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Self-Determination Profile of People with Intellectual and Developmental Disability: A comparative study

Clarissa Madureira Moreira [1,*], Jackson Carvalho [2], André Oliveira [3,4], Armanda Pereira [3,5], Pedro Rosário [3], Karrie A. Shogren [6], Mayumi Hagiwara [7] and Sofia Santos [1]

[1] University of Lisbon; sofiasantos@fmh.ulisboa.pt
[2] Prairie View A&M University; jndecarvalho@pvamu.edu
[3] Centro de Investigação em Psicologia, Escola de Psicologia, Universidade do Minho, Braga, Portugal; prosario@psi.uminho.pt
[4] Departamento de Psicologia e Educação, Faculdade de Ciências Sociais e Humanas, Universidade da Beira Interior, Covilhã, Portugal; andre.soares.oliveira@ubi.pt
[5] Departamento de Educação e Psicologia, Escola de Ciências Humanas e Sociais, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal; armandap@utad.pt
[6] Kansas University Center on Developmental Disabilities; shogren@ku.edu
[7] San Francisco State University; mhagiwara@sfsu.edu
* Correspondence: clarissa-fisio@hotmail.com

Abstract: Self-determination is a prominent construct and major outcome for all people, acting as a predictor of quality of life, and strongly correlated with personal development, independence, and participation. However, persons with intellectual and developmental disabilities (IDD) tend to be excluded from self-determined learning. This study aims to establish the self-determination profile of adolescents and adults with and without IDD, examining differences among both groups and analyzing the effect of some personal and contextual variables on self-determination. The Self-Determination Inventory: Portuguese translation (SDI), was completed by 366 participants, aged 13 and 73 years (26±13.92), 205 females and 161 males, with (n=183) IDD and without (n=183) IDD. Participants with IDD were less self-determined than their typical peers. There were no significant differences when gender is analyzed (females vs. males), although females without IDD had a higher level of self-determination. Age shows different self-determinations trajectories: without IDD tend to be more self-determined with age, although between 26- 30y scores tend to increase. Younger participants (13-15y) with IDD in regular settings are more self-determined than older participants. Participants with IDD living at own home present more self-determined actions, followed by institutional settings and finally in relatives' home. Effect sizes vary between moderate to strong.

Keywords: Self-determination; Self-determined profile; Intellectual and Developmental Disability; Causal Agent Theory

1. Introduction

The field of intellectual and developmental disabilities (IDD) is in a constant transformation towards a strengths-based approach. The definition of intellectual disability implies concomitant intellectual and adaptive limitations expressed in conceptual, practical, and social domains during the developmental period (American Psychiatric Association [APA], 2013) and up to the age of 22 years-old (Schalock et al., 2021). But the focus is no longer on the person-limitations, but rather on the quality of interaction between person and environmental demands, where supports act as a bridge for a more independent and participative life (Schalock et al., 2021). However, people with IDD are still experiencing several barriers and challenges through life course, based on traditional low expectations and other devalued myths (Santos, 2020).

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One of the critical human developmental stages is adolescence and transition into adult life with job-related challenges and situations (Vicente et al., 2020), which in people with IDD experience challenges due to the expected multiple individual-social changes, comprised by the number of the environments where adolescents participate (Field et al., 1997). These interaction leads to heterogeneous functioning experiences, creating disability needs of different intensity. Among the innumerous advances and changes, self-determination arose *as* a prominent and multifaceted construct and major outcome for all people, not only as one of the domains but also as a significant predictor of quality of life (Simões & Santos, 2017). Self-determination, as a human right, calls for the autonomy of all people, and Portugal, as a country has ratified international documents such as both Conventions of Rights of Children and People with Disability, showing commitment to implement measures and procedures to ensure its fulfilment.

The self-determination construct is gaining a greater recognition during adolescence and transition to adulthood due to the meaning and relevance of each person acting as a causal agent in own life (Shogren & Raley, 2022; Wehmeyer, 2020), i.e., exercising one's preferred degree of choice and control over own life. Deliberate actions drive an individual to perform as a primary causal agent. Under the most recent theoretical framework – Causal Agency Theory, self-determination integrates three essential characteristics (Shogren & Raley, 2022; Wehmeyer, 2020a): *volitional action*, i.e., extension to which a person makes intentional and conscious choices related to own's preferences and interest, requiring self-initiated and autonomous actions; *agentic action* related to how the goal is achieved through the identification of (reflexive) paths, self-directing and managing, and self-regulated actions; and *action-control beliefs* that includes personal empowerment, self-knowledge and control-expectancy.

Acting in a self-determined manner does not mean that individuals have control over events or results, but refers to the degree to which action is self-caused, meaning that it is the extent to which the behavior is purposeful and agentic, driven by beliefs about the relationships between actions and results (Shogren & Raley, 2022). Although there is an emphasis on self-determination learning (Decreto-Lei n. º 54/2018) implementation of supports is lacking due to not fully recognizing the potential of persons with IDD (Santos, 2020; Vaucher et al., 2019). Stigma, over-protection and constant control/supervision by proxies, underestimation of potential, and lack of acceptance are some of the barriers that adolescents and adults with IDD face (Santos, 2020) in the exercise of their right to self-determination (Parchoumik et al., 2024). Living environment is another variable that affects self-determination, depending on family/schools/institutions policies and values, Strict schedules and establishment of activities not considering persons with IDD' preferences, lead to lack of engagement and opportunities for personal development, depriving people of control (Vaucher et al., 2019). In Portugal, only recently was the legal capacity of persons with IDD was recognized (Decree-Law n. º 49/2018). These factors impact the development of self-determination development (Shogren & Raley, 2022; Vicente et al., 2020).

