

What do stakeholders understand by self-determination? Consensus for its evaluation

Running head: Understanding self-determination

Abstract

Advances in international studies on self-determination point out the need for continuous efforts to deepen its understanding and implications. The aim of this study is to obtain a comprehensive pool of items to operationalize the self-determination construct that serves as a starting point towards a valid measurement instrument based on the report of others. We conducted a Delphi study of three rounds involving three panels of experts: ten professionals, five people with intellectual disability and six relatives of people with intellectual disability. Data analysis required both qualitative and quantitative methods. Through the different rounds, the initial pool of 131 items was refined to a final set composed of 115—some were removed and new ones were added—. Content-based evidences are provided. In this study, we generated a potential valid pool of items to develop a new measurement tool based on the last advances on the self-determination theoretical framework. Implications for future research focused on strengthen the knowledge of self-determination are discussed.

Keywords: content validity, experts, Delphi study, assessment, consensus, self-determination

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Introduction

The last few years have been marked by many changes and shifts towards improving the functioning, self-determination and quality of life of people with intellectual disability. These changes have clearly been influenced by the new paradigm of supports (Schalock et al., 2010; Thompson et al., 2009) and quality of life (Schalock & Verdugo, 2013), considered as key elements in how social services, education and health care departments plan supports for people with disability. Similarly, the increased emphasis on self-determination and the self-advocacy movements constitute fundamental pillars of the demands of people with disability, who want to be the decision-makers and primary causal agents of their own lives (Wehmeyer, 2004, 2011; Wehmeyer & Abery, 2013).

There has been considerable progress in international studies on self-determination, ranging from the proposal of theoretical models (Shogren, Wehmeyer, Palmer, Forber-Pratt, Little, & López, 2015; Wehmeyer, Abery, Mithaug, & Stancliffe, 2003; Wehmeyer, 1999) or the analysis of relevant predictive variables (Nota, Ferrari, Soresi, & Wehmeyer, 2007; Shogren, Wehmeyer, Palmer, & Paek, 2013; Vicente et al., 2017; Wehmeyer & Garner, 2003), to the development of assessment and intervention tools designed to enhance and promote the development and expression of self-determination (Abery, Elkin, Smith, Springborg, & Stancliffe, 2000; Mithaug, Wehmeyer, Agran, Martin, & Palmer, 1998; Shogren, Wehmeyer, Little, et al., 2015; Verdugo, Vicente, Fernández, Gómez-Vela, & Guillén, 2015; Wehmeyer & Kelchner, 1995). Actually, since almost two decades ago when Wehmeyer (1999) first proposed the functional model of self-determination, much research has been conducted and advances have been made in improving the understanding of a complex construct, which to this day continues to be refined and reshaped (Shogren, Wehmeyer, Palmer, Forber-Pratt, et al., 2015).

All definitions emanating from this original model agree that the single most important factor is that the person acts as the causal agent in their own life. One of the first definitions understood self-determination as “acting as the primary causal agent in one’s life and making choices and decisions regarding one’s quality of life free from undue external influence or interference” (Wehmeyer, 1996, p. 24). The essence remains the same in the reconceptualization of the traditional model: self-determination is a “dispositional characteristic manifested as acting as the causal agent in one’s life” (Shogren, Wehmeyer, Palmer et al., 2015, p. 258).

According to the functional model (Wehmeyer, 1999, 2005), self-determination was identified through four essential characteristics: autonomy, self-regulation, psychological empowerment, and self-realization. These characteristics were reflected in behavior through the development and acquisition of a broader set of essential components (including planning, self-assessment, locus of control, among others).

Revisions of and advances in the theoretical framework have been accompanied in different countries by assessment instruments based on the proposed models (Soresi & Nota, 2007; Verdugo, Vicente, Fernández et al., 2015; Wehmeyer & Kelchner, 1995). Thus, aligned to the functional model of self-determination, several questionnaires have been developed, such as The Arc’s Self-Determination Scale (Wehmeyer & Kelchner, 1995), one of the pioneers and the most relevant internationally. More specifically, in Spain, researchers have used this instrument as a point of reference to develop: (a) the scale of Personal Self-Determination (Wehmeyer, Peralta, Zulueta, González-Torres, & Sobrino, 2006), whose Spanish translation is an accurate expression of the original version; and (b) the ARC-INICO Scale (Verdugo, Vicente, Fernández et al., 2015; Verdugo, Vicente, Gómez-Vela et al., 2015), which aligns in structure with the functional model, but differs in format and content. Similar tools have been also developed in Italy, such as a self-determination assessment

questionnaire contained within a larger battery of items encompassing other constructs: ASTRID (Soresi & Nota, 2007).

