Manitoba Connected: Using MSNA-ID Data to Review Social Connections of People Living with an Intellectual Disability

by

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Abstract

Loneliness is prevalent amongst people living with an intellectual disability (ID) and can lead to quality-of-life and health concerns. The goal of this study was to explore the structural and functional characteristics of social networks of people living with an ID in Manitoba, Canada. Data collected using the Maastricht Social Network Analysis for People with Intellectual Disability (MSNA-ID) were examined from 159 participants supported by St.Amant between 2020-2022. Participants averaged 11 relationships (M = 11, SD = 7.58, range 1 - 49), with anchor relationships generally rated highest across functional characteristics of affection (M = 4.41 out of 5), connection (M = 3.23), preference (M = 4.42), and resources (M = 3.63). Despite 57.6% reporting general satisfaction with their network, 30.2% of "step-up" wishes for network improvement mentioned opportunities to increase social connections. Exploring and understanding the social connections that people living with an ID currently have, as well as their satisfaction within those relationships, may help us to promote meaningful connections for this population.

Keywords: Intellectual Disability, MSNA-ID, social network satisfaction, structural and functional characteristics

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The development of meaningful connections for people with Intellectual Disabilities (ID) is an important area of research. People with disabilities have historically lacked opportunities to develop meaningful connections. Whether the context is institution or current day community models, having an ID makes it difficult to have a diverse set of relationships as well as the skills needed to make, maintain, and end relationships. The first step towards developing supports for people to grow their social networks meaningfully is surveying people with an ID themselves about their current meaningful connections. This study looks to further this area of research by examining the Maastricht Social Network Analysis – Intellectual Disabilities (MSNA-ID) questionnaire that was completed by people supported by a large community service agency in Manitoba, Canada between 2020 and 2022.

Typically, people with an ID report smaller social networks compared to people without a disability. On average, people without a disability have anywhere between 6-8 more people in their social networks (van Asselt-Goverts et al., 2015). Several studies (Petroutsou et al., 2018; Bigby & Knox, 2009; & Howarth et al., 2016) have also reported that people with a disability report significantly higher levels of loneliness and isolation as compared to people living without disabilities.

The variance in social networks between people with and without an ID begins during adolescence. This is the time when most young people start to develop the skills and behaviours in how to navigate social networks. Youth living with an ID are limited in social network development for a variety of reasons. They often have limited access to environments in which to develop friends (e.g. school), they're perceived as lacking social competence and social status,

and they often encounter prejudices and the infantilization of people living with a disability (Tipton et al., 2011 & Retznik et al., 2022). Additionally, Retznik et al. (2022) reported that youth with an ID face much stricter boundaries and restrictions from parents and guardians as well as fewer opportunities for one-on-one time when developing new relationships. These factors contribute to higher levels of loneliness when these youth become adults.

The increased loneliness and smaller social networks for people with disabilities is concerning. In a meta-analysis by Park et al. (2020), loneliness' effect on health outcomes was explored across 114 articles. They found that loneliness had medium to large effects on all aspects of health including: mental health, general health, well-being, physical health, sleep, and cognition. People with disabilities already live with a disparity in their health outcomes and they also have a significantly higher prevalence rate for a variety of chronic diseases as compared to those without an ID (Reichard et al., 2011). Adding the effects of loneliness onto the typically negative health outcomes for people living with a disability creates even further separation between those living with and without an ID. Finding effective ways to support people with an ID to create meaningful connections therefore should help to increase social networks and reduce levels of loneliness, isolation and the negative health outcomes associated with loneliness. Developing social connections provides physical and emotional supports, develops one's self-esteem, and provides companionship (Wilson et al., 2017). All these factors can help reduce the negative effects of loneliness.

People with an ID typically have some access to additional support, such as a Direct Support Professional (DSP) to help them manage many areas of life including the barriers people with an ID face in developing meaningful connections. The typical barriers that people with disabilities face include lack of confidence, not enough activities in community, not being treated

as an adult, and lack of transportation; which are all areas in which staff can provide some level of support (Abbott & McConkey, 2006). Although social networks of people living with intellectual disabilities have shown to be a concern in the research available, there are a limited number of studies exploring the qualities and satisfaction of the social networks of the people living with an intellectual disability.

Maastricht Social Network Analysis

One of the tools being used to explore social networks is the Maastricht Social Network Analysis (MSNA), originally developed at the Maastricht University to explore the structural and functional characteristics of psychiatric patients' social networks (van Asselt-Goverts et al., 2013 & Baars, 1994). The MSNA recorded social networks by having the patient list important network members in three groups: family members, acquaintances, and professionals. Each member identified in the MSNA was described using 20 items including information about structural characteristics (e.g. demographic information, length of initiation, initiation of contact), functional characteristics (e.g. supportiveness of contact, security of contact, affection towards the contact), and practical information about the relationship. To promote reliability and validity for the MSNA, Baars (1994) specified that the information gathered should only contain information on network members where there is a direct connection, where the information was true and as objective as possible, and where all the information provided was certain.

MSNA-ID

van Asselt-Goverts et al. (2013) adapted the MSNA to be used to map the social networks of adults living with a mild intellectual disability to create the Maastricht Social Network Analysis – Intellectual Disability (MSNA-ID). To adapt the MSNA to the MSNA-ID the questions were simplified and additional visualizations were developed. The MSNA-ID starts

by developing an ecogram—concentric circles where the person completing the MSNA-ID is in the centre, and each space between additional concentric circle represents closeness of relationships. The 1st ring represents the closest and most important people, typically family and close friends—these are anchor relationships. The second ring is people who are a little less meaningful but are still important, typically friends. The third ring represents people who mean something to the person but less than the inner two rings. The ecogram rings were developed to aide in visualization of the meaningfulness of each relationship. Finally, a five-point scale is applied to measure functional characteristics for each person's social network in terms of supportedness.