Adolescence is a critical life period for the development and expression of self-determination, with evidence establishing a causal link between self-determination and more positive school and post-school outcomes also in IDD (Chao et al., 2019; Wehmeyer, 2020). Support systems are necessary for youth in general, and particularly relevant for youth with IDD (Field et al., 1997). Focusing attention on self-determination skills' promotion and in self-directed learning is a key focus of inclusive education (Decree-Law n. º 54/2018; Dispatch n. º 6478/2017). Self-determination impacts simple (e.g., what to dress) and complex decisions (choose a job) and is dependent of opportunities and context (Mumbardó-Adam et al., 2018; Santos, 2020). Inclusive secondary educational experiences are predictors of improved self-determination of adults with IDD (Chao et al., 2019; Shogren & Raley, 2022; Wehmeyer, 2020a). The promotion of self-determined skills from an early age will allow people with IDD to be a causal agent of their own life in adulthood (Mumbardó-Adam et al., 2018). In Portugal self-determination has been identify as the most valued of quality-of-life domain by adults with IDD, even though satisfaction with self-determination opportunities is low (Simões & Santos, 2017).

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Persons with IDD are less self-determined that their non-disabled peers worldwide (Chao et al., 2019; Mumbardó-Adam et al., 2018; Shamradloo & Seyf, 2016; Wehmeyer, 2020) as well as in Portugal (Nunes et al., 2019; Torres et al., 2022), mainly due to the scarce and weak opportunities. Framed on previous functional model of self-determination and using the Portuguese version of The Arc Self-Determination scale, persons with IDD seems to be less autonomous, self-regulated, psychological empowered and self-realized than their typical peers due to the lack of opportunities and beliefs about their abilities for choice and decision making (Nunes et al., 2019; Torres et al., 2022). Participants with more severe IDD level/higher support needs tend to present lower self-determination scores (Vicente et al., 2019). All participants with IDD, in these studies, were institutionalized. The inclusion status is another variable that may affect the richness of experiences of self-determination learning (Garrels & Granhund, 2018) and since Portugal had evolved towards a more inclusive legislation there is a need to further examine possible differences.

Research about gender is still inconclusive with mix conclusions (Shogren et al., 2018): in some research females score higher (Cavendis et al., 2017; Torres et al., 2022) or no differences are found between females and males (Shamradloo & Seyf, 2016; Vicente et al., 2019), although the trend to slightly higher scores by females when it comes to domestic/family activities and by males in vocational orientation/self-realization (Nunes et al., 2019). Self-determination seems to be positively correlated with age (Shogren et al., 2018) and older persons tend to present higher levels of self-determination, reflecting the development nature of the construct (Wehmeyer, 2020a). Shogren et al., (2018) found mean level differences between 13-15 and 16-18 years old in volitional action. Nunes et al. (2019) reported the progressive improvement of self-determination skills with age and the stabilization around 40 years. Educational reform in Portugal (Decree-Law n. º 54/2018), like in many other countries, refers to the need to support individualized transition plans which are demanding self-determination skills' promotion. This highlights the need to explore differences in specific age bands according to developmental stages (e.g., 13-15, 16-20, 21-25).

The relation between age and academic habilitations (and competences) may explain, in part, the less self-determination profile of adolescents and adults with IDD (Nunes et al., 2019), impacting material well-being reflected in the elevated rates of unemployment (Simões & Santos, 2017). The living environment may also influence the self-determination level with large residential institutions restricting the decision making of persons with IDD (Tichá et al., 2012; Santos, 2020) with fewer opportunities.

The mix findings reported in literature reinforces the need for further research to explore the effect of gender and age on the SDI Portuguese translation, not only due to its recent introduction in the country but also to analyze self-determination skills with persons with and without IDD (Shogren et al., 2018). Deepening our understanding of the gaps between adolescents and adults with and without IDD is an emergent need, not only to establish the self-determination profile, but also to improve opportunities for self-determination learning, acting as a bench mark for person-centered planning (Santos, 2020). Therefore, our goal is to identify and describe the self-determination profile of adolescents and adults with IDD on the SDI Portuguese translation and determine whether there are differences on self-determination skills between them and their non-IDD peers. Further, we explored to what extent sociodemographic characteristics (diagnosis, gender, age group, living environment and educational qualifications) impact overall self-determination, essential characteristics, and component-constructs. This study will contribute to evidence-base, providing information that can be used within scholarly, institutional and community settings to promote self-determination of persons with IDD, identifying areas of intervention and informing practice, trying to reduce the gaps among persons with and without IDD.

2. Materials and Methods

2.1. Participants

Data was collected from 366 participants, between 13 and 73 years of age (M= 26±13.92), 205 women and 161 men, with IDD (n=183) and without IDD (n=183). Participants with IDD were

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diagnosed, previously, by a multidisciplinary team, with mild (n=114) and moderate (n=69) IDD, and all presented verbal-expressive and comprehension skills to answer the self-report measure. In terms of educational qualifications[1], of the sample with IDD (n=183), 44 had no education, 62 participants had completed the first cycle, 18 had completed the second cycle, 49 had completed the third cycle, n=4 high school and n=6 were unable to provide information. From the sample without IDD (n=183), 52 had third cycle, 59 participants a secondary education, 28 had non-higher post-secondary training, 43 had a bachelor's degree and 1 participant had a master's degree. Most of the participants (n=204) people lived with family, 89 in their own home and 73 (with IDD) were institutionalized. In terms of daily support/assistance, 144 participants with IDD require professional technical assistance. Regarding the disability certificate, 119 participants with IDD had a disability certificate, 46 people had a degree of disability between 50%-80%. Respondents with IDD needed help filling out the SDI Portuguese.