Nowadays, there is debate around how to delimit and empirically validate the dimensions and components that operationalize the construct and allow for its assessment. Shogren, Wehmeyer, Palmer et al. (2015) have recently adjusted the initial dimensions and have proposed the Causal Agency Theory as a reconceptualization of the functional model. They suggest three new essential characteristics of self-determined actions: (a) volitional (i.e. autonomous and self-initiated actions); (b) agentic (i.e. self-regulation, self-direction and pathways thinking); and (c) action-control beliefs (i.e. psychological empowerment, self-realization, control expectancy, agency beliefs, and causality beliefs). These characteristics do not completely eliminate the earlier four-dimension concept. The new model includes these dimensions and clarifies other relevant aspects (Table 1).

<< Insert Table 1 about here >>

As a response to advances in the original functional model and its current reconceptualization, in recent years there have been several initiatives to develop new instruments for assessment. In this sense, the first instrument to assess the three new essential characteristics was the *Self-Determination Inventory: Student Report* (SDI:SR; Shogren, Wehmeyer, Little et al., 2015), which is being adapted and validated for its application in Spain by Mumbardó-Adam, Guàrdia-Olmos, Giné, Shogren, & Vicente (in press). As with most of the instruments developed previously, this tool is a self-report addressed to young people (with or without intellectual disability).

However, there is still a need to increase and broaden our knowledge about the new self-determination model, not empirically validated yet. The construct operationalization and

the development of new tools become crucial since a number of challenges remain, such as how to apply the model in adult populations, or how the model fares when third parties provide information, as opposed to self-reports. Research suggests that self-determination may have a significant and positive impact on postschool outcomes (Shogren and Shaw, 2016; Wehmeyer, Palmer, Shogren, Williams- Diehm, & Soukup, 2013) and play an important role in achieving adult outcomes, such as integrated employment or access to benefits (Martorell, Gutierrez-Recacha, Pereda, & Ayuso-Mateos, 2008; Shogren, Wehmeher, Palmer, Rifenbark, & Little, 2015). The transition from adolescence to young adulthood is a critical life stage for all individuals (Neece, Kraemer, & Blacher, 2009), and for people with intellectual disability, this transition is a time of heightened opportunities but also of new risks (Blacher, 2001), that could be especially stressful and difficult for them and their families (Gallivan-Fenlon, 1994; Thorin & Irvin, 1992). However, most scales which assess self-determination in this population (Hoffman, Field, & Sawilowski, 2004; Shogren, Wehmeyer, Little et al., 2015; Verdugo, Vicente, Fernández et al., 2015; Wehmeyer & Kelchner, 1995) are focus on adolescence (from 11 to 20) and school (student assessment), and there are not instruments specifically developed for a wider age spectrum (young and young adults) through the perspective of a third person. After an individual with intellectual disability exits the school system (which occurs before 22), opportunities for enhancing self-determination and tools for its assessment are still needed.

For this reason, the aim of this study is to operationalize the reconceptualized construct of self-determination (Shogren, Wehmeyer, Palmer et al., 2015), with a view to reaching a consensus on a pool of items to assess self-determination in young and young adults with intellectual disability through the perspective of a third person (i.e., report of others). So this study is focus on this critical period for self-determination, since adolescence to early adulthood, that involves a transition process (educational, employment or lifestyle),

but before premature aging signs, typically associated to intellectual disability in 40s and 50s (Stax, Luciano, Dunn, & Quevedo, 2010), start to appear. The consensus provided by stakeholders (academics, professionals, people with intellectual disability, and their relatives) will contribute to expanding our knowledge of the construct of self-determination and its current frame of reference thanks a Delphi study that allowed identifying observable indicators (i.e. items) for each dimension of the model.

