

Initial Validation of the Brief Assessment of Service Satisfaction in
Persons with an Intellectual Disability (BASSPID)

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Abstract

Individuals with an intellectual disability often require intensive services to promote their social participation to the fullest extent. As such, measuring satisfaction with these services appears essential to enhance the quality of life of individuals with an intellectual disability and to improve service delivery within agencies. Thus, the purpose of the study was to conduct an initial validation of the Brief Assessment of Service Satisfaction in Persons with an Intellectual Disability (BASSPID), a 15-item questionnaire designed to assess service satisfaction. To examine the structure, reliability, and validity of the BASSPID, we interviewed 98 individuals with an intellectual disability and 23 parents. Overall, the BASSPID contained one scale, which had strong content and convergent validity as well as items easily understandable for individuals with an intellectual disability. Furthermore, the questionnaire had good internal consistency and adequate test-retest reliability. However, parents generally overestimated the perceived satisfaction of their child. The study suggests that the BASSPID may be useful to assess the satisfaction of individuals with an intellectual disability, but more research is needed to examine its potential impact on improving service quality.

Keywords: assessment, intellectual disability, questionnaire, satisfaction, validation

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1. Introduction

Educational and health services provided to individuals with an intellectual disability generally aim to improve their quality of life and social participation. Quality of life is a multidimensional phenomenon involving core domains such as emotional well-being, physical health and well-being, personal development, self-determination, social inclusion, rights, and interpersonal relationships (Schalock, 2000). Researchers and clinicians assess quality of life by evaluating a wide range of personal, environmental, and contextual characteristics (Verdugo, Schalock, Keith, & Stancliffe, 2005). Given that individuals with an intellectual disability often require intensive care to promote their social participation to the fullest extent, quality of life in this population is closely related to services provided by governmental or private agencies (Townsend-White, Pham, & Vassos, 2012). As such, service satisfaction is generally an embedded theme within the broader concept of quality of life and both share common dimensions (Schalock et al., 2002). Quality of life dimensions relevant to service satisfaction include service quality, rights, relationship with others, and physical environment.

Because individuals with an intellectual disability are often dependent on service providers, measuring service satisfaction appears essential in order to improve quality of life (Lasalvia et al., 2005; Slade et al., 2004). Although a causal relationship between satisfaction and service quality has not been clearly established, researchers generally agree that service quality is the best predictor of individual satisfaction (Anderson, Fornell, & Lehmann, 1994; Duffey & Ketchand, 1998; Reidenbach & Sandifer Smallwood, 1990). Levels of satisfaction may also be related to the individual's adherence to treatment (Lamoureux, Magnan, & Vervloet, 2005). High

levels of service quality, which may in turn leads to high levels of satisfaction, may thus promote a greater individual implication in clinical treatment and ultimately increase the quality of life, empowerment, and social participation of the individual with an intellectual disability (Balcazar, Keys, Kaplan, & Suarez-Balcazar, 1998; Lasalvia et al., 2005). Encouraging individuals with an intellectual disability to articulate their needs may also produce other desirable consequences. By expressing his or her satisfaction, an individual with an intellectual disability may be more likely to be given the support or treatment that he or she needs. Furthermore, the individual may feel more supported in his or her capacity in taking decisions, which may increase satisfaction (Prosser & Bromley, 1998). Involving individuals with an intellectual disability in the assessment of services may also produce benefits for the service provider. More specifically, service providers may use satisfaction data in order to improve the quality of their services while better responding to their users' needs. Satisfaction measures may also provide objective measures of progress and improve accountability of service providers. Therefore, involving individuals with an intellectual disability in assessing service satisfaction and quality is an imperative issue.

Over the past three decades, social service providers have slowly begun to recognize individuals with an intellectual disability as being capable of evaluating the services provided to them (Morrison, 1978). However, service providers often give a passive role to individuals with an intellectual disability when evaluating the quality of services by only asking caregivers or relatives about their satisfaction (Kroese, Gillott, & Atkinson, 1998). One concern with using informant-based or indirect assessments to measure satisfaction is that parent and caregiver perceptions may not necessarily reflect the opinion of the individual with an intellectual disability. Likewise, the mission of agencies providing services to individuals with an intellectual

disability is to promote their right to self-determination. Thus, asking someone else about their satisfaction may be perceived as counterproductive by infringing on their basic rights (Lecomte & Mercier, 2007).