Social Network Satisfaction

Additionally, van Asselt-Goverts (2013) assessed each person's satisfaction with their social networks as a whole and with each social network group (e.g. family, acquaintances, professionals) by asking "How satisfied are you with your social network/network group?" The person would answer on a five-point-scale where 1 was "very little" and 5 was "very much". The researchers used the visualization of a staircase to show the relationship between points on this scale. For each of the four satisfaction questions, even if it was rated "5," each person was also asked an open-ended question to determine any wishes the person had about their social networks. They were asked "What would make your satisfaction with your network one step higher?" and used the staircase visualization to aid in responding.

Statement of the Problem

Previous research has examined the characteristics of social networks among persons with ID (van Asselt-Goverts et al., 2013) and has also explored the satisfaction and wishes of this population with respect to their networks (van Asselt-Goverts et al., 2015). To date, however, no

research has closely examined the relationships between network characteristics and satisfaction. There is also a lack of social network research with Canadian samples. The purpose of the present study is therefore to characterize the social networks of people supported at a community-based service agency in Manitoba, Canada. This study is an archival data review of MSNA-ID data that was collected for services purposes. Specifically, I will describe structural and functional characteristics of these networks, provide an understanding of participant's satisfaction and wishes for their social networks, and examine the relationships between satisfaction and structural/functional characteristics.

Method

Respondents

The respondents in this study were the people supported through the Community Residential Program (CRP) at St.Amant between 2020 and 2022. One thing to note about the time frame, between 2020 and 2022, the global pandemic, COVID-19, was occurring. During this period people were mandated to stay in their homes and there were very limited opportunities for social connections.

Overall, after removing some entries due to incomplete or incorrect information, there were 159 respondents that completed some portion of the MSNA-ID. Of the 159 respondents, 142 respondents completed the ecogram and MSNA-ID card portion, 159 completed the satisfaction and wishes section, and 131 respondents completed both portions. Any identifying information was removed, so there is limited information about respondents.

A typical person who receives support through the CRP is an adult, lives with an ID that requires daily support; through DSP's, and they live in a residential home; typically, with two other adults with an ID.

Additionally, demographic information about the DSPs that helped collect the data is unknown. However, they were expected to know the relevant individual well, through having supported them for some time, as well as received the Meaningful Connections training provided as part of being a DSP at St.Amant.

This study involved no active participation and no recruitment as it was an archival data review from data originally collected for service purposes. Ethical approval for accessing and analyzing the data was obtained from both the Research Ethics Board 1 at the University of Manitoba and a Research Access Committee at St.Amant prior to beginning the research.

Setting

St.Amant is a not-for-profit organization that supports people with ID's and other disabilities in Manitoba, Canada. St.Amant provides supports through many different types of programs including a facility setting (Health and Transition Services), community living (Community Residential Program), and Independent Living Models (Supported Independent Living). Collection of the MSNA-ID data likely took place at the community home in most cases, however the exact settings were not reported nor were they controlled for.

Instrument

MSNA-ID

Respondents completed an MSNA-ID either independently or with the support of a DSP. MSNA-ID's were completed between 2020 and 2022. The Maastricht Social Network Analysis for people with Intellectual Disabilities examines social network characteristics and satisfaction of people living with an intellectual disability (ID). There are three components to the MSNA-ID: An ecogram of each respondents relationships, an identification card for each relationship,

and a questionnaire about satisfaction and wishes regarding each type of relationship network (Appendix A).

The ecogram plots network members in a diagram of four concentric circles or rings. The centre represents the individual themselves. The 1st inner ring (i.e. first outside of the individual) represents the most important people—people who "mean everything" to the individual. The 2nd inner ring is for people who mean a lot to the individual, while the 3rd, outermost ring captures people who mean something to the individual.

The MSNA-ID cards were used to identify each relationship and asks the respondent structural and functional characteristics of each relationship. The structural characteristics include category of relationship (family, friend, neighbor, professional, colleague, other) and frequency of each type of contact with that person (in-person, phone, online). The frequencies that participants provided between were rated as: daily, weekly, quarterly, yearly, or unknown.

The functional characteristics of the relationship include Affection, Connection, Preference, and Resources. These characteristics were scored on a 5-point-scale, where the greatest amount of the characteristic was rated as a 5 as the lowest amount was rated as 1. The participant was shown a staircase image (Appendix A) to represent the 5-point scale.

Each participant was asked a question when determining the rank of the functional characteristic. Affection, which refers to love and safety, asked participants "how safe do you feel with this person or how much do you love this person?". Connection, which is defined as the need to belong; having shared interests, values, and backgrounds. The question that was asked was "How much do you enjoy doing the same activities? Do you like the same things?" Preference, which is meant to provide how much someone likes someone. To determine this the question asked was "How much do you like this person?". Finally, Resource is related to

material and information resources across all areas of life. “If you don’t know or cannot do something, will he/she help you?” was asked to rank resource.

The satisfaction and wishes component asked participants if there are any ways in which the relationship type can “step-up” in such a way that would bring additional satisfaction to the relationship.