2.2. Instrument

The SDI Portuguese translation is a self-report measure to assess the self-determination of adolescents (>13y) and adults with and without IDD (Moreira et al., 2025). Like the original version the Portuguese translation retained the same structure (i.e., 21 items organized in three essential characteristics and seven component- constructs: *volitional action* involving self-initiation (items 3, 13, and 16) and autonomy (items 5, 9, and 18); *agentic action* including self-direction (items 7, 14, and 19) and reflective pathways (items 2, 11, and 22); and *action-control beliefs* resulting from psychological empowerment (items 6, 8 and 15), self-actualization (items 4, 12 and 20), and expectancy control (items 1, 10 and 17). Although original SDI is administered online, the Portuguese translation was delivered using a paper format, due to the lack of accessibility to digital platforms and the cost evolving such use. The SDI Portuguese translation is scored using a sliding scale ranging from 0 (completely disagree) to 20 (completely agree), on which the interviewees must indicate their degree of agreement with the statement presented. Content, criterion and construct validity, and reliability of SDI Portuguese translation were analyzed and confirmed.

2.3. Procedures

All ethical principles were guaranteed and accordingly with the guidelines of the Declaration of Helsinki, ensuring the confidentiality and anonymity of the data. Upon receiving institutional review board approval (Portuguese Association of Psychomotricity Ethics Committee, reference 2022/02) institutional contacts (organizations, schools) were established via e-mail asking permission to conduct the study in the community. When granted, eligible participants were identified and provided with a written informed consent document, as well as to the respective parents/legal guardians. Once the informed consents were signed and collected, the completion of the inventory began according to established protocols. The SDI Portuguese translation was self-administered by participants without IDD. For participants with IDD, in cases where there were difficulties in reading and writing comprehension a research team member read the questions and provided support, guaranteeing the privacy of individual responses. All items were completed to all participants. Standard instructions and sociodemographic details were filled in before answering the inventory. Each completion took, on average, about 20 minutes.

2.4. Statistical Procedures

The data was analyzed using Statistical Package for the Social Sciences (SPSS), version 28. The self-determination profile was established using descriptive statistical measures (means and standard deviations). To compare the self-determination profile of participants with and without IDD,

[1] The formal mandatory and free education system in Portugal consist: primary education involving 1st (6-10y), 2nd (11-12y) and 3rd cycle (13-15y), secondary education (ages 15-18y). After, students can proceed to higher education or apply for a job.

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independent sample t-tests were used to examine differences among adolescents and adults with and without IDD for dichotomous variables (independent samples), and ANOVAs to compare groups on multiple dependent variables. The significance level for rejecting the null hypothesis was set at $p \leq .05$. The Cohen's effect sizes were also calculated (Dunst & Harnby, 2012) and were analyzed following literature recommendations (Lipsey & Wilson, 2001): insignificant if $d < .19$; small if $.20 < d < .49$; medium when $.50 < d < .79$ and large of $d > .80$.

3. Results

Descriptive statistics, t-tests as well as Cohen's d scores are presented in Table 1 comparing participants with and without IDD. The analysis was made by items, component-constructs and essential characteristics. Participants without IDD tend to present higher mean scores and lower standard-deviations in all items, except in item 5: *I plan the weekend activities I like to do*. There are differences in all items, component-constructs, essential characteristics and SDI total, with weak to medium effect sizes.

Table 1. Self-determination scores and comparative analysis of adolescents and adults with and without IDD.

Items	Without IDD *M±SD*	With IDD *M±SD*	*p*
Item 1	15.05±4.42	14.11±5.55	**<.001** (*d*=.18)
Item 2	16.06±3.45	13.25±5.65	**<.001** (*d*=.60)
Item 3	16.06±3.75	13.85±5.77	**<.001** (*d*=.45)
Item 4	15.68±4.14	14.59±5.68	**<.001** (*d*=.21)
Item 5	12.96±5.01	13.88±5.93	**.004** (*d*=.16)
Item 6	15.20±4.17	14.46±5.36	**.001** (*d*=.15)
Item 7	15.93±3.99	14.18±5.76	**<.001** (*d*=.35)
Item 8	17.25±3.34	15.63±5.03	**<.001** (*d*=.37)
Item 9	15.87±4.20	14.61±5.45	**<.001** (*d*=.25)
Item 10	16.03±3.79	14.65±5.21	**<.001** (*d*=.30)
Item 11	15.90±3.78	13.45±5.45	**<.001 (*d*=**.52)
Item 12	15.01±4.49	13.83±6.03	**<.001** (*d*=.22)
Item 13	15.55±4.33	14.54±5.61	**.001** (*d*=.20)
Item 14	15.82±4.16	14.46±5.41	**.001** (*d*=.28)
Item 15	16.05±3.51	14.93±5.28	**<.001** (*d*=.24)
Item 16	15.70±3.68	15.13±5.59	**<.001** (*d*=.12)
Item 17	15.43±3.95	14.91±5.13	**.002** (*d*=.11)
Item 18	15.68±4.82	14.17±6.05	**.001** (*d*=.27)
Item 19	15.66±3.67	14.71±5.30	**<.001 (*d*=**.20)
Item 20	15.42±4.13	14.50±5.89	**<.001** (*d*=.18)
Item 21	16.17±3.30	14.65±5.58	**<.001** (*d*=.33)
Component constructs			
Autonomy	44.5±10.56	42.65 ±13.41	**<001** (*d*= .15)
Self-initiation	47.32±9.08	43.53±13.19	**>.001** (*d*=.33)
Volitional action	91.84±17.4	86.18±23.35	**<.001** (*d*=.27)
Self-direction	47.40±9.57	43.34±13.31	**<.001** (*d*=.35)
Reflective paths	48.12±8.50	41.35±12.91	**<.001** (*d*=.61)
Agentic action	95.5±16.3	84.69±24.35	**<.001** (*d*=.52)
Psychological empowerment	48.50±8.35	45.02±11.63	**<.001** (*d*=.34)
Self-realization	46.1±10.51	42.91±13.98	**.001** (*d*=.25)
Control expectations	46.51±9.18	43.66±12.01	**<001** (*d*=.26)
Essential Characteristics			
Volitional Action	91.8±17.38	86.18±23.35	**<.001** (*d*=.27)
Agentic Action	95.53±16.3	84.69±24.35	**<.001** (*d*=.52)
Action-Control Beliefs	141.1±23.9	131.59±32.95	**<.001** (*d*=.33)