Method

Participants

The study comprised 21 participants divided into three panels of experts: professionals ($n= 10$), people with intellectual disability ($n= 5$) and relatives of people with intellectual disability ($n= 6$). The experts were selected by an incidental sampling procedure. We contacted eight entities and organizations of Spain to request the participation of professionals, family members and people with intellectual disabilities. These organizations had very different characteristics (e.g., schools, occupational centers, special centers of employment, Down associations and associations of fragile X, universities, among others) as we wanted to find a wide variety of perspectives. Once the contact was established, we requested the voluntary participation of people who met the required criteria for each panel. Participating in the family panel had the unique condition of being parent of a child with ID. It was decided to use fathers or mothers as experts because self-determination emerges at early ages, when children and adolescents start to learn skills and develop attitudes and beliefs that enable them to be causal agents in their lives (Wehmeyer, 2014). Parents have a global vision and a wide range of experiences with their son or daughter, being able to provide a complete perception of the disability and self-determination across lifespan. For being part of the professional panel, professionals from these organizations had to meet the following requirements: (a) at least two years of experience in intellectual disability; (b)

being currently working in the field; and (c) have a deep knowledge about the new support paradigm and concepts such as quality of life and self-determination. For the panel composed of people with intellectual disabilities, as it was going to be face to face, we just require the collaboration of a local entity. We asked the Huesca Down Syndrome Association (one of previous contacted entities) to request voluntary participation of users with intellectual disabilities who were young adults over 18 years old.

The panel of professionals, composed of 10 people, was mostly women (eight women and two men), who were either working directly with people with intellectual disability or researching in the field. Their age ranged from 26 to 56 years ($M= 38.8$; $SD= 11.9$). All had completed university studies: a bachelor's degree or higher (the 60% had a master's degree; and 10% of them also had a PhD). Professionals had studies in Psychology ($n= 3$), Occupational Therapy ($n= 1$), Pedagogy or Psychopedagogy ($n= 3$) and Special Education ($n= 3$); and those who had a master's or doctorate were focus on disabilities and special needs.. With regards to their current professional experience, 50% worked directly with people with disability, 20% were specialized in research, and 30% had a dual role of both research and direct care. The average number of years of professional experience was 13.4 (ranging from 3 to 30 years' experience). Those working directly with people with disabilities (exclusively or combined with research) had a very different profile. Some professionals worked in specific entities of syndromes associated to intellectual disabilities (Down's syndrome, $n= 2$; or fragile X, $n= 1$); other professionals worked in institutions that take care of people with different types of intellectual disabilities, including significant disabilities ($n= 4$), and others worked in a school ($n= 1$). Besides, five of these professionals worked in care to adults and three worked with children and adolescents. Taking into account the variability of professional profiles of the participants, we asked them about their knowledge in the disability field (paradigm of supports, self-determination and quality of

life). Therefore, professionals had to rate how they perceived their own competence on a scale of zero to ten (considering zero as having no knowledge and ten full knowledge). The average result for the panel was medium-high and perceptions were very similar to each other ($M=8$; $SD=0.6$, ranging scores from 7 to 9).

The panel of people with intellectual disability was made up of one woman and four men (aged between 21 and 30; $M= 26.8$; $SD= 3.8$). All the participants were members of the Huesca Down Syndrome Association that were interested in the study and voluntarily agreed to participate. Three of them had Down syndrome and two had intellectual disability with no information about the etiology. According to the reports of the association, all of them showed between mild ($n= 3$) and moderate ($n= 2$) intellectual disability, had a job and were living with other people with intellectual disability in supervised flats during the week and in the family home at weekends.

Finally, the panel of relatives comprised four fathers and two mothers of people with intellectual disability. Their age ranged from 51 to 72 years ($M= 60$; $SD= 9.2$) and all had children over 18 ($M= 27.7$).

The study complied with the principles of the Declaration of Helsinki. Authorization to conduct this research was obtained from the Community of Aragon Research Ethics Committee.

Instrument: pool of items

The research team implemented two initial steps in order to produce the pool of items to be deliberated and debated among the stakeholders. The first step was to conduct a review of the scientific literature relating, firstly, to the construct of self-determination and, secondly, to existing assessment tools used internationally.

In order to explore the self-determination construct and the current theoretical models, we conducted a search in several databases (i.e. Web of Science, Scopus, PsycINFO, ERIC, and Medline), combining the descriptors ‘disability’, ‘intellectual disability’, ‘self-determination’, ‘model’, ‘theory’, and ‘causal agent’. The inclusion criteria to select the articles were: (a) peer-reviewed articles; (b) written in English or Spanish. All those articles that did not include any information about a model of self-determination were excluded. As result of this review, the theoretical model proposed by Shogren et al. (2015) was selected as our starting point to frame the next searching.

Once the theoretical framework was established, a new search was conducted in order to find the existent self-determination assessment tools with the goal of selecting items and indicators to develop a pool of observable items that may be used as starting point for the Delphi study.