Procedure

An administrative assistant from the support organization, St.Amant, compiled the MSNA-ID from every participant as well as removed all identifying information about any participants or network contacts. The data were provided in two separate excel files, one which included the ecogram combined with MSNA-ID card information (See Instrument; Appendix A) and the second excel file that was provided included all the satisfaction and wishes data. Each participant’s entry was given an arbitrary numerical code to enable linking between data sets.

Data Analysis Approach

The MSNA-ID data set from St.Amant was examined in several ways. First the data was examined descriptively by looking at the number of network members in each group and subgroup, the distribution of demographic characteristics, and mean scores for each group and subgroup for functional characteristics. A thematic analysis of the step-up data in the satisfaction and wishes section of the MSNA-ID was completed to determine any common areas of improvement in their relationships amongst people living with an ID for each subgroup of social networks.

Previous research using the MSNA-ID (van Asselt-Goverts et al., 2013 & 2015) was used a starting place for how to analyze the data in this study. However, this study extends the previous analyses by running exploratory correlations between structural and functional

characteristics and overall satisfaction, the use of varied themes in the thematic analysis, as well as using the ecogram rings in a novel way; examining structural characteristics according to ecogram ring ie. Proportion of relationships reported across the 3 rings.

The data files that were provided to be analyzed were reviewed prior to completing the data analyses. Records in either the ecogram and card or satisfaction file that lacked a participant code were discarded (7 records total). Also discarded were four records in the ecogram and card file that had a participant number but no other information. Finally, one rating in the satisfaction data was discarded that had a value other than 1, 2, 3, 4, 5, or blank. After removal of the 12 records there were 142 participants that completed the MSNA-ID card, 159 that completed the satisfaction and wishes section, and 131 that completed both.

All data analyses were completed using R or Microsoft Excel. Tables were created using Microsoft Excel.

Network Structure and Function Data

I calculated descriptive statistics to characterize the structural and functional characteristics of participant networks. This information included the network member's ecogram ring, their sex, the category of relationship, the frequency of types of contacts (in-person, phone, and online), and the weighted scores of relationship function (Affection, Connection, Preference, and Resource). Additionally, I computed several exploratory correlations amongst these variables were completed to see if there are any potential relationships. The correlations compared the ecogram data with the weighted items, categories, and in-person frequency. Finally, I examined a specific group from the ecogram data, paid supports, and correlated proportion of paid supports to the weighted items.

Satisfaction and Wishes Data

The satisfaction and wishes data provided from St.Amant included how each participant rated their relationships satisfaction on a 5-point-scale, where 1 is very little and 5 is very much. Each participant rated overall network satisfaction as well as satisfaction across three subgroups: family, friends/acquaintances, and social services. Each dimension also included a wish component that asked participants "what would make it step up?" Overall satisfaction was correlated with the remaining three subgroups: family, friends/acquaintances, and social services. The step-up data were analyzed via thematic analysis.

Thematic Analysis

Step-up responses from each of the satisfaction and wishes sections (i.e. overall network, family network, friends network, and social services network) were analyzed using thematic analysis. Thematic analysis is a qualitative research method used to identify and report patterns (themes) within data (Braun & Clarke, 2006). Given that this study aimed to identify common areas for improvement in social networks, as expressed by the participants, I applied an inductive (bottom-up) approach. That is, I let themes emerge directly from the data instead of fitting responses into a pre-existing framework.

The analysis followed the six-phase process outlined by Braun and Clarke (2006). First, I familiarized myself with the data through reading of all 636 step-up responses, noting initial patterns and ideas. Second, initial codes were generated systematically across the entire dataset. During this phase, responses were coded inclusively to maintain context, and some responses received multiple codes where appropriate. Third, codes were grouped into potential themes, with all relevant coded data gathered within identified themes. Fourth, themes were reviewed

and refined at two levels—checking coded extracts against themes and validating themes against the entire dataset.

Initially, I reviewed all the responses to develop the themes to be used in the analysis. Each theme was then given a definition and I went through and sorted each comment according to the definitions. To ensure rigor, themes were independently coded by both myself and a research assistant. Each coded theme was compared between myself and the research assistant, with an initial inter-observer agreement (IOA) of 0.81.

Following additional clarification of theme definitions and coding guidelines, but without reference to specific responses, the IOA improved to 0.88. I provided additional coaching to the research assistant to attempt to further define some of the definitions. None of the specific responses from participants were used during the coaching session. These further explanations included: comments that did not include a step up to be coded as no comment, access to Public Guardian and Trustee (PGT; decision maker/legal guardian) to be coded as access to consistent and reliable professionals, and volunteering should be coded as attending day program/gaining employment.

Finally, each remaining comment (n=48) where the research assistant and I disagreed were reviewed individually. Each comment was discussed between the two of us until a consensus was made. This process determined potential areas of improvement for social network satisfaction that are common among people living with an ID for each sub-group of social networks. An additional analysis focused on the respondents who rated satisfaction as little or very little (1 or 2), focusing on what specific themes would support this subsection of the participants to improve their satisfaction within their relationships.

Relationships between Structure/Function and Satisfaction

Of the 159 respondents that completed a portion of the MSNA-ID there were 131 people who completed both an ecogram and the satisfaction and wishes section of the MSNA-ID. In an attempt to see if there are any relationships between the ecogram and satisfaction data several exploratory correlations were completed. The correlations included network size with overall satisfaction, diversity of relationships with overall satisfaction, and number of relationships in each category with overall satisfaction.

