and general employment readiness. Personal strategies were shared for eight weeks of the intervention. Participants in the mentored group shared how they would cope, manage and prepare for the following: transportation and accessibility for work or school, self-advocacy skills, disclosing one’s disability and asking for accommodations, interview skills, finding available job or volunteer opportunities, dealing with discrimination, presenting their disability as an asset, networking, and writing a resume. For instance, one participant shared with the group a method she used to manage her disability at home. To illustrate:

“To manage my disabilities, I try to organize my shelves in the order of which I’ll need the most often, books on top and projects I’ve stopped working on at the moment on the bottom. This way I don’t have to bend down too often since the highest shelf is around my shoulder level. Organizing my art supplies helps to have to walk less and lift less boxes before I get to the one I need. It also helps if I have a lot of shelves or something to lean against then I can get things down from shelves without having to ask for help.” (Amy, female, 18, mentored group, week three)

Fewer participants and fewer strategies for skill development were shared among the non-mentored group. Specifically, one participant of the non-mentored group provided this type of support to the entire group, and this was observed during the initial three of the 12 weeks. Strategy content did not differ in comparison to the mentored group, because the participant described strategies that were all discussed in the mentored group
(i.e., how they would manage their disability at work, deal with discrimination, and prepare for a job interview. For example, one participant, described how they would react to discrimination in the workplace:

“If I were to ever experience discrimination because of my disability, I would confront that person, and talk out why they have a problem with me/my disability. If it doesn’t get resolved that way, then I would go to my superior and talk it out with them” (Lynn, female, 19, non-mentored group, week three)

In summary, personal strategies were shared in the mentored and non-mentored groups. This was a consistent type of social support provided among the mentored group by both mentors and participants, but in the non-mentored group this type of support was limited to a small portion of the 12-weeks.

4.5.1.3 Offering solutions

Discussion forum posts categorized as the subtheme of offering solutions included those where mentors and or participants proposed potential resolutions to expressed and hypothetical issues, concerns, and questions surrounding the employment readiness topic of the week. Offering solutions was done in such a way where a mentor or participant directed another participant to an idea, potential solution and or instruction. Offering solutions was different than sharing strategies because it was in direct response to an individual. Offering solutions was only observed in the mentored group. In the mentored group, both mentors and four participants offered solutions to challenges and or self-identified weaknesses. As part of their role, mentors were trained to offer solutions related to the weekly topic of the intervention and to directly address any participant concerns. As such, mentors would typically address potential problems and outline solutions as a weekly opening post to the group and they would directly respond to participants’ questions, concerns, or self-identified weaknesses and or challenges. As with sharing their personal strategies, mentors contributed potential solutions to the group on the basis of their long-term experience through reflections on their experiences and lessons learned over time. The mentors offered solutions consistently for nine of the 12 weeks of the intervention.
Mentor one offered solutions focused on the following areas: decision making, transportation and accessibility to get to work, and gaining experience for future work. For example,

“Perhaps some volunteering in your areas of interest may be something to consider as well? This is an awesome way to get more experience, hone your skills, and establish connections that may lead to a job later on”. (Mentor one, week five)

Similarly, mentor two offered solutions aimed at developing one’s job related skills, such as marketing oneself in person and online, searching for volunteer and/or job positions, applying to volunteer and/or jobs online, utilizing social media for employment, interview preparation and disclosure and self-advocacy. For example, mentor two suggested to a participant an approach to consider for networking:

“I would definitely encourage you to go to job fairs in at [school]. In University there are often large chunks of time in between classes. This could mean hours or even days depending on your schedule... Why not drop in when you have free time? This will help you get introduced to different employers and resources which will ultimately allow you to grow your network exponentially.” (Mentor two, week eight)

While not as common, four participants of the mentored group offered solutions to other participants during three of the twelve weeks of the intervention. Participants offered solutions to other participants during the first quarter of the study and declined as the weeks went on. Perhaps they were more engaged during this time of the study and available to intuitively offer a solution to another peer. The mentored group participants offered solutions to other participants regarding post-secondary and career decision making, managing one’s disability at work or school, being a self-advocate, resume writing, interviews, disclosure and accommodations, and accessibility and transportation. For example, one participant proposed how others should hypothetically manage their disability at work:
“Always be sure to let your boss know when you need a minute to regroup your thoughts or maybe give your body a rest. Also, don’t get yourself so busy that you over do it. If you start with only a few hours at a time it may be easier to adjust to a position with more hours possibly.” (Bailey, female, 19, week three)

Similarly:

“If you don’t already know, I just wanted to mention that there are accessible parking spaces usually closest to the main entrance of most buildings, to park there, you would require an accessible parking permit, which you can apply for.” (Sue, female, 19, week two)

To summarize, offering solutions was a common theme of social support provided as interpreted by the discussion forum of the mentored group only.

4.5.2 Sharing experiences

The second main theme identified from the discussion forums was “sharing experiences”. Emotions and challenges were shared among participants that highlighted similarities among participants, and group belonging. Mentors and participants of both the mentored group and non-mentored group shared experiences. Two subthemes emerged from this theme: (1) sharing emotions; and (2) disclosing experienced challenges. Both subthemes were provided in the mentored and non-mentored groups.

4.5.2.1 Sharing emotions

In both the mentored and non-mentored groups, participants and mentors shared emotions of hope (i.e., aspirations), uncertainty, fear, and gratitude. In the mentored group, both mentors shared their emotions during seven weeks of the intervention (i.e., mentor one during four weeks, mentor two during three weeks). Having others describe their emotions can offer understanding and highlight similarities among group members that youth may not have assumed were possible. Emotions were often similar and could offer youth with reassurance that others are experiencing similar emotions. Both mentors shared their aspirations, and gratitude for family and personal experiences that assisted
them on their career paths. Different between the two mentors, mentor one discussed fears such as self-doubt, and uncertainties about the future, and mentor two did not share feelings of fear or related emotions. For example, mentor one expressed gratitude:

“I know from my experience, I wouldn't have applied to as many opportunities as I did if it weren't for the support and encouragement from my parents. I tended to have doubts about whether my abilities would be sufficient for some positions.”