Another concern with previous studies is that researchers often used semi-structured interviews with open-ended questions (e.g., Gregory, Robertson, Kessissoglou, Emerson, & Hatton, 2001; Rourke, Grey, Fuller, & McClean, 2004). Using semi-structured interviews may be a valid strategy to assess satisfaction, but the process requires considerable training for the interviewers and can be time consuming for large agencies who service hundreds to thousands of individuals with an intellectual disability. Furthermore, the qualitative data collected as part of semi-structured interviews may be difficult to aggregate and interpret in an objective manner when the sample size is large. In contrast, managers, policymakers, and stakeholders need objective and aggregated data in order to rapidly identify areas needing improvement. Finally, the verbal repertoire of certain individuals with an intellectual disability may be too restricted to respond to open-ended questions. In these cases, using semi-structured interviews may limit the number of individuals who can respond to a satisfaction assessment.

A handful of studies have alleviated these concerns by assessing satisfaction using questionnaires (e.g., Barlow & Kirby, 1991; Chilvers, Gratton, & Bernard, 2013; Slevin, McConkey, Truesdale-Kennedy, Barr, & Taggart, 2007). However, each questionnaire had serious limitations that restricted its utility in assessing satisfaction in a large number of individuals with an intellectual disability. For example, Barlow and Kirby (1991) developed a comprehensive questionnaire to assess satisfaction in individuals with an intellectual disability, but administration took approximately 1 hr. Moreover, some questionnaires proposed yes-no questions (e.g., Barlow & Kirby, 1991; Chilvers et al., 2013), which have been shown to

overestimate the level of satisfaction in individuals with an intellectual disability (Sigelman, Budd, Spanhel, & Schoenrock, 1981). Other limitations of previous studies using questionnaires include the low number of participants that often precluded an analysis of psychometric properties, self-reports that restricted the use of the questionnaire to individuals who were able to read, the use of questionnaires that were not specifically designed for individuals with an intellectual disability, and the lack of validity measures showing that the participants were understanding the items on the questionnaire (e.g., Barlow & Kirby, 1991; Chilvers et al., 2013; Slevin et al., 2007).

To our knowledge, policymakers, managers, and stakeholders do not have access to a brief validated questionnaire to adequately assess satisfaction in a large number of individuals with an intellectual disability. Because assessing service satisfaction is essential to respect the rights of individuals with an intellectual disability while improving service quality, developing a satisfaction questionnaire may be important to promote their social participation (Balcazar et al., 1998). To this end, the purpose of the study was to examine the validity and reliability of the Brief Assessment of Service Satisfaction in Persons with an Intellectual Disability (BASSPID), a questionnaire designed to assess service satisfaction in this population using interviews.

Method

1.1.Participants

We used convenience sampling to recruit research participants from a government-funded agency in the province of Quebec, Canada. The agency was responsible for providing specialized services to individuals with an intellectual disability across the lifespan within a defined territory (i.e., Montreal Island). To receive services from the agency, individuals must have had previously received a diagnosis of intellectual disability or developmental disability by a licensed

psychologist or medical doctor (e.g., pediatrician, psychiatrist). Services offered by the agency included early intervention, home support for individuals and their families, residential integration, and vocational integration. As part of our study, we evaluated satisfaction with vocational integration services, which involved supported work environments developed to teach vocational skills to individuals with an intellectual disability.

To be invited to participate in the study, the individual had to (a) have a diagnosis of intellectual disability or a developmental disability associated with intellectual disability, (b) understand English, (c) be apt to consent to research, and (d) receive vocational integration services from the agency. First, case managers and staff from the agency identified work environments in which participants potentially apt to consent were receiving vocational integration services. Then, interviewers visited these work environments and met potential participants to seek informed consent. The participants with an intellectual disability provided their own consent to participate in the study. During each consent meeting, the interviewers explained the procedures, asked questions to ensure that the participants understood the study and its implications, and sought informed consent. To verify inter-rater agreement, we asked approximately one third of the participants the permission to contact one of their parents. The interviewer invited each parent to participate in the study over the phone and then met in person to complete the same questionnaire as his or her child.

In total, 98 individuals with an intellectual disability and 23 parents participated in the research study. The mean age of participants with an intellectual disability was 39 years old (range: 18-73) with more males (58%) than females (42%). Each individual had received a diagnosis of intellectual or developmental disability by an independent service provider prior to obtaining vocational integration services from the agency. Due to incomplete electronic medical

records and to some participants refusing that we access their medical files, the research team only had access to the specific level of intellectual disability (i.e., mild, moderate, severe) for 53 participants. Based on this sample, 57% of participants had a mild intellectual disability, 41% a moderate intellectual disability, and 2% a severe intellectual disability. The most common developmental disabilities were Down syndrome (17%), autism spectrum disorder (10%), cerebral palsy (5%), and encephalopathy (5%).