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SDI total	328.5±53.3	302.48±75.02	**<.001** (*d*= .39)

Note. M = Mean; *SD* = Standard deviation.

A similar analysis was completed for gender and diagnosis (Table 2). Generally speaking, females without IDD scored higher on most items and consequently in component-constructs and essential characteristics, with significant differences, corroborated by medium effect sizes scores. The only item where males without IDD scored higher is the one related with *the confidence of own capacities* (item 12). Surprisingly, females with IDD tended to have lower scores than males with IDD on most of items including showing less confidence of their own abilities and less anticipated planning. The only items were females with IDD scored higher were item 2: *think of more than one way to solve a problem*, item 18: *working hard helps me get what I want*, and item 11: *find ways around obstacles*. But, none of these differences were significant. The only significant differences found on the total sample seems to be result from the analysis of females and males without IDD.

Table 2. Self-determination scores and comparative analysis of adolescents and adults with and without IDD – gender.

Items	Without IDD (Female) *M±SD*	Without IDD (Male) *M±SD*	*p*	With IDD (Female) *M±SD*	With IDD (Male) *M±SD*	*p*	Total (F vs. M) *p*
Item 1	15.14±4.12	14.94±5.09	**.008**(*d*=.04)	13.32±5.56	14.68±5.51	.50	**.03** (*d*=.24)
Item 2	16.3±3.23	15.40±3.92	.37	13.45±5.2	13.11±5.96	.17	**<.001*****(*d*=.06)
Item 3	16.27±3.73	15.53±3.70	.57	13.5±5.63	14.13±5.88	.65	**.02** (*d*=.10)
Item 4	15.71±3.91	15.53±4.68	**.02**(*d*=.04)	14.32±5.76	14.78±5.6	.72	**.04** (*d*=.08)
Item 5	13.14±4.94	12.47±5.20	.57	13.03±6.0	14.49±5.82	.54	.29
Item 6	15.50±4.17	14.49±4.18	.64	14.2±5.65	14.6±5.17	.42	.41
Item 7	16.44±3.46	14.64 ±4.89	**.02**(*d*=.42)	14.0±5.95	14.28±5.65	.97	**.004** (*d*=.04)
Item 8	17.60±3.09	16.43±3.80	**.04**(*d*=.33)	15.97±4.6	15.38±5.32	.37	**.002** (*d*=.11)
Item 9	16.45±3.60	14.49 ±5.19	**.009**(*d*=.43)	14.12±5.44	14.96±5.47	.67	**.03** (*d*=.15)
Item 10	16.49±3.29	14.83±4.64	**.001****(*d*=.41)	14.11±5.41	15.04±5.04	.97	**.004** (*d*=.17)
Item11	16.37±3.53	14.75 ±4.18	**.04**(*d*=.41)	13.73±5.0	13.24±5.76	.05	**<.001*****(*d*=.09)
Item 12	14.77 ±4.55	15.49 ±4.32	.74	13.59±6.12	14.0±6.00	.76	.30