(Mentor one, week four)

Participants of the mentored group also shared their emotions of hope (i.e., career aspirations), gratitude (i.e., for family), and fears (i.e., uncertainty of future, insecurities) with the group. Six participants revealed their emotions throughout five of the 12 weeks. Most participants that shared their emotions shared their hopes and aspirations (i.e., five participants). For example, one participant described what their passions were:

“I'm someone who loves to make plans and would love to have all the answers to what I want to do with my life right now, but the reality is that I have many interests...I know that I have a passion for education and academics.” - (Pat, female, 17, mentored group, week five)

Additionally, four participants shared their gratitude for their family with the group. For example:

“My parents also helped to push me to volunteer at the ROM and I am glad I did even though I was really tired by the end of the day. I am very grateful for them when I need to talk to someone or get a second opinion.” (Amy, female, 18, mentored group, week four)

Also, two participants expressed fears and worries about the future due to its uncertainty, their personal uncertainties concerning their future careers, nervousness for job interviews, and self-doubt. To illustrate, one participant was open about being unsure about their future, and about themselves as a person: “I am also thinking of taking other courses to maybe get a job in restoration. I am still not completely sure of who I want to be” (Amy, female, 18, week five).
Similarly, within the non-mentored group, participants expressed their emotions of hope, fear, and gratitude. Four participants shared their emotions with the group during three weeks of the intervention. Participants shared their emotions more so during the first half of the intervention (i.e., weeks, one, four, five), and this decreased as discussion posts decreased for the non-mentored group (i.e., week five onward). Four participants in the non-mentored group expressed their hopes and aspirations for the future. For example, “I also want to exceed in science. I would also like to improve in math. I would like to have a science based career, I love science and want to be a paleontologist” (Monica, female, 14, non-mentored group, week one). Two participants expressed their fears related to employment. For instance, one participant described her perceived fears with using public transportation, alluding to a time where they expressed low confidence:

“Up until last year I did not feel comfortable with using public transportation. I didn’t want to use it because I had the fear of getting off at the wrong stop and taking the wrong bus.” (Lynn, female, 19, week two)

Four participants shared gratitude and appreciation for their families’ role in supporting them with school, work roles and in general. To illustrate:

“I am forever grateful for my family, but there was this one time where they helped me a lot. They supported me with my decision about which program I wanted to get into.” (Lynn, female, 19, week five)

Expressing emotions related to aspirations, gratitude and fears were observed in the mentored group (i.e., demonstrated by mentors and participants) and the non-mentored group (i.e., demonstrated by participants). Mentors provided this type of emotional support for more of the intervention (i.e., seven weeks) than participants compared to participants in the non-mentored group.

4.5.2.2 Disclosing experienced challenges

Mentors and participants of the mentored and non-mentored groups described the challenges they experienced and perceived with regards to employment and employment related responsibilities (i.e., school, volunteering). Within the mentored group, mentors
disclosed challenges less often than participants. Both mentors disclosed their challenges in the latter half of the intervention (i.e., weeks six, seven, eight, and eleven). Where mentor two seemed to describe challenges, they experienced in more depth and more often than mentor one. Mentor one simply admitted that she difficulty transitioning to post-secondary education. For example:

“*My transition to university was not easy at all. I remember that I had always had a clear vision of where I wanted to go after high school, but this may not be the case for everyone. Often times, it takes students a while to figure out who they are, where their interests lie, and what program they think would be suitable for them.*” (Mentor 1, Week 11)

On the other hand, mentor two’s style of describing their challenges had greater depth and they did this more often. Mentor two had challenges with networking in person, searching for jobs that were accessible for him, and described an accessibility and accommodations issue he experienced during a volunteer role. For example:

“*However, there were many challenges along the way such that wheelchair couldn’t maneuver easily around the kitchen, I was inexperienced in the culinary arts and the food all had to be ready by lunch. At first, I tried to keep these issues to myself because I didn't want to inconvenience the staff. What I didn’t realize at the time was that it had the opposite effect. For the first couple of weeks, I wasn't very productive and I was very frustrated.*”- (Mentor 2, Week 6)

In the mentored group, participants also disclosed challenges to the group. Five participants described their challenges during seven of the 12 weeks of the intervention. Common challenges described by this group: accessibility and transportation, discrimination, communication issues, establishing independence, managing one’s disability and physical symptoms at school or work, balancing family expectations with personal expectations, and a lack of interview skills. For example, one participant described how she experienced discrimination:
“Generally, I find that the types of discrimination I run into involve being talked down to and treated like I am not intelligent just because someone sees I use a cane and have a physical disability. This issue is not helped by the fact that I’m a pretty short person and I look younger than I am, so even though I’m almost 18, I get treated like I’m quite a bit younger fairly often.” (Pat, female, 17, mentored group, week three)

Similar to the mentored participants, throughout the 12 weeks of the non-mentored group two participants disclosed their challenges related to employment. The two participants of the non-mentored group that shared their difficulties with the group, described challenges in the following areas that were the same as challenges described by the mentored group participants: accessibility and transportation, communication issues, establishing independence, managing one’s disability at work or school, and a lack of interview skills. Challenges shared that were unique to the non-mentored group participants were, bullying at school, unsuccessful work or volunteer roles, competitive nature of finding a volunteer role, and issues working with others. For example, one participant described his difficulty finding a volunteer position: “I was looking for volunteering positions during the summer time. It was hard because a lot of other people were looking too, so it was very competitive” (Jake, male 17, non-mentored group, week seven). In summary, mentors and participants described their challenges related to employment. More participants of the mentored group explained their challenges, and did this most often throughout the 12 weeks compared to their mentors and compared to participants of the non-mentored group.