1.2. Questionnaire

The agency in which the study was conducted had already developed an in-house questionnaire to assess the service satisfaction of their users with an intellectual disability in 2004 and 2010. From the agency's standpoint, the purpose of the questionnaire was to identify areas of satisfaction and dissatisfaction in order to improve service delivery and quality. The questionnaire included 40 statements to which the individual had to respond on a four-point scale (i.e., very happy, happy, upset, very upset). The main limitations of the in-house questionnaire were the complexity of the scale as well as the number, relevance, and wording of items. Furthermore, the psychometric properties of the questionnaire had never been examined in the past. Given that the purpose of the study was to develop a questionnaire that could be used to assess more than one type of service in many different environments, we first removed all environment-specific items from the in-house questionnaire (i.e., 9). Then, stakeholders recommended the addition, removal, and rewording of items during focus group meetings (see section 3.1. below). Based on recommended practices from previous research on using questionnaires with individuals with an intellectual disability, we also opted for a new three-point scale with visual supports and the inclusion of two open-ended questions (Hartley & MacLean, 2006; Kroese, Gillott, & Atkinson, 1998; Levine, 1985).

The draft questionnaire administered to the participants contained 28 closed-response items and 2 open-ended questions assessing satisfaction related to service delivery (e.g., “Your service providers help you reach your goals”), interpersonal relationship with staff (e.g., “Your service providers are nice with you”), respect of rights (e.g., “Your service providers respect your decisions”), and the physical environment (e.g., “At work, it’s clean”). These dimensions were based on categories already used by local governmental agencies to report complaints regarding service satisfaction, on domains of quality of life relevant to service satisfaction, and on focus groups conducted with individuals with an intellectual disability and stakeholders (see section 1.4. below). Following the administration of the draft questionnaire to all participants, the interviewers noted that many items were redundant, irrelevant to the participants, or too abstract. We thus removed additional items (i.e., 13) and made minor changes to the wording of the remaining ones. In the end, the final version of the BASSPID contained 15 closed-response items and 2 open-ended questions; the current study reports the results and psychometric properties of the questionnaire based on the participants’ responses only to the items included in the final version.

1.3.Procedures

Each participant with an intellectual disability responded to the BASSPID, which was administered by trained interviewers. The three interviewers were college and university students who had previous work experience with individuals with an intellectual disability and received specific training to administrate the questionnaire. During the administration, each interviewer was instructed to (a) focus on vocational integration services, (b) read each statement slowly, (c) replace the generic expression “service providers” by the name of the provider (e.g., Julie) or the type of provider (e.g., caregiver, educators at work), (d) present the response choices at the end of each statement, (e) accompany each choice with a visual support (always with a happy face,

sometimes with a neutral face, and rarely/never with an unhappy face), (f) adapt the language for the interviewee and provide concrete examples for words or statements that the interviewee did not appear to understand, and (g) answer any questions that the participants had about the items. The participant could respond either orally or by pointing one of the three pictures. The interviewer recorded the participants' choices directly on the questionnaire (2 = always, 1 = sometimes, 0 = never/rarely) and also a verbatim of their responses to the two open-ended questions (i.e., what the person likes and does not like about the service provider). The range of possible satisfaction score was thus from 0 to 30.

We also administered the BASSPID a second time to approximately one third of participants (i.e., 32) to measure the test-retest reliability of the questionnaire. The second interview was scheduled on average 10 weeks after the initial administration and carried out by a different interviewer. The participants received the same instructions as for the initial administration. Finally, 23 parents independently responded to the same questionnaire to measure inter-rater agreement. The interviewer asked each parent to provide the same responses as they thought their child did. In other words, the parents provided responses based on their perceptions of their child's satisfaction (i.e., not based on their own personal satisfaction).

1.4. Analyses

First, to ensure that the BASSPID scale had content validity, two focus groups were conducted: one with staff members and another with individuals with an intellectual disability and family members. These focus groups allowed the evaluation of the adequacy and representativeness of the items and scale used to measure service satisfaction. Second, we conducted factor analyses to determine if the items were all measuring the same construct (i.e., satisfaction) or if the BASSPID items were measuring more than one dimension of service

satisfaction. Third, we computed aggregated descriptive statistics on the scale and items. Fourth, internal consistency of the 15-item scale was estimated and test-retest reliability for the scale was calculated by comparing the results of the first and second administrations for 32 participants.