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Item 13	15.90±4.18	14.81±4.61	.31	14.49±5.25	14.58±5.9	.24	**.01**** (*d*=.01)
Item14	16.38±3.69	14.38±4.89	**.01****(*d*=.46)	14.44±4.97	14.47±5.73	.16	**.001*****(*d*= .005)
Item15	16.79±2.76	14.28±4.46	**<.001*****(*d*=.67)	14.5±5.25	15.24±5.31	.67	**.01** (*d*=.14)
Item 16	16.07±3.35	14.72±4.24	.15	15.17±5.57	15.1±5.64	.94	**.03** (*d*=.01)
Item 17	15.46±3.71	15.28±4.49	**.03**(*d*=.04)	13.92±4.78	15.6±5.28	.50	**.003** (*d*=.33)
Item 18	16.53±4.49	13.62±5.07	.06	13.37±6.16	14.74±5.94	.30	.21
Item 19	16.20±3.31	14.34±4.22	**.005**(*d*=.49)	13.88±5.3	15.31±5.24	.63	**.01**** (*d*=.27)
Item 20	15.50±4.03	15.23±4.41	.26	14.29 ±5.7	14.64±6.0	.50	**.01**** (*d*=.05)
Item 21	16.53±2.65	15.3±4.44	**<.001*****(*d*=.33)	14.17±5.49	15.0 ±.65	.82	**.001*****(*d*=.21)
Component constructs							
Autonomy	46.12±9.8	40.58±11.41	.90	40.5±13.24	44.2±13.37	.06	43.59±12.07
Self-initiation	48.24±8.81	45.05±9.45	**.03**(*d*=.34)	43.17±11.9	43.8±14.09	.75	45.45±11.44
Self-direction	49.02±8.10	43.35±11.62	**<.001**(*d*=.56)	42.36±12.3	44.05±14.0		45.40±11.73
Reflective paths	49.24±7.46	45.45±10.27	**<.001**(*d*=.42)	41.36±11.7	41.3±13.76	.90	44.77±11,41
Psy. Eempowerment	49.88±7.57	45.20±9.34	**<.001**(*d*=.55)	44.7±10.94	45.2±12.16	.76	46.78±10.24
Self-realization	45.97±10.20	46.24±11.35	.87	42.2±14.13	43.4±13.92	.56	44.52±12.44
Control expectations	47.08±8.02	45.05±11.55	.17	41.3±11.79	45.3±11.94	**.02**(*d*=.55)	45.10±10.75
Essential Characteristics							
Volitional Action	94.36±16.49	85.64±18.25	**<.001** (*d*=.50)	83.7±21.54	87.99±24.5	.22	89.04±20,72
Agentic Action	98.26±13.77	88.81±20.00	**<.001** (*d*=.55)	83.7±22.39	85.4±25.75	.64	90.17±21.35
Action-Control Beliefs	142.94±21.9	136.50±28.13	.09	128.3±32.4	134.0±33.3	.24	136.41±29.10
SDI total	335.6±47.7	310.96±62.3	**.01**** (*d*=.44)	295.7±70.7	307.4±78.2	.52	315.63±66.14

Note. M = Mean; *SD* = Standard deviation; *$p \leq .05$; ** $p \leq .01$; ***$p \leq .001$.

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Table 2 (cont). Self-determination scores and comparative analysis of adolescents and adults with and without IDD - gender.

Items	Without IDD (Female) *M±SD*	With IDD (Female) *M±SD*	*p*	Without IDD (Male) *M±SD*	With IDD (Male) *M±SD*	*p*
Item 1	15.14±4.12	13.32±5.56	**<.001 (*d*=4.1)**	14.94± 5.09	14.68±5.51	**<.001 (*d*=5.5)**
Item 2	16.3±3.23	13.45± 5.2	**<.001 (*d*=5.2)**	15.40±3.92	13.11±5.96	**<.001 (*d*=5.9)**
Item 3	16.27±3.73	13.5± 5.63	**<.001 (*d*=3.7)**	15.53± 3.70	14.13±5.88	**<.001 (*d*=5.8)**
Item 4	15.71±3.91	14.32±5.76	**<.001 (*d*=3.9)**	15.53± 4.68	14.78±5.6	**<.001 (*d*=5.6)**
Item 5	13.14±4.94	13.03± 6.0	**<.001 (*d*=4.9)**	12.47± 5.20	14.49±5.82	**<.001 (*d*=5.8)**
Item 6	15.50±4.17	14.2± 5.65	**<.001 (*d*=4.1)**	14.49±4.18	14.6±5.17	**<.001 (*d*=5.1)**
Item 7	16.44±3.46	14.0± 5.95	**<.001 (*d*=3.4)**	14.64 ±4.89	14.28±5.65	**<.001 (*d*=5.6)**
Item 8	17.60±3.09	15.97± 4.6	**<.001 (*d*=3.0)**	16.43±3.80	15.38±5.32	**<.001 (*d*=5.3)**
Item 9	16.45±3.60	14.12±5.44	**<.001 (*d*=3.6)**	14.49 ±5.19	14.96±5.47	**<.001 (*d*=5.4)**
Item 10	16.49±3.29	14.11±5.41	**<.001 (*d*=3.2)**	14.83±4.64	15.04±5.04	**<.001 (*d*=5.0)**
Item 11	16.37± 3.53	13.73± 5.0	**<.001 (*d*=3.5)**	14.75 ±4.18	13.24±5.76	**<.001 (*d*=5.7)**
Item 12	14.77 ±4.55	13.59±6.12	**<.001 (*d*=4.5)**	15.49 ±4.32	14.0±6.00	**<.001 (*d*=5.9)**
Item 13	15.90±4.18	14.49±5.25	**<.001 (*d*=4.1)**	14.81±4.61	14.58±5.9	**<.001 (*d*=5.8)**
Item 14	16.38±3.69	14.44±4.97	**<.001 (*d*=3.6)**	14.38±4.89	14.47±5.73	**<.001 (*d*=5.7)**
Item 15	16.79±2.76	14.5± 5.25	**<.001 (*d*=2.7)**	14.28±4.46	15.24±5.31	**<.001 (*d*=5.3)**
Item 16	16.07±3.35	15.17±5.57	**<.001 (*d*=3.3)**	14.72±4.24	15.1±5.64	**<.001 (*d*=5.6)**
Item 17	15.46±3.71	13.92±4.78	**<.001 (*d*=3.7)**	15.28±4.49	15.6±5.28	**<.001 (*d*=5.2)**
Item 18	16.53±4.49	13.37±6.16	**<.001 (*d*=4.4)**	13.62±5.07	14.74±5.94	**<.001 (*d*=5.9)**
Item 19	16.20±3.31	13.88±5.3	**<.001 (*d*=3.3)**	14.34±4.22	15.31±5.24	**<.001 (*d*=5.2)**

Commented [M1]: Please merge Table 2 into one table or rename it as Table 3, Table 4 in numerical order. Please check all tables and revise.