4.5.3 Emotional support through positive feedback

This theme involves encouragement, affirmations of challenges, and optimism provided. Emotional support through positive feedback was provided in the mentored group only. Posts that provided positive feedback promoted affirmation (i.e., understanding, validation) in one’s situation, and or encouragement for the future. The two mentors provided this type of support to the participants as a whole group, and directly to participants during eleven of the 12 weeks. Mentors were the main providers of positive feedback in comparison to participants, but two participants in the mentored group
positive feedback when addressing the entire group during three weeks of the intervention.

Mentor one provided affirmation, positive feedback and encouragement during seven weeks of the intervention, and mentor two provided this type of support for four weeks of the intervention. For example, mentor two validated the steps a participant took in networking and volunteering:

“There are two things that really struck me in particular the first being your talent for networking. It seems to me, and even from an early age, you’ve been able to utilize your “contacts” (i.e., your friends, teachers and family) to learn about some great volunteer opportunities. That is in a valuable fundamental skill that I struggle with sometimes. Kudos! The second thing being, that you have been able to find volunteer opportunities that benefit not only your personal interests but your academic and professional interests simultaneously. That is a very rare skill, I have no doubt that are going to go very far in life.” (Mentor 2, Week 6)

Similarly, the mentors often normalized the situation and provided optimism towards seemingly negative experiences expressed by the participants, reinforcing that certain situations were “normal”, experienced by many and not as negative as they were perceived. For example, when discussing uncertainty about career paths and pursuing different pathways to the group, mentor 1 described a personal situation that worked to validate the group’s feelings of uncertainty about their future. To display this:

“I'm still trying to work out what I want to pursue as a Master’s degree and what I want to do my PhD in, but this is totally normal and fine, I'll continue to keep my mind open, take any opportunity (no matter how irrelevant it may seem at the time, because hey, you just don't know where it could lead), and figure it out one step at a time.” (Mentor one, week 5)
Similarly, after a participant shared their uncertainties about their future, mentor two validated their feelings of uncertainty, and provided encouragement and positivity towards their situation:

“In terms of future plans, it’s okay to be scared and uncertain, most people are. I agree with you that there can sometimes be questions about finding a position that will also accommodate your accessibility needs, but this is where volunteering can be helpful...I also love how you’re pursuing an area of study in which you highly enjoy, although I am unfamiliar with the job market around history related positions, I’m sure that there are plenty of opportunities that will eventually present themselves” (Mentor two, week 11)

Similar to this, as a participant demonstrated to the group: “New things are scary sometimes, especially if you don’t know what to expect. That is normal but it is up to you to push through and take risks” (Bailey, female, 19, mentored group, week two).

Emotional support through positive feedback was not observed in the non-mentored group, and was strongly provided by both mentors over each week of the mentored intervention.

4.6 Discussion

From the transcripts of both the mentored and non-mentored groups, three main themes emerged from the data: 1) solution-focused support (i.e., subthemes: sharing personal strategies, and offering solutions), 2) shared experiences (i.e., subthemes: sharing emotions, disclosing experienced challenges), 3) emotional support through positive feedback. First, key differences were identified in terms of social support provided in the discussion forums between the two groups, and the groups were qualitatively different in addressing different aspects of employment readiness (i.e., the content of support types). This finding adds to the literature on peer e-mentoring for the employment readiness of youth with physical disabilities because a comparison focused on social support has yet to be done within the literature. Second, it adds to the literature on peer e-mentoring in terms of the role of the mentor in providing social support and facilitating participants to share social support.
Contrasting these findings with the ESES conceptual framework (Shpigelman, Reiter et al., 2009) a main theme of this study, solution-focused support, is related to informational support of the ESES conceptual framework, whereby facts and information are shared in response to a stressor or challenging event. The second main theme, shared experiences, were acknowledged as a type of support in this study because common sharing of emotions and challenges can offer youth with a feeling of belonging and support in that others experience similar situations.

Common to both groups, participants did not openly ask questions throughout the intervention provided, and both groups had more females that posted in the forum. For example, in both groups, participants rarely asked questions or openly sought support other than the introductory week (i.e., week one). The relationship between this type of activity and the importance participants placed on receiving social support is out of the scope of this study, however the asynchronous nature of the discussion forum and the website in general may be attributed to this. With asynchronous posts in a discussion forum, posts can be unrelated to one another and discontinuous. Whereas in a study of synchronous conversation (i.e., via skype call) a content analysis of mentor to mentee phone calls with youth with chronic illness, suggests participants (i.e., mentees) sought support on a more regular basis concerning the topics of the intervention (Kohut et al., 2016). For example, they report that mentees would ask about the impact of chronic illness on the mentor’s ability to manage relationships, hobbies, work, and their education (Kohut et al., 2016). Similar to other studies of peer e-mentoring (Burgstahler & Cronheim 2001; Kohut et al., 2016), females were the main providers of posts, indicating that online support for employment readiness may not be what males prefer to contribute to their needs.

The presence of a mentor influenced discussion participation and offered more varied forms of social support. Mentors added depth to the social support provided (i.e., they provided all forms of informational and emotional support), and initiated most discussion in general. Initiation and maintenance of conversation done mostly by mentors was also described in similar e-mentoring studies with youth (Cantrell, Fischer, Bouzaher, & Bers, 2010). Similarly, the mentored group shared emotional support and informational
support, whereas in the past, the findings of Burgstahler and Cronheim (2001) reported that in a non-mentored peer group, emotional support was the main topic of interest, and among the mentored group, more formalized discussion around academics and career were provided when comparing their exchanged emails. Related, mentors in this study may have played a role in stimulating greater conversation compared to the non-mentored group, where probing and conversation maintenance were strong. Also, the mentors’ unique form of positive feedback (i.e., solely provided by mentors) through encouragement, affirmation and positive sentiments could have influenced the direction of conversation and types of support shared. Shpigelman, Reiter, et al. (2009) suggest mentors provide these ongoing activities as a way of establishing trust throughout the relationship. The non-mentored group had less discussion within the forum, and less indication of social support provided between members of this group. Potentially an outline and/or emphasis of the expectations would have assisted peers in forming discussion and exchanging social support (Shpigelman, Reiter, et al., 2009).