Fifth, inter-rater agreement of the scale was calculated by correlating parent and child responses.

Finally, we examined convergent validity between the closed-response items and open-ended responses. This validation was essential given the limitations of using Likert-type scales with individuals with an intellectual disability (Hartley & MacLean, 2006). A research assistant (i.e., one of the interviewers) scored whether each open-ended response was related or unrelated to one or more of the closed-response items. When an open-ended response was related to one or more closed-response items, the research assistant had to note whether the open-ended response was consistent or inconsistent with the responses provided in the closed-response items. A research assistant who did not participate in the interviews independently scored 25% of questionnaires to examine the inter-rater agreement for the convergent validity analysis. An agreement was recorded when both research assistants rated an open-ended response in the same category (i.e., unrelated, consistent, or inconsistent); otherwise, a disagreement was recorded. To calculate agreement, we divided the number of agreements by the total number of agreements and disagreements and multiplied the result by 100%. The two assistants demonstrated agreement on 92% of their ratings of the open-ended responses.

2. Results

2.1. Content validity

Both focus groups voiced their approval for the new scale and recommended that we simplify the wording of specific items in the draft version. The focus groups emphasized the importance of including items that assessed four of the dimensions already used by the agency to address complaints regarding service satisfaction (i.e., service delivery, interpersonal

relationships, respect of rights, physical environment). The dimensions were also consistent with the domains of quality of life relevant to service satisfaction (Schalock et al., 2002; Townsend-White et al., 2012). The addition and removal of items in the questionnaire were also proposed by members of each focus group. We reached a consensus with both groups regarding the inclusion and exclusion of items in the questionnaire before beginning the administration. The focus groups also agreed with reducing the length of the questionnaire in order to test individuals who may be highly inattentive and only able to focus on responding to questions for short periods of time.

2.2. Factor analysis

Kaiser's measure of sampling adequacy was .71, supporting the use of factor analysis with the current sample. We used principal component analysis to identify potential factors in the questionnaire. The one-factor solution explained 28% of the variance and loadings remained above .36 for all items. In comparison, the two-factor solution explained 38% of the variance, but some item loadings were as low as .21. If the minimal loading value accepted for any given factor was .30, Factor 1 would have contained six items, Factor 2 five items, one item would have been included in both factors, and two items would have fallen in neither factor. From a conceptual standpoint, the distribution of items across the two factors appeared generally random; that is, the two item groupings were hard to interpret as two distinct coherent dimensions. As such, the division of the items in two factors may have been an artifact of the small sample size (Costello & Osborne, 2005).

Even though the three-factor solution explained 48% of the variance, it suffered similar drawbacks. Namely, the solution showed a number of complex items with strong loadings on two or more factors (i.e., 5 items using .30 cutoff) and the factors produced by the analysis were

also hard to interpret as coherent dimensions. In addition, the ratio of the first to the second eigenvalues was 2.8, which is close to the value of 3 recommended for concluding that a single factor can explain the correlations among all the items. Our analyses thus indicated that the one-factor solution was the best fit for our questionnaire in the current sample. Table 1 presents the loading of each item for the one-factor solution.

2.3. Descriptive statistics

The overall satisfaction scale ($M = 24.7$, $SD = 4.4$) provided good interindividual variance in our sample ($s^2 = 19.7$, range: 9-30). Individual item scores varied considerably with means across participants ranging from 1.33 for the item with lowest level of satisfaction to 1.82 for the item with highest level of satisfaction. In our sample, participants were most satisfied with agreeableness of staff members and with the services provided, but least satisfied with the limited opportunities to express their opinions and to make choices.

2.4. Reliability

The 15-item scale showed good internal consistency with a Cronbach's alpha value of .81 and a split-half coefficient of .76. Test-retest reliability was also adequate ($r = .76$, $p > .001$), suggesting that the individuals with an intellectual disability provided generally consistent responses despite the assessments being administered 10 weeks apart by two different interviewers. Unexpectedly, the parent responses were uncorrelated with child responses ($r = -.27$, $p = .243$), indicating poor inter-rater agreement. An analysis of the means for this sample indicated that parents overestimated the level of satisfaction of their child by an average of 4 points, which represented nearly one standard deviation.

2.5. Convergent validity

We identified a total of 90 responses to the open-ended questions that were also related to the closed-response items. Overall, 93% of these open-ended responses were consistent with the participants' responses to the closed-response items. These results suggest that the individuals with an intellectual disability generally understood the closed-response item statements and support the use of the satisfaction questionnaire with this population.