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Item 20	15.50±4.03	14.29 ±5.7	**<.001 (*d*=4.0)**	15.23±4.41	14.64±6.0	**<.001 (*d*=5.9)**
Item 21	16.53±2.65	14.17±5.49	**<.001 (*d*=2.6)**	15.3±4.44	15.0 ± .65	**<.001 (*d*=5.6)**
Constructs Components						
Autonomy	46.12±9.8	40.52±13.24	**<.001 (*d*=9.8)**	40.58±11.41	44.19±13.37	**<.001 (*d*=13.3)**
Self-initiation	48.24±8.81	43.17±11.9	**<.001 (*d*=8.8)**	45.05±9.45	43.79±14.09	**<.001 (*d*=14.9)**
Self-direction	49.02±8.10	42.36±12.32	**<.001 (*d*=8.1)**	43.35±11.62	44.05±14.00	**<.001 (*d*=14)**
Reflective paths	49.24±7.46	41.36±11.72	**<.001 (*d*=7.4)**	45.45±10.27	41.34±13.76	**<.001 (*d*=13.7)**
Psychological empowerment	49.88±7.57	44.72±10.94	**<.001 (*d*=7.5)**	45.20±9.34	45.24±12.16	**<.001 (*d*=12.1)**
Self-realization	45.97±10.20	42.20±14.13	**<.001 (*d*=10.2)**	46.24±11.35	43.42±13.92	**<.001 (*d*=13.9)**
Control expectations	47.08±8.02	41.34±11.79	**<.001 (*d*=8.0)**	45.05±11.55	45.33±11.94	**<.001 (*d*=25.5)**
Essential Characteristics						
Volitional Action	94.36±16.49	83.69±21.54	**<.001 (*d*=16.4)**	85.64±18.25	87.99±24.52	**<.001 (*d*=25.7)**
Agentic Action	98.26±13.77	83.72±22.39	**<.001 (*d*=13.7)**	88.81±20.00	85.40±25.75	**<.001 (*d*=11.9)**
Action-Control Beliefs	142.94±21.90	128.26±32.35	**<.001 (*d*=21.9)**	136.50±28.13	134.00±33.32	**<.001 (*d*=33.2)**
SDI total	335.6±47.7	295.7±70.7	**<.001 (*d*=47.7)**	310.96±62.3	307.4±78.2	**<.001 (*d*=4.9)**

Note. M = Mean; *SD* = Standard deviation; **p* ≤ .05; ** *p* ≤ .01; ****p* ≤ .001.

Effect sizes vary between small to medium. The only significant differences found on the total sample seems to be result from the analysis of females and males without IdD. Effect sizes vary between small to medium.

The data from Table 3 about age shows different self-determinations trajectories. The general trend is that participants without IDD tend to become more self-determined with age. Participants without IDD tend to present more self-determined skills around 26-35 years, with adolescents and young adults presenting lower mean scores. The mean scores of participants without IDD older than 41years tend present a small decline.

Table 3. Self-determination scores and comparative analysis between adolescents and adults with and without IDD – age.

Items	**13-15y**	**16-20y**	**21-25y**	**26-30y**	**31-35y**	**36-40y**	**⩾40y**
Participants without IDD	***M±SD***	***M±SD***	***M±SD***	***M±SD***	***M±SD***	***M±SD***	***M±SD***
Item 1	14.71±5.06	13.85±4.76	15.47±2.93	12.50±3.53	17.50±3.78	17.36±2.11	15.43±3.90
Item 2	15.47±3.28	15.12±3.85	15.06±3.66	18.50±2.12	17.75±2.37	17.82±1.83	17.11±3.37
Item 3	14.52±3.97	16.56±2.99	15.76±5.06	20.0±.10	18.25±2.18	16.64±3.17	17.36±2.91