Third, mentors within the e-mentored group were the main providers of all types of social support to the participants rather than participants directing discussion and/or social support to other participants. Emotional support through positive feedback was the one type of social support not exchanged from participant to participant. This may be due to unclear expectations for the discussion forums, In addition, emotional support takes longer to develop and sustain in e-mentoring relationships (Shpigelman, Reiter et al., 2009), potentially because mentors were trained to provide support, this may not have been comfortable for participants to provide within the 12 weeks. Similarly, in a study of e-mentoring for youth transplant recipients’ mentors and participants were more inclined to direct discussion to one another than participants to discuss with other participants (Cantrell, Fischer, Bouzaher, & Bers, 2010). Expectations may have been unclear to youth that other participants could be of value in terms of social support in addition to the trained mentors. Similar to the recommendations made from Burgstahler and Cronheim (2001) on e-mentoring, expectations must be stated clearly at the beginning of an intervention to ensure participants understand the boundaries of the relationships made available to them.
4.7 Implications

Due to the qualitative nature of this study, efficacy of mentoring cannot be suggested from the results. However, in conjunction with the quantitative results of the RCT (Lindsay et al., 2017), this qualitative comparison of a mentored and non-mentored group offers insight into how the online employment program allowed for the provision of different types of social support across these two conditions. This has implications for clinicians such as occupational therapists, specialists working in vocational rehabilitation, and or life skills specialists working with youth with physical disabilities. In addition to their clinical regimens, providing a peer e-mentor has the potential to offer social support in the form of emotional support and through offering solutions. If these types of support align with client needs, perhaps a peer e-mentor could address youth’s needs while offering evidence based employment readiness information and resources. Additionally, therapist led clinical regimens and skills-based teaching of employment skills could benefit from the distinct emotional support and solutions offered by mentors because this is provided through lived experience rather than a clinical background. Due to a lack of social support offered in the non-e-mentored peer group there is not enough evidence known about how social support was received, however this may be appropriate for clients whose needs align with a lack of emotional support and or solutions offered. For educators, the peer e-mentored group offered solutions as informational support to participants of the group. This may be appealing to educators of youth with physical disabilities because resources for youth with physical disabilities are often limited in schools. For researchers, this work offers the first qualitative comparison of social support within an online employment program for with physical disabilities. Therefore, more research regarding the role of the mentor, participation in discussion and provision of social support (i.e., especially for lurkers or non-posters) and the characteristics of both mentors and participants in providing and receiving social support are important in order to get a better understanding of how social support is provided across the two groups.
4.8 Limitations

A first limitation of this study is the small sample size. Four participants were lost to follow up in total between both groups, and some participants did not contribute to discussion posts. However, for the purposes of this research, and the prolonged engagement of this study over 12 weeks, justifies the use of a small sample. A smaller sample of individuals that posted in the non-mentored group allowed for fewer posts to be coded from this group. A second limitation to note, due to the embedded nature of this qualitative study within the larger quantitative pilot study, data collected varied on the naturalistic setting of the online environment (i.e., not all participants posted in the discussion forums). However, this data reflects 12 weeks of discussion across two groups of the intervention, and gathers an exploratory understanding of social support given the time frame needed to complete this work. Similarly, a third limitation was that only one mentored group and one non-mentored group were used for data analysis. Including more groups would have been ideal to improve transferability of the findings to capture social support provided under different circumstances and potential different group characteristics. A fourth limitation is that the mean age of participants of both groups was fairly different. The non-mentored group had a mean age of 16 and the mentored group had a mean age of 18. Participant ages may affect the way they utilized the intervention potentially due to differing needs and thus differed the types of social support they required and would feel comfortable contributing. Again, including more groups could have strengthened this limitation to better understand age and social support provision. A fifth limitation is that the mentored and non-mentored groups occurred sequentially for logistic purposes. This caused the groups to occur at different times of the year and may have affected participation and potential provision of social support. Lastly, this study did not offer a follow up with participants to understand engagement, reasons for posting and ultimately, how the social support was perceived. This could have provided more richness to the data.

4.9 Future Directions

This studied offered a variety of future directions for researchers to explore. First, researchers interested in the role of the mentor in e-mentoring should further explore
mentor characteristics and how this affects social support provision to groups and between participants of such groups. Similarly, researchers conducting future e-mentoring studies should follow up with participants to capture richer data in terms of how social support was perceived and preferences of participants. Specifically, it is important to understand the experience and preferences of non-posting participants compared to posting participants to better understand needs and reasons for activity. Lastly, to better know how to design and tailor social support provided through such interventions for differing ages, genders and levels of academic experience, future research should aim to better understand how these characteristics affect how social support is optimally received. To better understand any differences in such characteristics and social support provided, comparing more groups of mentored and non-mentored groups is critical and following up with participants in terms of how social support was received.

4.9 Conclusions

By comparing the mentored to a non-mentored group of youths with physical disabilities partaking in an online program for employment readiness, social support was provided with more breadth (i.e., more topics related to employment readiness covered) and more varied forms of social support were available in the mentored group. This has implications for researchers and clinicians interested in implementing a peer e-mentoring component to clinical regimens (i.e., vocational rehabilitation, self-management of condition).
Chapter 5

5 Understanding social support needs and provision in the context of an online employment readiness intervention for youth with physical disabilities: Discussion and recommendations

5.1 Introduction

This final chapter provides a summary of the key findings of both manuscripts of this dissertation. Also, theoretical and clinical implications will be discussed. Lastly, the limitations of this work will be described and suggestions for future research work relevant to the research questions of this dissertation will be discussed.