Results

Network Structure and Functions

The MSNA-ID ecogram and card information were completed for 1558 network members across 142 respondents. The social networks reported ranged from 1 to 49 members (not including the participant; see Figure 1). The mean number of network members per respondent was 11 (SD = 7.58), with respondents most frequently reporting 10 network members.

Ecogram

Of the 1558 network members, 285 were placed in ecogram ring 3 (“people who mean something to you”), 386 were placed in ecogram ring 2 (“people who mean a lot to you”), and 380 were placed in ecogram ring 1 (“people who mean everything to you”). St.Amant also used the ecogram field to capture whether the network member was a paid support (thereby precluding other ring information), although this was not a canonical use of the MSNA-ID. 505 network members were reported as paid supports. Two network members did not have an ecogram value and were not reported as paid supports, but other information about the network member was reported.

Respondents reported from 0 to 11 network members (mean = 2.04, SD = 2.46) in ecogram ring 3, from 0 to 22 network members (mean = 2.76, SD = 2.80) in ecogram ring 2, and from 0 to 26 network members in ecogram ring 1. They reported from 0 to 18 network members as paid supports (mean = 3.56, SD = 3.70). I computed the proportion of each respondent's network that was allocated to each ecogram ring. On average, respondents allocated 16.9% (SD = 0.19) of their network members to ring 3, 26.8% (SD = 0.24) to ring 2, and 27.2% (SD = 0.24) to ring 1.

ID Card

Frequencies. As noted above, the MSNA-ID card captures information about contact frequency for a network member, in the modalities of "in person," "phone," and "online." Possible frequency values were daily, weekly, quarterly, and yearly. Many records indicated "unknown" frequency or left the field blank for one or more of these modalities. Of the 1558 recorded network members, 1308 had frequency data for "in person," 546 had frequency data for "phone," and 260 had frequency data for "online."

Since frequency data were ordinal, I computed each respondent's modal frequency for each contact modality (i.e. which frequency appeared most often among members in their network?) Table 1 shows the counts of these modal frequencies. The most common modal frequency in every modality was quarterly.

Categories. Of the 1558 network members, 523 were family, 426 were friends, 12 were neighbours, 34 were colleagues, 93 were other, and 462 were professional contacts. Respondents reported from 0 to 24 network members (mean = 3.68, SD = 3.49) for family, 0 to 15 (mean = 3.00, SD = 2.76) for friends, 0 to 2 (mean = 0.08, SD = 0.37) for neighbours, 0 to 11 (mean = 0.24, SD = 1.21) for colleagues, 0 to 8 (mean = 0.65, SD = 1.38) for other, and 0 to 17 (mean =

3.25, SD = 3.79) for professional contacts. I computed each respondent's proportion of contacts allocated to each category. On average, respondents denoted 36.3% (SD = 23.9%) of their network as family, 27.6% (SD = 22.4%) as friends, 0.6% (SD = 2.9%) as neighbours, 1.7% (SD = 7.7%) as colleagues, 5.7% (SD = 11.7%) as other, and 27.2% (SD = 25.0%) as professional contacts.

Functions. The MSNA-ID solicits information about a network member's function in terms of Affection, Connection, Preference and Resource, on a 5-point-scale. I calculated each respondent's mean rating of their network members on each function. The means (and standard deviations) of these means across 142 respondents were: Affection (M = 3.85, SD = 0.78); Connection (M = 3.18, SD = 0.81); Preference (M = 3.94, SD = 0.75); Resource (M = 3.41, SD = 0.94).

Table 2 shows respondent means (i.e. averaging across their networks) and standard deviations for each function by ecogram ring. These values show that more important network members (i.e. ecogram ring 2 or 1—people who mean a lot, or everything) received higher ratings on every function. Given that distributions were non-normal and variances were heterogenous, analysis of person-level mean weights across the three ecogram rings was conducted using Friedman's tests (N = 62 complete cases with mean scores in all 3 rings). Results showed significant differences across rings 1, 2, and 3 for all four dimensions: Affection, $\chi^2(2, N = 62) = 60.21$, $p < .001$; Connection, $\chi^2(2, N = 62) = 20.40$, $p < .001$; Preference, $\chi^2(2, N = 62) = 58.91$, $p < .001$; and Resource, $\chi^2(2, N = 62) = 39.30$, $p < .001$.

Satisfaction and Wishes

Satisfaction

There were 155 respondents that completed the satisfaction and wishes section of the MSNA-ID. On average, most people reported that they were satisfied with their current relationships. 89.6% of participants rated their total social network at least a three on the 5-point-scale. Mean participant satisfaction with their social network (in general) was 3.69 (SD = 1.02). Mean participant satisfaction with their family network was 3.62 (SD = 1.31). Mean participant satisfaction with their network of "friends, acquaintances, etc." was 3.54 (SD = 1.11). Mean participant satisfaction with their social services network was 4.09 (SD = 0.91).

Given that rating data were ordinal, I computed Spearman rank-order correlations to examine the contribution of satisfaction with family, friend, and social services networks to general satisfaction. Spearman's rank-order correlations showed that general network satisfaction was significantly and positively associated with family network satisfaction, $\rho(154) = .40$, $p < .001$; friend network satisfaction, $\rho(155) = .68$, $p < .001$; and social services satisfaction, $\rho(152) = .50$, $p < .001$.