3. Discussion

Together, the results of the study suggest that the 15-item scale has adequate reliability and validity to measure service satisfaction. In addition to having adequate psychometric properties, the one-factor solution was most consistent with the purpose of conducting a satisfaction assessment from an organizational standpoint. That is, agencies may be more interested in comparing responding across individual items rather than aggregating data into subscales, which could potentially limit the scope of their assessment. Given the low number of items in the questionnaire, comparing the means of individual items to identify areas of satisfaction and dissatisfaction is nearly as efficient as and undoubtedly more informative than analyzing subscales. Moreover, the responses to the open-ended questions were generally consistent with the responses to the closed-response items, which provides further support for the validity of the BASSPID.

Administering 15 closed-response items and 2 open-ended questions generally took less 20 min per participant. Therefore, our analyses suggest that the BASSPID is a psychometrically sound questionnaire to assess satisfaction in a large number of individuals with an intellectual disability. Interestingly, the data also indicate that parents of individuals with an intellectual disability do not provide accurate estimates of their child's satisfaction. Thus, agencies providing

services to adults with an intellectual disability should assess the satisfaction of their users whenever possible and should only use parents as substitutes when no other alternatives are available (e.g., the individual is unable to communicate). Further studies are needed to better understand this disagreement between the perception of parents and their child.

The BASSPID may be used by agencies providing services to individuals with an intellectual disability in order to improve service quality and ensure that the rights of these individuals are being respected. In the current study, the results indicated that individuals receiving vocational integration services from a government-funded agency were least satisfied with opportunities to express their choices and opinions. The agency may use the results of the study to conduct a skills assessment of their staff members and provide additional training on the rights of individuals with an intellectual disability if needed. If other studies can replicate our results, the BASSPID may prove useful to compare the satisfaction of individuals with an intellectual disability across services, environments or agencies in order to identify policies and practices that either increase or decrease levels of satisfaction. Another potential utility of the BASSPID is measuring the progress of an agency in meeting the expectations of their users with an intellectual disability over time by administering the questionnaire to the same group on a regular basis (e.g., yearly). To our knowledge, the BASSPID is the first brief questionnaire validated to assess service satisfaction in individuals with an intellectual disability; as such, our study also extends the research literature on assessing satisfaction in this population.

The results of the study are limited insofar as we only invited individuals apt to consent to participate in the research study. Given that individuals apt to consent typically fell within the mild to moderate range of intellectual disability, the results may not apply to individuals with more significant cognitive or communicative impairments. Notwithstanding this limitation, the

BASSPID appears to be an adequate questionnaire to assess satisfaction in a large proportion of individuals in this population. Second, the low number of participants may have compromised the validity of the factor analysis, which often requires hundreds to thousands of participants (Costello & Osborne, 2005). Nonetheless, factor loading was satisfactory for each item in the one-factor solution and the 15-item overall scale had good internal consistency. Finally, we reworded some of the remaining items following administration, but we did not test the BASSPID with the newly worded items. That said, the clarifications of wording are likely to facilitate understanding, which should in turn improve the reliability and validity measures.

Future research should validate the BASSPID with a larger sample and with a different type of service (e.g., residential services). If the number of participants is sufficient, researchers may run a factor analysis to examine whether new factors would emerge from their analysis. Researchers may also use the questionnaire to identify service characteristics associated with satisfaction and dissatisfaction, which could prove useful in the development of policies and practices designed to improve service delivery. The impact of assessing service satisfaction on quality within agencies may also be important from a clinical standpoint. Studies comparing satisfaction across services, environments, and agencies may potentially shed light on variables most likely to predict service satisfaction and quality for individuals with an intellectual disability. Finally, researchers should consider examining how the BASSPID could be adapted for individuals with more limited communication repertoires given that our preliminary results suggest that using parental perceptions may be an inaccurate alternative.

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Table 1

Loading of Each Item for One-Factor Solution

Item	Loading
7. ...respect your decisions.	.75
1. ...nice with you.	.67
3. ...happy with the services...	.67
5. ...you can talk to...	.61
13. ...it's clean.	.59
4. ...help you with your problems.	.55
12. ...it's safe.	.55
11. ...answer your questions.	.52
14. ...furniture and equipment meet your needs.	.49
2. ...help you feel good.	.49
9. ...help you reach your goals.	.42
15. ...agree with the daily schedule.	.41
8. ...let you make choices	.39
10. ...use words that you understand.	.37
6. ...ask for your opinion...	.36

Note. The final version of the questionnaire with the fully worded items is available free of charge from the first author for clinical, educational, and research purposes.