5.2 Discussion of key findings

The overall objectives of these studies were to explore the social support needs and provision among youth with physical disabilities in the context of an online employment readiness intervention.

This thesis addressed several important gaps in the literature. First, the social support needs of youth with physical disabilities within the context of an online employment readiness intervention had yet to be uncovered and understood from the perspectives of youth. In the first manuscript, this was addressed prior to the intervention through a focus group with youth with physical disabilities. From this focus group, a main theme of informational support emerged from the data (i.e., through two subthemes: connecting to resources and sharing strategies for employment readiness). Therefore, youth of this focus group reported that informational support was an important component of a proposed online employment readiness intervention. This component is reflected in the informational support that is described within the ESES framework (Shpigelman, Reiter, et al., 2009). These results add to what is known in terms of employment readiness interventions for youth with physical disabilities. Most past studies of employment readiness interventions (i.e., online and offline) utilize quantitative outcomes measured across different time points of an intervention rather than a focus on youth’s social
support needs beforehand using a qualitative approach (Shpigelman, Reiter, et al., 2009). Past studies of employment readiness programs measure outcomes such as youth’s employment achievement (Carter et al., 2009; Wolf-Branigin, Schuyler & White, 2007; Verhoef et al., 2013), knowledge and perceptions of employment and skills related to employment readiness (Francis et al., 2013), rather than exploring youths needs in such interventions. This qualitative component was warranted beforehand to understand if the social support needs of youth align with what the intervention intends to address.

Additionally, the literature focused on youth with physical disabilities’ employment readiness and participation focuses on the deficits youth with physical disabilities experience in finding employment. For example, youth experience difficulties with employers and societal attitudes, as well as accessibility of the built environment (Lindsay et al., 2015; Shier et al., 2009). Other factors that influence their employment readiness are reportedly low self-esteem (Stewart, Law et al., 2002, Verhoef et al., 2013), life-skills and self-management of disability for work (Lindsay et al., 2015). Such deficits reported in the literature provide information as to the components of youth’s lives that an employment readiness intervention should address and the findings from manuscript one can help to target the challenges reported within the broader literature. This was expressed in the focus group through youth suggesting a need for informational support in their areas of difficult (i.e., accessibility, coping with employers attitudes, life skills) as resources and strategies for skill development and employment readiness.

Also, the first manuscript adds to the knowledge base of online employment readiness interventions. These findings are novel in that social support needs in terms of an online employment readiness program had yet to be explored. Our results are comparable to other research that has focused on online mentoring for youth with asthma, where in a post-intervention interview, youth described that they valued sharing stories and strategies for managing their condition with peers and mentors, and a mix of support and age appropriate educational resources were appreciated by youth of this study (Masuda et al., 2013). Other studies such as Barnfather et al (2011) similarly found that participants of an online mentoring intervention at reported at post-intervention, that sharing experiences and coping strategies with others in relatable situations were beneficial components of the intervention. Related to the results of manuscript one, this highlights
the need for informational support with the ability to share strategies and connect to resources that youth can navigate within an online program.

Second, the nature of social support within an online employment readiness intervention for youth had yet to be compared in the literature in terms of a mentored and non-mentored group for youth with physical disabilities. Manuscript two revealed that the main forms of social support provided within an online employment readiness intervention for youth with physical disabilities were (1) solution focused support; (2) sharing experiences; and (3) emotional support through positive feedback. The main themes of social support differentially emerged in the mentored group compared to the non-mentored group; where the mentored group offered solution focused support, sharing experiences, and emotional support, and the non-mentored group solely provided solution-focused support, and shared experiences, with much less breadth of social support provided between participants. Comparing both groups allowed for a better understanding of the mentor role in facilitating social support.

Approaching the data from an RCT using a qualitative description of the discussion forums, adds to the literature on social support delivered through online mentorship, and peer groups because prior to these results, no qualitative comparisons, or understandings of social support within an online employment readiness intervention across a mentored (i.e., experimental) and non-mentored (i.e., control) group had been achieved for youth with physical disabilities. The results of manuscript two suggest that mentors facilitate emotional support and offer solutions distinct from a non-mentored group (i.e., where these themes did not emerge). Whereas in other studies (e.g., Brady, Dolan, & Canavan, 2015; Zheng et al., 2010) this differentiation and comparison had not been analyzed due to a lack of comparative designs. Similar to other qualitative understandings of online social support provided by mentors, a qualitative description of a peer mentored (i.e., only mentored, no comparison) online support group for youth with cerebral palsy and spina bifida outlined that mentors provided information, affirmation, and emotional support to participants (Barnfather et al., 2011). Adding to other qualitative research of online mentoring and peer groups, Cantrell et al. (2010) suggested that online mentors play a central role in youth’s online presence and exchanges, initiate most of the
conversation and promote the development of relationships among participants of the group. Our results similarly suggest that mentors played a role in the provision of social support towards participants and between participants, and added value in comparison to the non-mentored group. Emotional support in the form of positive feedback was unique to the mentored group, provided solely by mentors. Emotional support may have validated participant thoughts and encouraged them to continue participating in the weekly discussions. In the non-mentored group, discussion was not present throughout the 12 weeks entirely, and with that, social support was not as readily provided within the non-mentored group. Other research has similarly shown that within online calls between mentors and mentees with chronic illness, call content was understood as belonging to three categories: illness impact, self-management, and non-illness related adolescent issues (Kohut et al., 2016). Participants talked about their emotions with regards to their illness’ impact on their lives, and most often sought emotional support from mentors for struggles related to their illness impact and stressors common to adolescence (Kohut et al., 2016). In contrast, participants in our study of both the mentored and non-mentored groups did not openly seek emotional support from the mentor (i.e., mentored group) or from one another (i.e., mentored and non-mentored groups). The time frame of the study (i.e., 12 weeks) may not have been long enough for participants to feel comfortable to ask for emotional support to one another. As Shpigelman, Reiter and Weiss (2009) describe, emotional support may take more time to develop compared to the other forms of support, but this optimal time is not well understood within the literature.