Wishes (Step-Ups)

The themes that emerged from this thematic analysis were: acknowledgement of important things to the person, opportunities to increase social connections, finding and/or attending activities of interest, increasing a behavior that is likely to lead to increased social connection opportunities, access to consistent and reliable professionals, access to education or learning opportunities, attending day program/gaining employment, no comment/unsure, and other wishes/comments. Initially I reviewed all the entries and sorted each comment into categories. On a second review, those categories were reduced to several themes. Afterwards, the

themes that previous research (van Asselt-Goverts et al., 2013 & 2015) were examined. These themes included more frequent contact, better contact, expanded network, improved social skills, no wish, and other wishes. Finally, the theme list as presented above was developed and I reviewed the entries using these themes.

Opportunities to increase social connections (30.2%) was by far the most common theme. This was followed by no comment (27.2%) and other wishes (21.8%) respectively. Finding and/or attending activities (4.9%), increasing a behavior that is likely to lead to increased social connection opportunities (6.5%) and access to consistent and reliable professionals (6.6%) were all each around 5% of the comments. The last three themes accounted for less than 3% of all comments. These were attending day program/gaining employment (1.4%), access to education or learning opportunities (0.9%) and acknowledgement of important things to the person (.5%) respectively.

The participants who scored a one or a two on overall satisfaction were examined further. These participants were considered to be dissatisfied with their total social network. There were 14 participants who rated satisfaction of their social network in general a one or a two. Of these participants, 6 of the 14 responded with no comment. Five participants requested additional opportunities to increase social connections. An example of a step-up comment from this group included: "Meet more people in the community" and "Make more friends at the other houses and hang out more". The final three participants' comments were spread across three themes: finding or attending activities of interest, increasing a behaviour likely to lead to increased social connections opportunities, and access to consistent and reliable professionals.

Looking at each satisfaction category independently for these 14 participants, 7 of the 14 (50%) were considered dissatisfied with their family, 10 of 14 (71%) were considered

dissatisfied with their friends and acquaintances, and 2 of 14 (14%) were considered dissatisfied with their social services. Step up comments from family included: "See them more often" & "For staff to help me call my family more". For the friends and acquaintances some step ups included: "Invite friends over", "Call more often", and, "Have more people I want to spend time with". There were no step-up comments provided from respondents who were dissatisfied with their social services.

Correlations between Structure/Function and Satisfaction

I computed several correlations to examine how general network satisfaction related to structural and functional characteristics of participant networks. Spearman's ρ showed a very small, non-significant association between total network size and general network satisfaction, $\rho(131) = 0.068$, $p = 0.439$.

Each participant's ecogram mode (1 = most important, 3 = least important) was then correlated with satisfaction after excluding ties (N = 110 remaining). That association was also non-significant, $\rho(110) = 0.025$, $p = 0.790$.

Finally, I examined ρ between satisfaction and each participant's mean ratings for each functional characteristic. To control for family-wise error across all six tests (total size, ecogram mode, and the four functions), I applied a Bonferroni-adjusted α of $0.05/6 \approx 0.0083$. None of the correlations met this threshold, although Connection closely approached significance: Connection $\rho(131) = 0.230$, $p = 0.009$; Affection $\rho(131) = 0.141$, $p = 0.110$; Preference $\rho(131) = 0.163$, $p = 0.065$; and Resource $\rho(131) = .005$, $p = 0.958$.

Discussion

This study examined structural and functional characteristics of relationships of people living with an ID in Manitoba, Canada, satisfaction with their relationships, and the correlations

between structural/functional characteristics and satisfaction. Overall, the participants in this study reported a large range of network sizes (1-49). Within those relationships, anchor relationships and paid supports were rated highest within the functional characteristics (Affection, Connection, Preference, and Resource). Participants reported that they were satisfied overall within their relationships and across their relationship types (family, friends/acquaintances, professionals). Although people reported being satisfied with their networks, most participants were able to provide ways that their networks could still improve. The most common theme from asking the step-up satisfaction data was for increasing opportunities for social connections.

There were no significant correlations between structural and functional characteristics with satisfaction. This may be due to the fact that many people provided uniform responses among the functional characteristics and satisfaction. However, the mean value for the structural characteristic Connection ("Do you enjoy doing the same activities? Do you like the same things?") had a weak correlation with satisfaction of the overall network that approached significance. This finding provides potential implications for how to support the improvement of social networks of people with an ID. Potential implications may include supporting a person with an ID to attend activities of interest to them and helping them connect or reconnect with their culture or religion.

There were however strong significant correlations between overall network satisfaction and the satisfaction of family, friends/acquaintances, and social services. This is consistent with the fact that most participants were satisfied overall with their network. However, it is notable that the strongest correlation was between overall network satisfaction and satisfaction with the friends/acquaintance network ($\rho(155) = .68$).

Approximately a third of all relationships reported were with professionals. This result supports the concern that people living with an ID's network members tend to lean heavily towards professional contacts such as DSP's. Additionally, 6.6% of participants reported wanting access to consistent and reliable professionals. This may suggest that there are still some people that are lacking the essential services required to be full members of their community. Therefore they could be missing out on opportunities to improve and increase their network by lacking the supports needed to access communities of interest i.e. needing two DSP's to support one person to attend an event.

The mean network size for respondents in this study was 11 and the largest step-up comment reported wasmfor increasing social connection opportunities. This suggests that respondents in this study might be experiencing loneliness. As loneliness is known to be connected to several adverse health effects (Park et al., 2020), this study is another that supports the need to develop more strategies to support the well being of people living with an intellectual disability by combating the loneliness that is well documented in this population.