The search was made in the same databases before mentioned, combining the next descriptors (‘disability’, ‘intellectual disability’, ‘self-determination’, ‘assessment’, ‘evaluation’, or ‘tool’; and their corresponding terms in Spanish). Six assessment tools were retrieved from this search: The ARC’s Self-Determination Scale (Wehmeyer & Kelchner, 1995); the AIR Self-Determination Scale (AIR Scale) (Wolman, Campeau, Dubois, Mithaug, & Stolarski, 1994); the Self-Determination Teacher Perception Scale (TPS) and the Self-Determination Student Scale (SDSS) (Hoffman et al., 2004); and the Self-Determination Inventory (SDI): Student Report (Shogren, Wehmeyer, Little et al., 2015); and the ARC-INICO Scale (Verdugo, Vicente, Gómez-Vela, et al., 2015).

From these scales and the review of the selected theoretical model, we then expanded on the three essential dimensions of the construct (i.e. volitional characteristic, agentic characteristic, and action-control beliefs), obtaining 142 items as observable indicators of the three dimensions. All items were translated into Spanish and formulated in third person. Most

of them were selected from the most recent instruments (ARC-INICO Scale=61; SDI=43), others from the rest of reviewed scales (TPS=16; SDSS=10; AIR Scale=13), but some required being adapted to be completed by an external observer and applied to young and young adult.

This initial pool of items was discussed by a group of three research team members, who prior to meeting had independently evaluated the 142 items, stating whether they would: (a) retain the item as was; (b) retain the item but reword the statement or move the item to one of the other dimensions; or (c) exclude the item. In addition, they could suggest new items as appropriate. Following this first evaluation, changes and exclusions were applied to items where there had been unanimous agreement among the researchers: 16 items were maintained with non-changes; 50 were retained but reword the statement or moved to other component; and 13 were rejected. For items where opinions differed ($n= 63$) and the new items proposed ($n= 24$), two further meetings were held in order to achieve consensus. The result was a pool of 131 items, initially assigned to one of the three dimensions of self-determination (i.e. 41 items assigned to the volitional actions dimension, 37 to the agentic actions dimension, and 53 to the action-control beliefs dimension). All were drafted in third-person to allow responses from the perspective of an external observer. Both full original lists of items are available from the first author if required.

Procedure

The three groups of participants (professionals, people with intellectual disability, and their relatives) were recruited for the Delphi study. The Delphi technique seeks to reach a consensus in the opinions of experts, who participate anonymously in a series of structured rounds (Hasson, Keeney, & McKenna, 2000). When accurately and rigorously applied, the technique can significantly expand knowledge in a particular subject area (Hasson et al.,

2000). It has been widely used across various disciplines and for different purposes, including the development of assessment tools (Fernández, Verdugo, Gómez, Aguayo, & Arias, 2017; Gómez, Arias, Verdugo, Tassé, & Brown, 2015; Mengual-Andrés, Roig-Vila, & Mira, 2016).

The aim of our Delphi study was to use the consensus reached between stakeholders to establish a comprehensive set of observable items relating to self-determination. In brief, participants were tasked with assessing the initial pool of 131 items proposed by the research team. There was also an opportunity to propose new items. The experts on each panel were involved in successive rounds.

The rounds themselves were adapted to the characteristics of each panel, and therefore were not identical but complementary. Also, the way to conduct the rounds were different depending on the group in order to accommodate the individual characteristics and specific needs of each panel, and thus facilitate their task. On the one hand, the rounds for professionals and relatives were conducted in an online environment (Moodle: Modular Object-Oriented Dynamic Learning Environment), an open-source software platform that allows users to create courses or workspaces for sharing documents, creating discussion forums, and setting tasks and activities. Both panels had their own separate virtual space organized into different modules, which set out the purpose of the study and each round of the study, provided instructions and how-to tutorials, and hosted forums for informal contact, questions and problems. To ensure required levels of anonymity, participants were given an unidentifiable pseudonym. On the other hand, participants with intellectual disability took part in face-to-face rounds over several sessions (two sessions for the first round and one session for the second). The rounds used the same materials as in the other panels, but with the added feature of a group interview format to ensure members of this panel understood the proposed items and to provide them with immediate support as needed.

In this way, we achieved a high response rate and all participants who voluntarily joined each of the panels completed their respective rounds. A description of the rounds and the associated tasks for each of the three panels is provided next (Figure 1).