Emotional support was surprisingly not a prominent theme (i.e., result) of manuscript one; that is, youth did not suggest a strong need for emotional support to be provided in an online employment readiness intervention (i.e., they strongly focused on the importance of requiring informational support). However, as depicted by the results of manuscript two, within the mentored group, mentors consistently provided emotional support (i.e., positive feedback) to participants over the course of the intervention. Emotional support was not provided peer-to-peer (i.e., between participants), and was not provided in the non-mentored group. Although emotional support through positive feedback provided by mentors was required of them within their training, its need from youth did not unfold to a noteworthy extent. This may have been a result of emotional
support between participants (in both groups) not being well established because of the online format. Perhaps youth need a more tangible form of contact (i.e., phone call, video call, in person meeting) in addition to online communication through text to develop rapport and to feel comfortable giving and receiving emotional support. Proceeding with an online group in addition to some sort of visual or physical contact with a mentor would offer accessibility and efficiency provided through online mentoring, and would add more tangible cues. In an in-person study of the processes related to forming connections and trust between mentors and mentees, exchanging emotional support depends on the amount, content and timing of self-disclosure that occur between mentors and mentees (Ryan, Kramer, & Cohn, 2016). Their findings suggest that exchange of emotional support and developing a strong connection can occur by offering mentees with opportunities to self-disclose (i.e., emotions, personal circumstances) across the relationship (Ryan, Kramer, & Cohn, 2016). In other studies of online discussion among youth peers, greater anonymity may assist with emotional support provision (Guse et al., 2012; Stinson et al., 2009) and may enable youth to feel more trust in expressing emotional support to their peers. In our study, youth were able to provide pseudonyms in the discussion forum, but none did so, and reasons for not doing so were not provided. Also, the literature alludes to emotional support taking more time to develop between peers (Shpigelman, Reiter, & Weiss, 2009), but there is a lack of evidence in our study regarding an optimal time for this to develop. Also, the website that this intervention was delivered upon may have allowed less emotional support to be provided due to the lack of visual cues that youth could exchange. For example, visual cues to express emotion such as emoticons and/or video calling could not be used through this website. Other research such as Shpigelman, Reiter and Weiss (2008), describe the importance and request of visual cues (i.e., emoticons, videos) and or more tangible feedback (i.e., the ability to hear one another’s voice at some point in the online relationship) from participants of an e-mentoring study for their relationship to grow and develop. Potentially, the provision of emotional support online may require additional visual cues in addition to textual exchange to allow participants to feel more comfortable and willing to exchange emotional support.
In summary, the findings of both manuscripts suggest that the social support needs of youth have the potential to be addressed in an online peer support group for employment readiness, where the types of social support provided differed between a mentored group and non-mentored group. As identified in the focus group prior to the intervention, youth suggested connecting youth to resources related to employment readiness that they found helpful (i.e., subtheme one) and they recommended sharing strategies for skill development and employment readiness (i.e., subtheme 2). After a content analysis of the textual data of a mentored group compared to a non-mentored online peer support group for employment readiness, both of these support demands were fulfilled in part within the intervention.

5.2 Discussion of the findings in the context of the ESES conceptual framework

The ESES conceptual framework proposes that individuals part of an e-mentoring relationship gradually exchange different types of socioemotional support, beginning with informational, tangible, social, and lastly, emotional. The types of social support identified in this study are comparable to those described within the ESES conceptual framework (Shpigelman, Reiter, et al., 2009). The first distinction to note is that this framework lists “informational, tangible, emotional and social” as the types of “socioemotional support”, whereas, in this study, “social support” is the general concept or term that is used to refer to the overall guidance provided by an individual to another. However, the ESES framework lists “social” as the type of support that alludes to the communication of belonging to a group. This definition was evident in the themes of this study but “social” support was not the term used to explain this type of support in the results of this dissertation. Manuscript one identified that youth require informational support in terms of their employment readiness within a peer e-mentoring intervention. This was evident through two subthemes: (1) connecting to resources and; (2) sharing strategies for skill development and employment readiness. This relates closely to Shpigelman, Reiter et al. (2009) description of informational support. That is, providing information about a stressful event or problem and advising how to deal with it. It was
less developed and discussed in the focus group was emotional support (i.e.,
communicating caring, respect and confidence in abilities) (Shpigelman, Reiter, et al.
2009).

From the textual data in the discussion forums of the mentored and non-mentored groups,
informational support was closely linked to the theme of solution focused support (i.e.,
subthemes of personal strategies, and offering solutions). Solution-focused support
subthemes were (1) personal strategies and, (2) offering solutions. Where offering
solutions were not present in the non-mentored group, and predominantly provided by
mentors to mentees in the mentored group. The second theme of manuscript two was
sharing experiences with subthemes (1) sharing emotions and, (2) disclosing experienced
challenges. These themes are related to the definition of social support provided by the
ESES conceptual framework, where they were sentiments of belonging to a group, and
are related to the ongoing activities outlined by Shpigelman, Reiter, et al. (2009) such as
self-disclosure and trust building. In addition, the third theme of manuscript two,
emotional support through positive feedback, aligns with the definition outlined by
Shpigelman, Reiter, et al. (2009). For example, emotional support defined by
Shpigelman, Reiter, et al. (2009) as the communication of caring, respect and confidence
in one’s abilities. This definition is most related emotional support through positive
feedback. Solely mentors provided this type of support to peers in the mentored group.