Supporting people living with an ID to develop meaningful connections continues to be an important area of research. This study has a few things to contribute to the overall literature. First, it provides additional data using the MSNA-ID to explore relationships of people living with an ID. This further helps to strengthen the MSNA-ID as a reliable tool in measuring the meaningful connections of people living with ID. Secondly, this study strengthens the previous research by van Asselt-Goverts et al. (2013 & 2015).

This study found similar mean network member sizes to those reported in van Asselt-Goverts et al. (2013), with 11 mean connections compared to 14.21 respectively. Furthermore, similar proportions of people living with an ID reported being generally satisfied with their

relationships. In van Asselt-Goverts et al. (2015) study, 25 of the 26 (96.2%) respondents rated their total network satisfaction at least a three on the 5 point scale. In the current study, 139 of the 155 (89.6%) rated their total network satisfaction at least a three on the 5-point-scale.

Additionally, both van Asselt-Goverts et al. (2015) and this study had around 30% of respondents provide no wish or no comment in the wish section, with 33.3% in van Asselt-Goverts at al. (2013) and 27.2% in this study. Finally, both van Asselt-Goverts et al. (2015) and this study did not find any strong significant correlations between satisfaction and the functional characteristics (Affection, Connection, Preference, and Resources). The functional characteristic that correlated most strongly with satisfaction in van Asselt-Goverts et al. (2015) was preference while in the current study the strongest reported correlate was connection.

Another difference between the van Asselt-Goverts et al. (2015) studies and this study including the themes of the wishes (step-ups). van Asselt-Goverts et al. (2015) reported better contact (25.0%) as the most reported theme other than no wish. In this study, increasing social connection (30.2%) was the largest theme reported. Better contact was defined as having similar interests, wanting nicer contact, or being taken more seriously (van Asselt-Goverts et al., 2015). Increasing social connection in the present study was defined as wishes to increase social connections (ie. Access to a cell phone) or increased opportunities for visiting social connections (ie. Travelling out of town).

Another difference between the van Asselt-Goverts et al. (2013 & 2015) studies and the current study is the reporting of contact frequency. van Asselt-Goverts reported the frequencies in average number of days per year per relationship type, where this study looked at modal frequencies of types of contacts (face-to-face, telephone, and internet). However, it is interesting note the difference between reported daily in-person interactions. This study reported 330

network members whose modal frequency for in-person interactions was daily. Very few relationship types were reported to be near daily (partner/children, colleagues, and neighbours) in van Asselt-Goverts et al. (2013). Furthermore, van Asselt-Goverts et al. (2013) reported in-person contact with professionals to be one of the lowest frequency of contacts. With the current study reporting such a high frequency of daily in-person contacts, it is likely that interactions with professionals are what makes up many of the daily contacts in the present data. Finally, the most common contact frequency in this study was quarterly with 619 of the 1558 (39.7%) reported contacts occurring quarterly. This seems infrequent, but may have face validity: a typical person probably sees the majority of their network members less frequently than daily.

This study identified themes for how people living with an ID would like to improve their networks overall. As 30.2% of participants in this study wished for an increase in their social connection, providing more opportunities for social connection is an important implication of these results.

Another theme that came out was an increase in access to consistent and reliable professionals. More access to DSP's could help to support people living with an ID to access to communities of interest. Finally, overall network satisfaction was nearly significantly correlated with the functional characteristic of Connection. This suggests that accessing activities and people that share common interests and values may play a role in network satisfaction.

The fourteen respondents who scored a one or two on the 5-point-scale for network satisfaction provided some additional interesting results. Very few participants were dissatisfied with their social services, suggesting that social services likely are not the reason for their dissatisfaction with their overall relationships. Additionally, the two people who were dissatisfied did not provide any comments about how social supports could step up. However,

71% of the participants that were considered dissatisfied with their friends and acquaintances and 50% were considered dissatisfied with their family. This suggests that friends and acquaintances as well as family are contributing for people reporting dissatisfaction overall with their relationships. Furthermore, focusing on improving relationships with family and with friends can contribute to people being more satisfied with their relationships. Additionally, many of the step-up comments had participants requesting more people to contact or more frequent contact, with one participant requesting "Call more often" for friends.

Overall, this study has several strengths. It builds off previous research (van Asselt-Goverts et al., 2013 & 2015) by using and expanding upon their analysis methods. Additionally, it applies the MSNA-ID to a new context from the original van Asselt-Goverts papers, in looking at a Canadian organization. This study also supports the use of the MSNA-ID as a tool for measuring social network size and satisfaction. This is supported by looking at the mean function ratings of relationships based on ring of the ecogram (Table 2). As relationships move further away from the person in the ecogram, from the 1st ring to the 3rd ring, all the mean function characteristics reduce. This supports the construct validity of the MSNA-ID. Finally, this study provides additional suggestions for how people supported in general would like to see their meaningful connections improved.

This study also has several weaknesses. The first weakness is there is a lack of information regarding respondents, and the Direct Support Professionals who supported the people to complete the MSNA-ID surveys. Secondly, this study is only a single snapshot in time between 2020-22. During this time the COVID-19 global pandemic was happening. This may have affected the way that the participants completed their MSNA-ID surveys as they may have felt more isolated than usual. Thirdly, only having one MSNA-ID completed by participants

limits this study. With an additional MSNA-ID, a comparison over time across respondents could occur which would provide additional information about changes in meaningful connections and satisfaction within those relationships over time. The final weakness in this study was the inability to know the nature of the step-up being reported. As the step-up comment was being written down by a DSP it is impossible to know if what was written was a direct quote, a paraphrase, or a summary of the respondents answers.