First round. The first round involved the evaluation of the initial pool of 131 items drafted by the research team. Using a four-point Likert scale (see Table 2), both the panel of people with intellectual disability and the panel of relatives were asked to evaluate the importance of the proposed items (i.e. how relevant each item was in assessing the respective dimension of self-determination). The panel of people with intellectual disability needed two face-to-face sessions to finish the first round, providing support (i.e., providing examples or reformulations) to guarantee that each item was understood. In addition, given their training and experience of the construct of self-determination, the panel of professionals was assigned an additional task: using the same response system, they were asked to evaluate not only the importance of the items, but also their suitability (i.e. if the item belonged to the dimension to which it had originally been allocated) and observability (i.e. the degree to which the content of the item can be informed by an external observer).

<< Insert Table 2 about here >>

Second round. Using discussion forums, the aim of the second round for each of the panels was to analyze and discuss the results obtained in their previous round. More specifically, the second-round for panels of relatives and people with intellectual disability were carried out firstly. Both panels, separately, discussed the results from the previous round to identify the most important areas that were not well represented by the selected items and where new items were needed. The discussion forum of the relatives panel was anonymous in an online environment, but the panel of people with intellectual disability was carried out in

one face-to-face session. The findings by both panels provided an additional source of information for the panel of professionals, who were asked to propose up to six new items per domain. Moreover, they argued and reassessed any items regarded as non-valid in the previous round.

Third round. Only the panel of professionals was involved in the third round. Using the same criteria as in the first round, the third one entailed an assessment of the newly proposed items, as well as a reevaluation of the items that had been rejected in the first round, but reinstated following the discussions in the second round.

<< Insert Figure 1 about here >>

Data analysis

Based on the ratings (attributed to importance, suitability, and observability), we used descriptive statistics (M , SD) to determine the minimum criteria for the retention or removal of an item. The inter-rater agreement of the selected items was subsequently calculated using the weighted agreement statistic (B_N^W) (Bangdiwala, 1987). The statistic ranges between 0 and 1: a score close to 1 indicates perfect agreement among judges (i.e. raters would have attributed the same score to the items), while a score close to 0 shows no agreement. Any score in between them suggests partial agreement, with the degree of agreement increasing as a score moves closer to 1.

Results

Round 1

In the first round, the panel of professionals evaluated the pool of 131 items based on the criteria of importance, suitability and observability (the panel of relatives and of people with disability evaluated the first criterion only). Given that the scoring options ranged from

1 to 4, the criteria used to select the items with the best scores were similar to those used in similar studies (Fernández et al., 2017; Gómez et al., 2014, 2015): (a) mean greater than or equal to 2.9; and (b) standard deviation less than or equal to 1.1.

Table 3 shows the mean, median and standard deviation of the scores across the three criteria (i.e. importance, suitability and observability) of the 131 items, as well as the number and percentage of items considered as non-valid in each panel. As can be seen, for the importance criterion, the panel of relatives identified the highest number of items as non-valid. They considered over 20% of the items to be of little importance (and therefore, not valid). In contrast, the panels of professionals and people with intellectual disability accepted as valid over 95% of the items proposed for the importance criterion. The panel of professionals regarded most of the items as important and suitable (i.e. both the importance and suitability criteria returned high mean scores). The observability criterion, on the other hand, obtained the lowest scores, and therefore had the most non-valid items.

<< Insert Table 3 about here >>

We cross-referenced the results from the three panels and marked as valid items any items which had cross-panel agreement. In the first round, 76 items from the initial pool were valid (Table 4). They were fairly evenly distributed across the dimensions, with approximately 33% of the items assigned to each dimension.

<< Insert Table 4 about here >>

Round 2

The second round focused on reviewing the results obtained in the first round. The experts on the panel of relatives and the panel of people with intellectual disability were

tasked with discussing and reflecting (separately) on the results from their previous round, with the aim of reaching a consensus on the most and least important aspects (e.g. items, dimensions). They also had to identify if any elements to assess self-determination were missing. A report with a brief summary of the results of their previous rounds was provided (with oral format for panel of people with intellectual disability and written format for relatives). Members of each panel contribute in their respective forum discussion answering questions such as ‘in your opinion, what elements are the most or least important to assess self-determination?’ or ‘what elements have you missed and do you think they should be contemplated?’

The research team collected and analyzed the comments in both panels (Table 5), consolidating repetitions and grouping them by dimension. These findings were incorporated into the instructions provided to the panel of professionals, who would take them into account in their second-round discussions.