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Item 4	14.86±4.92	14.62±4.0	15.29±4.05	16.00±1.41	17.13±2.47	17.36±2.11	17.09±3.15
Item 5	12.24±6.05	13.76±3.84	12.71±4.32	15.00±7.07	16.00±4.89	14.00±2.93	13.00±4.36
Item 6	14.26±4.79	14.06±3.82	15.59±3.42	17.50±3.53	16.38±4.24	17.73±1.90	16.30±3.62
Item 7	15.18±4.77	15.09±3.92	16.12±4.41	16.00±1.50	17.50±2.26	17.73±2.10	16.82±2.88
Item 8	17.35±3.40	16.29±3.08	17.00±3.44	16.50±2.12	18.88±1.72	18.55±1,96	17.30±3.83
Item 9	15.08±5.24	15.50±3.93	16.18±3.20	14.00±5.65	17.00±3.46	16.55±3.01	16.86±3.11
Item 10	15.03±4.35	15.59±3.38	15.29±3.78	16.00±1.41	17.50±2.26	16.91±3.01	17.57±3.16
Item 11	14.74±4.36	15.29±3,26	16.24±3.23	18.5±2.12	15.50±4.72	17.27±1.90	17.48±3.03
Item 12	13.67±5.27	14.12±4.14	15.71±3.63	16.5±2.12	16.12±4.1	16.27±3.03	16.73±3.53
Item 13	13.58±5.11	14.79±3.31	17.35±3.33	19.5±0.70	17.75±2.3	17.00±2.28	17.36±3.43
Item 14	14.27±5.18	15.38±3.45	16.94±2.68	20.00±1.7	18.1±2.16	17.91±1.81	16.82±3.28
Item 15	15.00±4.01	15.65±3.67	16.94±3.21	16.5±2.12	18.38±2.1	17.27±1.79	16.77±2.78
Item 16	14.97±4.42	15.94±3.27	16.29±3.56	15.5±0.70	15.0±3.50	16.82±2.04	16.14±3.12
Item 17	14.67±4.48	14.65±4.10	14.88±4.04	17.5±3.53	15.37±3.8	17.45±1.96	16.70±2.89
Item 18	13.59±5.28	15.97±4.53	15.47±5.59	20.0±2.01	17.0±3.46	18.45±2.01	17.57±3.52
Item 19	14.94±4.36	15.53±3.37	15.18±3.14	15.0±2.34	16.5±3.38	16.64±2.61	16.55±3.16
Item 20	14.08±4.73	14.18±3.55	15.94±3.79	17.0±2.82	17.0±3.46	17.09±2.16	17.30±3.23
Item 21	15.61±3.75	15.03±2.50	16.35±2.97	17.0±2.50	17.13±3.52	17.09±1.97	17.30±3.18
Component- construct							
Autonomy	40.9±12.64	45.23±8.60	44.35±9.21	39.0±12.7	50.00±6,96	49.00±6.40	47.43±8.89
Self-initiation	43.06±10.14	47.29±6.67	49.41±8.97	55.00±0.10	51.00±7.27	50.45±6.40	50.86±7.57
Self-direction	44.39±11.04	6.0±9.37	48.23±8.98	51.00±1.41	52.12±6.68	52.27±4.67	51.38±9.72
Reflective paths	45.81±8.56	45.44±8.20	47.64±8.24	54.00±1.41	50.37±9.19	52.18±5.23	51.88±7.72
Psychological empowerment	46.60±8.36	46.00±8.66	49.52±7.28	50.50±0.70	53.62±6.16	53.54±4.29	50.36±8.53
Self-realization	42.6±11.45	42.91±10.14	46.94±8.91	49.50±6.36	50.25±9.22	50.72±6.60	51.11±8.36
Control expectations	44.40±10.14	4.08±8.94	45.64±7.88	46.00±1.41	50.37±8.21	51.72±6.03	49.70±8.03
Essential Characteristics							
Volitional Action	83.96±20.29	2.5±12.99	93.8±15.45	94.0±12.72	101.0±10.39	9.5±11.6	98.3±14.72
Agentic Action	90.2±17.58	91.4±16.28	95.88±14.41	05.0±7.08	102.5±11.11	04.45±8.51	02.1±13.9
Action-Control Beliefs	133.6±24.51	33±21.87	142.1±20.01	46.0±8.48	154.3±20.91	56.0±15.61	51.2±22.6
SDI total	307.8±55.93	16.9±48.03	31.8±47.93	45.0±21.23	57.8±37.23	59.9±33.93	51.5±47.8

Note. *M* = Mean; *SD* = Standard deviation; *$p \leq .05$; ** $p \leq .01$; ***$p \leq .001$.

Table 3 (cont). Self-determination scores and comparative analysis between adolescents and adults with and without IDD – age

Items Participants with IDD	13-15y *M±SD*	16-20y *M±SD*	21-25y *M±SD*	26-30y *M±SD*	31-35y *M±SD*	36-40y *M±SD*	≥40y *M±SD*
Item 1	15.4±3.9	12.4±6.2	15.3±5.8	13.2±5.0	15.2± 3.9	16.6±3.2	14.6±5.7
Item 2	17.1±3.4	12.3±6.7	14.7±4.2	14.1±5.5	13.4±3.4	17.0±2.4	13.8±5.7
Item 3	17.4±2.9	12.0±6.9	12.9±6.5	15.9±4.5	14.9±3.3	18.4±2.3	15.72±4.75
Item 4	17.1±3.2	13.2±6.3	14.8±5.8	14.2±5.8	15.9±5.5	17.5±3.4	15.2±5.7
Item 5	13.0±4.4	12.94±6.17	13.72±5.85	14.30±6.14	15.50±4.51	15.18±5.13	14.37±6.72
Item 6	16.3±3.6	13.21±6.41	14.44±4.76	13.50±6.25	14.56±4.87	17.18±3.68	16.50±3.48
Item 7	16.8±2.88	12.13±6.85	13.39±6.39	16.10±3.34	15.1± 5.48	15.36±4.86	16.47±4.08
Item 8	17.3±3.8	14.34±6.02	15.56±5.03	17.30±4.16	15.13±3.61	15.18±5.03	17.59±4.36
Item 9	16.9±3.1	12.5±6.2	14.6±5.8	16.3±3.2	14.9±3.9	16.1±4.1	15.9±4.6
Item 10	17.57±3.16	13.09±5.43	15.78±5.21	16.30±3.97	15.38±4.58	17.27±3.55	15.41±5.52
Item11	17.48±3.03	11.62±6.09	14.72±5.20	13.00±5.86	11.88±5.13	15.18±5.03	15.22±4.51
Item 12	16.73±3.53	11.06±6.9	13.56±5.38	14.70±6.00	15.81±4.46	16.09±5.39	15.34±5.20
Item 13	17.36±3.43	12.45±6.74	16.39±4.81	15.80±4.44	14.19±3.61	17.5±3.6	14.81±5.65
Item 14	16.82±3.28	12.13±6.75	15.33±5.13	16.80±3.36	16.31±3.40	16.4±4.0	15.22±4.21