Future research should look at having participants from this study complete a second MSNA-ID now that people are less isolated than they were during 2020-22 from the COVID-19 global pandemic. It would also be a good comparison to see how people's meaningful connections and satisfaction of those meaningful connections have changed over time.

Another research study should explore factors regarding DSP's relationships with the people supported. Overall DSP's were rated nearly as important as family members in functional characteristics. This suggests that DSP's are likely to be able to influence quality and quantity of relationships within the lives of people living with an ID. Additionally, future studies may want to look at attempting to control more factors within how the data is collected. For one example, an independent researcher may want to collect the data directly from respondents with a more stringent data collection method instead of having DSP's support respondents to complete the MSNA-ID.

Finally, future research should explore ways to support people to make more meaningful connections as overall that was the largest theme across all the step ups provided. This may include teaching the people living with an ID the skills they need to make, maintain, and end relationships as well as teaching DSP's skills to help the people they support to grow the skills they need to develop more and better meaningful connections.

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Figure 1

Frequency Distribution of Social Network Sizes

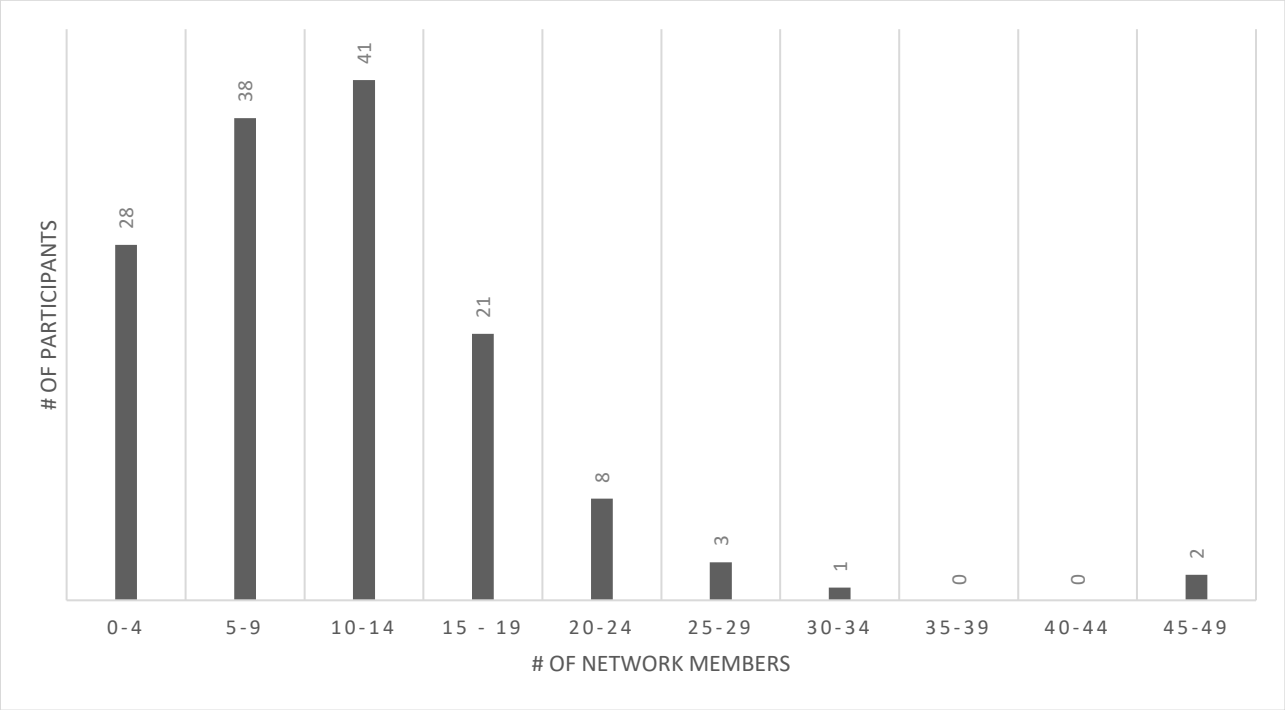

Table 1

Modal Contact Frequencies by Communication Modality

Modal Frequency	In Person	Phone	Online
Yearly	223	83	43
Quarterly	392	166	61
Weekly	363	137	53
Daily	330	38	33

Note. Values shown are counts of participants, e.g. 223 participants had "Yearly" as the modal (most common) frequency of *In Person* communication with their network members.

Table 2

Means of Mean Function Ratings by Ecogram Ring

Ecogram Ring	N	Affection	Connection	Preference	Resource
1	119	4.61 (0.75)	3.60 (1.09)	4.59 (0.80)	3.68 (1.23)
2	111	3.78 (0.81)	3.33 (0.83)	3.96 (0.81)	2.34 (1.18)
3	88	2.96 (1.01)	2.81 (0.93)	3.27 (1.01)	2.13 (1.32)

Note. N values are unequal because not all participants had network members in every ecogram ring. Values in the function columns show the Mean (and Standard Deviation) of means across network members for each participant-by-ring.