<< Insert Table 5 about here >>

Two tasks were requested of the panel of professionals. First, they were asked to review in an anonymous discussion forum the items considered as non-valid in their first round ($n= 37$). They provided arguments to justify whether items should be removed or if they could be adjusted to make them more relevant, trying to convince their colleagues to reach a consensus on each of the items under review. Following their analysis and review of the contributions from the experts in the forum, the research team reinstated eight items only: (a) for five items, the wording was changed to clarify content and enhance observability; (b) one item was split to create two separate items; and (c) two items were reinstated with no changes. The eight items remained in the dimensions to which they had originally been

assigned. In summary, nine items were reinstated and 29 items were definitively excluded (22.1% of the initial pool), either because there was no consensus among the experts on how to improve them or because the majority agreed on their limited importance or observability.

Next, in this round the experts on this panel were encouraged to propose a maximum of six new items by dimension. As a result, a total of 58 new items were put forward. Table 6 shows the number of new and reinstated items by dimension.

<< Insert Table 6 about here >>

Round 3

The aim of third round, involving the panel of professionals only, was to evaluate the 67 items resulting from the previous round (i.e. the 58 newly proposed items and the 9 items reinstated as valid). The experts were asked to evaluate these items using the same three criteria as in round 1 (i.e. importance, suitability and observability) and the same four-point Likert scale. To be considered as valid, the items had to meet the same criteria as in the first round ($M \geq 2.9$ and $SD \leq 1.1$). Table 7 presents the mean, median and standard deviation, as well as the number and percentage of items considered as non-valid across the three criteria (i.e. importance, suitability and observability). The results show that 39 items (58.2% of the total set of items) were valid according to these criteria, compared to 28 non-valid items (41.8%) which were subsequently excluded.

<< Insert Table 7 about here >>

The results from the three rounds produced a final pool of 115 items: 76 items validated in the first round, and 39 items in the following two rounds. By dimension, the

volitional characteristic had a slightly higher number of items (almost 40% of the total), compared to 30% in the other two dimensions: the agentic characteristic and action-control beliefs (Table 8). See Appendix A for the final pool of items (with denotations as to which items were original compared to reformulated or later added items).

<< Insert Table 8 about here >>

Inter-rater agreement among the final pool of items

Lastly, we analyzed the degree of agreement among professionals for the three criteria representing the items: importance, suitability, and observability. To do this, we calculated Bangdiwala's weighted agreement statistic for ordinal data, ranging from 0 'no agreement' to 1 'perfect agreement'. Bangdiwala's agreement statistics were greater than .70 for the pool of items, indicating a high level of agreement. Agreement, as shown in Figure 2, was highest for the importance criterion ($B_N^W = .85$), followed by suitability ($B_N^W = .81$) and observability ($B_N^W = .73$). As shown in the charts for all three criteria, agreement is mainly concentrated around the response option corresponding to a score of 4 (i.e. "very important", "reflects the dimension very well", and "fully observable"). This high level of agreement among experts on the importance, suitability and observability of the items attests the validity of their content, indicating that they could be used for the purposes of assessing the three dimensions of self-determination.

<< Insert Figure 2 about here >>

Discussion

The aim of this study was to operationalize the construct of self-determination by proposing a pool of items for assessment by external observers with adequate evidences of validity based on content. To this end, we used the Delphi method to ensure validity based on consensus across stakeholders (academics, professionals, people with intellectual disability, and their relatives). The result was a comprehensive set of items considered as important, suitable and observable for the assessment of self-determination, according to the reconceptualized framework of the functional model of self-determination proposed by Shogren, Wehmeyer, Palmer et al. (2015).

Although it is necessary to conduct other specific analyses in order to know the internal structure of the scale, the 115 items obtained by the qualitative analyses in the three-round Delphi study (i.e. the consensus from stakeholders) seem to indicate that their content represent the three hypothesized categories or dimensions of self-determination proposed by Shogren, Wehmeyer, Palmer et al. (2015): 45 items represent the volitional characteristic (i.e. indicators of actions that people with intellectual disability perform autonomously and volitionally based upon one's interests and preferences); 35 reflect the agentic characteristic (i.e. indicators of actions in service of a goal or objective); and 35 demonstrate action-control beliefs and attitudes (i.e. indicators of empowerment and the perceived degree of control over one's own life).

The validity of the findings is further strengthened by the procedural structure of the Delphi method used, incorporating qualitative and quantitative evaluation methods in different rounds to reach a consensus among raters (i.e. stakeholders). In this sense, our research is comparable to previous studies, which have used the Delphi method to develop and validate indicators for the assessment of similar constructs (Gómez et al., 2014, 2015; Fernández et al., 2017). The aim of these prior Delphi studies was to generate consensus on a set of items to assess the quality of life for people with disability that later resulted in

assessment tools with excellent evidences of reliability and validity (Fernández, Verdugo, Gómez, Aguayo, & Adelic, 2018; Gómez et al., 2016; Verdugo, Gómez, Arias, Navas, & Schallock, 2014).