Areas in which the conceptual framework did not align with either manuscript will now
be discussed. The types of socioemotional support defined by the ESES conceptual
framework that did not assist with the framing of this analysis were what Shpigelman,
Reiter, et al. (2009), term “tangible support” and “social support”. Due to the online
nature of this study, tangible support as it is defined within this framework, was not
observed because participants and mentors would not meet or provide this type of direct
physical help, as a good or service exchanged to one another. Hues of tangible support
were evident when resources and services were described, but these were coded under the
informational support theme because resources were suggested as direct solutions to
participant issues, or resources were described and opinions were given if they were
discussed as a personal strategy. Lastly, the term Shpigelman, Reiter, et al. (2009) present
as “social support”, includes the communication of belonging to a group and sharing
similar difficulties. Hues of this definition were embedded within the sharing experience
subthemes of sharing emotions and disclosing challenges.

In addition, online group mentoring may work differently than one-to-one mentoring that
this framework seems to describe. Mentors were close in age to their mentees (i.e., “peer
mentors”) and sometimes participants of the group would provide advice as if they were a
mentor themselves. This was displayed in the informational support theme early in the
first quarter of the intervention, where a few participants would offer solutions as mentors
did.

5.3 Limitations

Several limitations must be addressed before discussing the implications of the work of
both manuscripts of this dissertation. First, in the focus group (i.e., manuscript one) and
in the online peer support groups (i.e., manuscript two) gender of participants was not
equally represented. For the focus group, there were more female participants and thus,
more female perspectives were accounted for in terms of social support demands and or
needs as it pertains to online peer support for employment readiness. Similarly, Kohut et
al. (2016) and Barnfather (2011) had a greater presence of females as active participan
tes in their e-mentoring studies. Additionally, there were more female participants in the
mentored and non-mentored groups of the intervention, and more females posted in the
discussion forums compared to males. Therefore, findings may not be transferable to
males with physical disabilities that are entering into the workforce.

A second limitation is that the participants of the focus group and the mentored and non-
mentored groups had a wide range of characteristics related to employment readiness
such as academic circumstances and volunteer experience. Intentionally, most of the
focus group participants had volunteer and/or work experience to comment on the pilot
materials of the online employment readiness intervention for youth with physical
disabilities. In addition it may have been more beneficial to understand the social support
needs among potential users of the intervention. For the mentored and non-mentored
group participants it is unclear how this level of experience would have affected their
social support sought and provided within the groups. A third limitation is that participants of both studies were recruited from one large urban pediatric rehabilitation hospital. With less diversity in participants, results are difficult to transfer across different groups of individuals.

For study two, a fourth limitation is the age of participants between the two groups of mentored and non-mentored participants. The mean ages of participants of both groups were slightly different. Age may influence the types of social support warranted by participants in terms of their differing stages of employment readiness, and their capacity to give and receive social support. Despite this limitation, other criteria for inclusion to ensure youth were at similar stages in terms of their employment readiness were taken into account (i.e., cognitive abilities, no other prior paid work experience, enrolled or completed high school diploma in applied or academic streams, and not enrolled in another employment readiness or peer support intervention). A fourth limitation of this study is that participants of both studies were recruited through one pediatric rehabilitation hospital, limiting transferability of the findings. The perspectives and experiences shared and observed may be different than groups outside of this hospital.

A sixth limitation of this study is that one focus group was used to understand the social support needs of youth in manuscript one. While more focus groups with could have offered greater confirmability of findings, the initial modules of the online employment readiness intervention that youth of the focus group utilized to discuss their social support needs was supported by two systematic reviews (Hanif et al., 2017; Lindsay et al., 2015), one scoping review (Lindsay et al., 2017) and three needs assessments (Lindsay et al., 2014, 2012; Lindsay et al., 2015).

A seventh limitation of this study is that the mentored and non-mentored groups compared in manuscript two occurred at different times of the year, and may have affected social support required and ability to participate in the discussion forums based on participant time and resources. The mentored group ran during the June to September and the non-mentored group was organized from end of September to December. The non-mentored group offered less social support types among participants, and generally
participants engaged less in discussion forum conversation. Thus, participant readiness and ability to participate and provide and offer social support is recognized as potentially being affected by the beginning of the school year, and differing demands compared to the non-mentored group.

A eighth limitation of the second study is the small sample size; however, after exhausting several options within the recruitment strategy, and due to the length of the intervention, at the time of analysis, only one mentored group and one non-mentored group were available to analyze within the time frame of the thesis. Justification for saturation includes that the groups were immersed for 12-weeks, and the comparison of data offered for a rich understanding of the themes. A final limitation of both studies is that the framework used to frame the question and align analyses could have established a narrow understanding of youth’s needs (i.e., study one) and social support provided (i.e., study two). Being more open with the research question would have allowed for general needs and use of such an intervention to be explored. However, interpreting the results with a focus on social support typologies allowed for a clear description and conceptualization of what they needed and exchanged within the online environments. Also, focusing on social support allowed for a meaningful link to employment readiness for youth. Future directions for research

When considering the design of similar interventions, researchers should look towards allowing participants to be active in the construction of the content of the web-based intervention to achieve balance with the evidence and youths social support needs. Additionally, exploring participant level of satisfaction with the differing types of social support post-intervention to gain an understanding of how certain types were more or less useful for participants will help tailor future e-mentoring online employment readiness interventions. Based on the social support provided within the intervention, understanding youth’s knowledge of employment readiness resources and goals related to employment would be useful to understand if social support types were affecting important outcomes of interest.
Outcomes of future online employment readiness interventions that utilize mentors should aim to understand social support exchanged to understand this online relationship to a greater extent. Also, such interventions should include measures of perceived social support in addition to employment readiness related measures to better understand how support was perceived and may have changed based on the intervention. This would complement the qualitative findings of this study, and grow the literature on social support needs and provision within online employment readiness interventions.