Table 3

Step-up Themes, Definitions, and Counts

Theme	Definition	Overall	Family	Friends	Social	Total	%
Opportunities to increase social connections	Items to increase social connections (ie. Cell phone) or increased opportunities for visiting social connections (ie. Out of town)	54	69	62	6	191	30.03%
No comments/blank cell/unsure	"No comment" stated in cell, blank cell, unsure or N/A	49	27	37	67	180	28.30%
Other wishes/comments	Irrelevant wish or other comment made	21	48	27	39	135	21.23%
Access to consistent and reliable professionals	Social connections would step up with access to professionals. Ie. Social connectors, doctors, social workers.	7	2	3	31	43	6.76%
Increasing a behaviour that is likely to lead to increased social connection opportunities	Person supported states a behaviour that they can do that is likely to lead to more social connections. Ie. Hosting people in their home.	11	7	18	2	38	5.97%
Finding and/or attending activities of interest	Person supported requesting to attend a specific activitiy (ie. Special O) or looking more into something that interest them	14	3	8	4	29	4.56%
Attending day program/ Gaining employment	Social connections would step up by having a consistent place to attend daily such as work or day programming	2	0	3	6	11	1.73%
Access to education or learning opportunities	Person supported requests they would like to learn more about developing social connections	1	0	1	4	6	0.94%
Acknowledgement of important things to person	Having a social connection member contact person during important dates for the person supported. Ie. Birthday, holidays, celebrations	0	3	0	0	3	0.47%

Note: Percentage values show the proportion of all comments that fit with that theme.

Appendix A

MSNA-ID

MSNA-ID Ecogram



Name: _____ **MSNA-ID Card**

Date: _____

Filled in by: _____

				Category						Frequency			Weights				
No.	Name	Ecogram Ring	Sex	Family	Friend	Neighbour	Colleague	Other	Professional	In-person	Phone	Online	Affection	Connection	Preference	Resources	Comments
		1 / 2 / 3	M / F														
		1 / 2 / 3	M / F														
		1 / 2 / 3	M / F														
		1 / 2 / 3	M / F														
		1 / 2 / 3	M / F														
		1 / 2 / 3	M / F														
		1 / 2 / 3	M / F														
		1 / 2 / 3	M / F														
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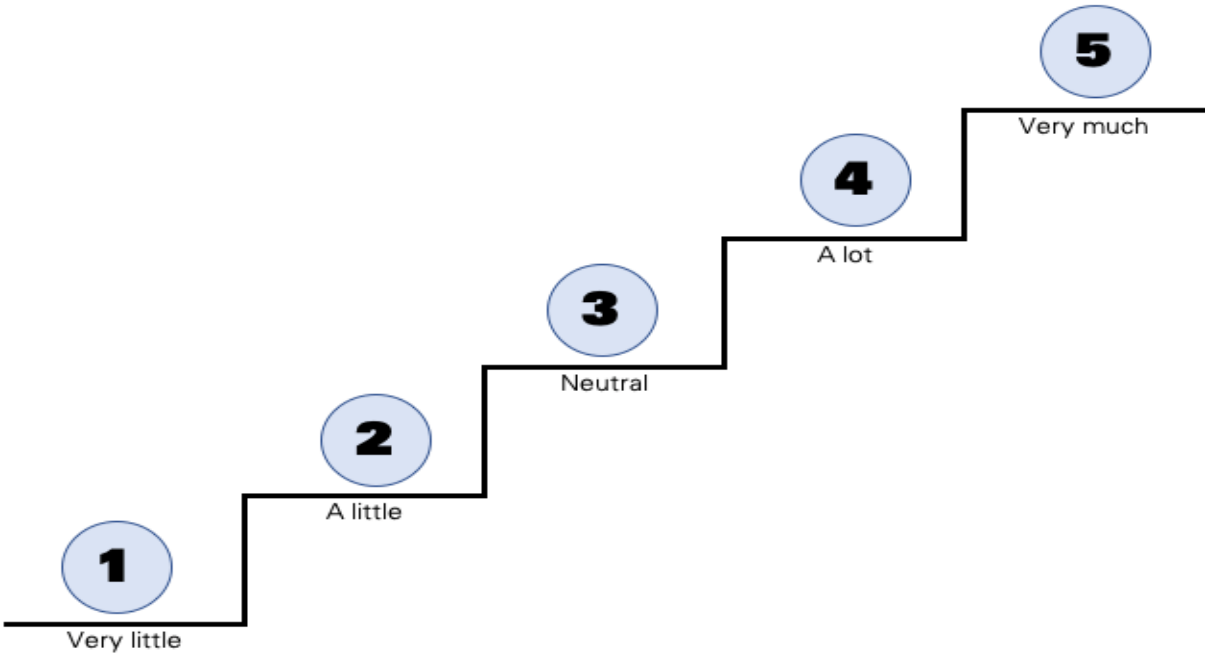
		1 / 2 / 3	M / F														
		1 / 2 / 3	M / F														
		1 / 2 / 3	M / F														
		1 / 2 / 3	M / F														
		1 = inside 2 = middle 3 = outside		✓ UK = unknown ? = estimate						Number of times per year UK = unknown ? = estimate			Use five steps scale for each				

Affection = feeling safe, loving the person
Connection = similar interests
Preference = liking the person
Resource = information and practical help



MSNA-ID Satisfaction and Wishes Questions

1. How satisfied are you with your social network in general?

1 2 3 4 5

What would make it a step up?

_____
_____
_____
_____

2. How satisfied are you with your family network?

1 2 3 4 5

What would make it a step up?

_____
_____
_____
_____

3. How satisfied are you with your network of friends and acquaintances?

1 2 3 4 5

What would make it a step up?

_____
_____
_____
_____

4. How satisfied are you with your network of social services?

1 2 3 4 5

What would make it a step up?

_____
_____
_____
_____