For our study, some of the strengths of the Delphi method employed are worth mentioning here. The first relates to the number of expert panelists. Balasubramanian and Agarwal (2013) stressed that this selection is of vital importance, and that the experts need to be highly qualified in the subject area of the study. In addition, many studies (Kingston et al., 2011; Pietersma, de Vries, & van den Akker-van, 2014) include different groups of experts with a view to capturing the full spectrum of stakeholder perspectives. Although there is no consensus as to the ideal number of experts, some authors prefer to use between 10 and 20 experts (Delbecq, Van de Ven, & Gustafson, 1975; López-Gómez, 2018; Ludwig, 1997), while others emphasize that the maximum number should be below 50 (Witkin & Altschuld, 1995). With a total of 21 participants across three panels representing stakeholders in the life of a person with intellectual disability (professionals, people with disability and their relatives), the panel selection in our study complied with all the recommendations. Furthermore, all participants were suitably qualified and experienced. The panel of professionals in particular was accorded a key role by virtue of their high level of expertise, not only in the field but also regarding the theoretical concept.

Another strength of our study is how the iterative process of rounds was planned. We consider that for each panel, the number of rounds and time frame (which never exceeded two months) was appropriate given that two aspects when using the Delphi technique must be considered: the high costs in terms of time and the risk of respondent fatigue (Hasson et al., 2000). Thus, the time frame for our study was not drawn-out (i.e. four and a half months), and the high response rate and nil drop-out rate show that there was no evidence of fatigue. Finally, we guaranteed anonymity for the experts on the panel of professionals and the panel

of relatives (who communicated via an online platform using an unidentifiable pseudonym), but not for the panel of people with intellectual disability who participated face-to-face in a focus group.

Nevertheless, our study is not free of limitations. Given the diversity of the panels, we were obliged to modify the traditional Delphi procedure to accommodate the specific characteristics of the participants. First, the rounds for each of the panels were complementary, but not identical. Secondly, the method used to conduct the study was online for two of the panels (professionals and relatives), but not for the panel of people with intellectual disability. In the latter case, the rounds needed to be face-to-face in order to provide support as needed and to avoid any difficulties associated with using an online platform. That said, we believe that these two limitations do not call into question the validity of the results, and that the inclusion of people with intellectual disability and their relatives enriches the study, regardless of any potential methodological complications. In fact, not having a panel of people with intellectual disability would not only diminish the validity of the study, but would go against the very philosophy of the concept of self-determination that we are advocating. Likewise, a family perspective is necessary due to the great support they usually provide during adolescence, acting as facilitators of self-determination and social inclusion for their children and their transition to adulthood (Arellano & Peralta, 2015; Wehmeyer, 2014; Young et al., 2017). The recruitment process also entailed some limitations. All the panels were composed of convenience samples. Consequently, the representativeness of the panels cannot be guaranteed (e.g. the panel of people with ID just included five members recruited from the same association and was not representative in terms of gender or ID etiology). Similarly, the use of a limited range of panels (with voluntary Spanish participants) involves limitations from an international perspective. These

limitations confirm the need for further research exploring self-determination concept, theoretical model and the development of assessment tools.

In summary, the contribution of this study is to improve the understanding and operationalization of the construct of self-determination in young people and adults with intellectual disability in our country. Not only that, it serves to broaden and improve our knowledge of the conceptual framework on which self-determination is based, which continues to be a relevant issue at the international level. Bearing in mind that social constructs cannot be measured directly, but rather are assessed indirectly through indicators (Brown, Hatton, & Emerson, 2013; Gómez et al., 2015), we have produced an extensive bank of items from which to develop a scale for assessment. This study therefore constitutes the first necessary step for future research into the assessment of self-determination in this population. The subsequent analyses of this measure (e.g., internal consistency, factor structure, convergent validity, divergent validity, etc.) will generate evidences of reliability and validity, as well as strengthen our knowledge of self-determination and associated predictive variables..