The results of manuscript two provided some insight into the mentors’ role in providing social support in an online employment readiness intervention. Therefore, it is important to examine how mentor characteristics affect participants social support exchanged and participant in the discussion forums. For example, future studies should explore individual characteristics of the mentor and participant, such as gender, age, disability type, education and employment experience should be analyzed in the future in unison with the types of social support provided within such interventions. Also, understanding the mentor point of view will be important as this relationship often affects them as well as the mentees. This will improve and inform the development of social support provision within future e-mentoring interventions. Also, there may be types of youth (i.e., youth with specific characteristics) that benefit more from online employment readiness and social support than others, this would assist with the understanding of social support in these groups, and its effect on youth.

Lastly, the provision of social support between an e-mentored group, and a one-to-one e-mentor should be studied further to understand the optimal environment for social support provision. Due to the results from manuscript two that demonstrated a lack of social support provision between participants, and that social support was dominantly provided from mentor-participants, examining the group dynamic, and exploring why participants did not provide peer-to-peer support as often to one another, should be explored to optimize future outcomes and intervention preferences.
5.4 Study Significance

There are many implications for a variety of researchers, clinicians, and educators of youth emerging into the workforce, that are preparing for employment. First, researchers in the fields of mentoring, and/or online peer support for youth with any type of disability or population type that are evaluating similar interventions quantitatively, should recognize the value of a qualitative understanding of social support, and individuals’ experiences. This allows for more depth and understanding of the concept of social support as it pertains to the overall pilot RCT that this study is a part of.

Second, clinicians working with youth with physical disabilities (or other disabilities, chronic conditions) should recognize the social support needs of the population they are working with before intervening. From this perspective, the focus group emphasized focus on resources and sharing strategies may be important for other intervention types as in this context they were deemed important in the context of an e-mentoring intervention for employment readiness. More generally throughout the focus group, sharing resources and strategies in an accessible environment such as the internet was widely accepted among participants. Clinicians should be made aware of these needs and how they can be addressed using an accessible online approach.

Clinicians such as social workers, occupational therapists, and life skills coaches who are interested in developing the employment readiness of youth with physical disabilities should consider the unique types of social support related to employment readiness provided in a mentored group between participants and provided by mentors. Clinicians who work with similar populations should utilize the results of manuscript two to inform decisions on how to provide social support to their clients. Mentors appeared to add value to the online content of the intervention where they provided more solution-focused support and distinctly provided emotional support through positive feedback in comparison to the non-mentored group. Depending on a youth’s goals and social support needs, offering an online employment readiness intervention with a mentor and without a mentor may allow for differing needs to be addressed based on the findings of manuscript two. Lastly, these results prompt clinicians to consider social support needs and timing prior to undergoing similar interventions for youth. As described in manuscript two,
emotional support may have required differing intervention components and length to be utilized to facilitate emotional support among participants.
References


online publication.


http://doi.org/WHO/EIP/GPE/CAS/01.3


Appendices

Appendix A: Focus group discussion guide

Introduction

A focus group involves a discussion around certain topics or questions. We ask that you each talk one at a time and be respectful of each other’s views and opinions. Please do not tell others about who participated in the meeting today and do not tell others about what was said during our discussion to help maintain privacy and confidentiality.

[note: materials will be distributed to youth in advance of the meeting and will also be shown on screen at the meeting]

1. We will be going through the materials for each of modules in the e-mentor intervention. Keep in mind whether the information is clear and relevant for you and please tell us about anything that does not make sense or that you think we should change.

2. What are your initial reactions to these modules (resources and topics)?
   
   [probe each topic]
   
   (1) Introduction and goal setting
   
   (2-3) Aspirations and expectations (self-awareness / self-assessment)
   
   (4) Job searching techniques
   
   (5) Marketing yourself (resumes and presentation)
   
   (6) Job interviews
   
   (7) Managing disability at work (self-care, disclosure, accommodations)
   
   (8) Getting ready to work--transportation and essential life skills
   
   (9) Family role in supporting employment
(10) Learning from professionals with disabilities

(11) Social networking and community resources

(12) Referrals and next steps.

3. Is the content relevant for youth?

   a. Is the amount of information appropriate?
   b. Is it understandable?
   c. Are there any areas that you feel that are missing?

4. Is the format of the documents appropriate?
   a. If not, in what ways would you change it?

5. Is there anything that you feel is missing that should be here?

6. What kind of support do you think youth would be looking for in an online employment readiness website? [probe: informational, emotional, mentorship etc.]

**Process if a participant reveals something concerning**

*We recognize that some participants may become upset or emotional (possibly realizing the challenges of finding employment). For this reason, the research assistant who is conducting the focus group will be trained to recognize distress and will emphasize that participants can stop the interview at any time. If an individual seems unduly distressed, with their consent, a referral for an appropriate health care professional, social support group, and/or community resource will be made. One of our clinical collaborators on our project will help to make this referral.*
### Appendix B: Participant interactions in mentored and non-mentored groups

<table>
<thead>
<tr>
<th>Week No.</th>
<th>Total posts</th>
<th>Contributors to posts (Participant No.)</th>
<th>No. of different participants that posted</th>
<th>Mentor addressing group</th>
<th>Mentor directly addressing participant</th>
<th>Participant addressing group</th>
<th>Participant directly addressing participant</th>
<th>Participant directly addressing mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>3,4,5,6,7, mentor 1</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>17</td>
<td>2,3,4,5,6,7, mentor 1</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>4,5,6,7, mentor 1</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>11</td>
<td>3,4,5,6,9, mentor</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Week No.</td>
<td>Total posts</td>
<td>Contributors to posts (Participant No.)</td>
<td>No. of different participants</td>
<td>Participant to group posts</td>
<td>Participant direct address to participant</td>
<td>Research Assistant Opening Post</td>
<td></td>
<td></td>
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<td>---------</td>
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<td>5</td>
<td>14</td>
<td>3,4,5,6,7, mentor 1</td>
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<td>2</td>
<td>6</td>
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