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Table 1. Comparison of Self-Determination models (Shogren, Wehmeyer, Palmer et al., 2015, p. 31)

Essential characteristics		
Causal Agency Theory	Functional Model	Additional elements
Volitional action	Autonomy	Self-Initiation
Agentic action	Self-Regulation	Self-Direction Pathways thinking
Action-control beliefs	Psychological Empowerment Self-realization	Control expectancy Agency beliefs Causality beliefs

Table 2. Likert-response system used to evaluate the pool of items

Score	Importance criterion	Suitability criterion	Observability criterion
1	Unimportant	Does not reflect the dimension at all	Not observable at all
2	Of little importance	Reflects the dimension to a limited extent	Observable to a limited extent
3	Moderately important	Reflects the dimension to a moderate extent	Observable to a moderate extent
4	Very important	Reflects the dimension very well	Fully observable

Table 3. First-round descriptive data for the three panels.

<i>Criteria</i>	Panel of professionals			Panel of relatives			Panel of PID		
	<i>Median</i>	<i>M (SD)</i>	<i>Non-valid items (%)</i>	<i>Median</i>	<i>M (SD)</i>	<i>Non-valid items (%)</i>	<i>Median</i>	<i>M (SD)</i>	<i>Non-valid items (%)</i>
Importance	3.8	3.59 (.59)	2 (1.53%)	4	3.79 (.36)	31 (23.66%)	3.3	3.2 (.75)	2 (1.53%)
Suitability	3.8	3.53 (.65)	4 (3.05%)						
Observability	3.4	3.22 (.78)	34 (25.95%)						
Imp+Sui+Obs			37 (28.24%)						

Note. Imp+Sui+Obs= importance, suitability and observability; PID= people with intellectual disability.

Table 4. Summary of cross-panel valid items from the first round.

<i>Dimensions</i>	<i>Initial pool of items in round 1</i>	<i>Valid – Panel of Professionals (%)</i>	<i>Valid – Panel of Relatives (%)</i>	<i>Valid – Panel of PID (%)</i>	<i>Valid – cross-panel (%)</i>
Volitional characteristic	41 (31.30%)	36 (38.30%)	31 (31%)	41 (31.78%)	26 (34.21%)
Agentic characteristic	37 (28.24%)	28 (29.79%)	30 (30%)	37 (28.68%)	27 (35.53%)
Action-control beliefs	53 (40.46%)	30 (31.91%)	39 (39%)	51 (39.53%)	23 (30.26%)
Total	131 (100%)	94 (100%)	100 (100%)	129 (100%)	76 (100%)

Note. PID= people with intellectual disability.

Table 5. Findings from round 2 discussion forums (panel of relatives and panel of people with intellectual disability).

Dimension	Most relevant aspects identified by the panel of relatives and of people with intellectual disability (main findings from the forums)
Cross-dimensional	<i>Happiness-oriented</i> approach, not only targeted at achieving clear goals, but also the pursuit of activities which tend to produce emotions and signs of joy
Volitional action	Importance of knowing how to <i>ask for help if needed</i> , in aspects related to self-determination and social participation.
Agentic actions	Importance of knowing how to <i>look for other options and alternatives</i> when something goes wrong or a plan does not work.
Action-control beliefs	Importance of recognizing and knowing how to identify own <i>needs</i> (physical, emotional, social...), personal <i>tastes and preferences</i> . Importance of <i>empowerment</i> , as well as the ability to assertively express themselves and be active participants within their environment.

Table 6. Descriptive analysis of round 2 by dimension (panel of professionals).

<i>Dimensions</i>	<i>New items proposed</i>	<i>Non-valid items reinstated</i>	<i>Non-valid items excluded</i>
Volitional characteristic	16	6	0
Agentic characteristic	19	0	9
Action-control beliefs	23	3	20
Total	58	9	29

Table 7. Descriptive analysis of third round by criterion.

<i>Criteria</i>	<i>Median</i>	<i>M (SD)</i>	<i>Valid items (% valid)</i>	<i>Non-valid items (%)</i>
Importance	3.6	3.41 (.67)	62 (92.54%)	5 (7.46%)
Suitability	3.4	3.29 (.73)	58 (86.57%)	9 (13.43%)
Observability	3.2	3.09 (.79)	44 (65.67%)	23 (34.33%)
Imp.+Sui.+Obs.			39 (58.21%)	28 (41.79%)

Note. Imp+Sui+Obs= importance, suitability and observability.

Table 8. Summary of cross-panel valid items from first to third round.

Dimensions	Valid first round (%)	Valid third round (%)	Total valid items (%)
Volitional characteristic	26 (34.21%)	19 (48.72%)	45 (39.13%)
Agentic characteristic	27 (35.53%)	8 (20.51%)	35 (30.43%)
Action-control beliefs	23 (30.26%)	12 (30.77%)	35 (30.43%)
Total	76 (100%)	39 (100%)	115 (100%)