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Item 15	16.77±2.78	12.94±6.06	14.44±4.93	17.80±2.48	15.62±3.99	17.0±4.0	15.78±5.36
Item 16	16.14±3.12	12.79±6.65	15.67±5.22	16.30±6.60	14.6±5.04	17.9±3.3	17.22±4.33
Item 17	16.70±2.89	12.72±6.26	14.44±5.14	16.80±4.73	15.44±3.42	16.1±3.75	16.69±4.52
Item 18	17.8±3.5	11.5±7.1	15.2±6.214	18.40±2.36	16,63±3.53	15.64±3.93	15.09±5.36
Item 19	16.55±3.16	13.60±6.21	14.11±5.30	17.40±3.47	13.38±4.99	16.09±.9	16.00±4.95
Item 20	17.40±3.23	13.70± 6.46	15.17±5.81	17.90±3.44	13.13±6.02	15.45±4.8	14.47±5.50
Item 21	17.30±3.18	13.51±6.21	15.11±4.82	16.40±4.03	14.56±4.93	15.9±4.98	15.72±5.28
Component- construct							
Autonomy	47.43± 8.89	36.88±14.6	43.5±14.22	49.00±7.61	47.00±9.45	46.9±11.96	45.4±12.8
Self-initiation	50.86±7.57	37.3±15.99	44.94±12.5	48.0±11.35	43.68±8.51	53.72±8.05	47.75±10.0
Self-direction	50.18±7.53	37.86±15.7	42.8±13.77	50.3±7.5	44.81±10.24	47.81±13.34	47.68±9.96
Reflective paths	51,88±7.72	37.4±15.26	44.5±11.98	43.5±10.89	39.87±10.34	48.1±10.51	44.7±11.15
Psychological empowerment	50.36±8.53	40.49±13.6	44.4±12.6	48.6±8.85	45.31±8.59	49.34±11.04	49.87±8.67
Self-realization	51.11±8.36	37.96±15.1	43.5±14.12	46.8±10.89	44.8±12.92	49.0±12.18	45.0±14.27
Control expectations	49.7±58.03	38.2±13.39	45.5±13.23	46.30± 5.55	46.0±10.58	49.9±8.80	46.7±10.54
Essential Characteristics							
Volitional Action	98.3±14.72	74.15±26.0	88.44±25.5	97.0±17.58	90.68±15.21	00.6±18.09	3.1±20.47
Agentic Action	102.1±13.9	75.3±28.95	87.3±25,30	93.8±13.47	84.68±19.49	5.90±23.59	2.4±19.49
Action-Control Beliefs	151.2±22.6	116.7±37.1	133.4±35.4	141.7±21.5	136.1±25.31	48.3±30.11	41.6±28.9
SDI total	351.5±47.8	266.1±85.6	309.2±80.8	332.5±49.0	311.5±54.23	44.8±69.53	27.1±62.2

Note. M = Mean; *SD* = Standard deviation; *$p \leq .05$; ** $p \leq .01$; ***$p \leq .001$.

Table 3 (cont). Self-determination scores between adolescents and adults with and without IDD – age

Items Participants without IDD	13-15 vs. 16-20	16-20 vs. 21- 25	21-25 vs. 26-30	26-30 vs. 31-35	31-35 vs. 36-40	36-40 vs. ≥40	≥40 vs. 13-15
	p	*p*	*p*	*p*	*p*	*p*	*p*
Item 1	.28	.18	.19	.13	.92	.03(*d*=.61)	.38
Item 2	.54	.95	.21	.69	.94	.35	**.01 (*d*=.49)**
Item 3	**<.001 (*d*=.58)**	.39	.26	.24	.20	.50	**.<.001 (*d*=.81)**
Item 4	.74	.53	.81	.53	.83	.73	**.002(*d*=.66)**
Item 5	.07	.32	.50	.81	.32	.28	.42
Item 6	.77	.13	.46	.74	.41	.08	**<.01(*d*=.48)**
Item 7	.90	.34	.97	.40	.82	.89	**.02(*d*=.41)**
Item 8	**.04*(*d*=.32)**	.40	.84	.13	.73	.88	.94
Item 9	.58	.50	.40	.34	.77	.85	**.02(*d*=41)**
Item 10	.38	.74	.79	.40	.63	.28	**<.001 (*d*=.66)**
Item11	.56	.28	.35	.42	.33	.61	**<.001 (*d*=.72)**
Item 12	.09	.14	.77	.90	.93	.99	**<.001 (*d*=.68)**
Item 13	.12	.005 (*d*=.77)	.38	.33	.49	.03	**<.001 (*d*=.86)**
Item 14	.30	.08	.13	.29	.82	.29	**.001(*d*=.58)**
Item 15	.13	.18	.85	.29	.25	.19	**.005(*d*=.51)**
Item 16	.97	.60	.76	.85	.21	.24	.12
Item 17	.13	.83	.39	.72	.17	.37	**.007 (*d*=.30)**
Item 18	**.003 (*d*=.48)**	.63	.90	.28	.30	.43	**<.001 (*d*=.88)**
Item 19	.35	.69	.10	.57	.92	.74	**.03 (*d*=.42)**
Item 20	.88	.07	.90	.19	.94	.50	**<.001 (*d*=.79)**
Item 21	.27	.06	.85	.76	.97	.55	**.01 (*d*=.48)**
Component- construct							
Autonomy	**.01 (*d*=.40)**	.72	.45	.80	.90	.51	**.003 (*d*=.59)**
Self-initiation	**.003 (*d*=.49)**	.36	.40	.16	.86	.85	**<.001 (*d*=.87)**
Self-direction	.33	.37	.67	.69	.95	.70	**<.001 (*d*=.67)**
Reflective paths	.78	.33	.30	.33	.92	.88	**<.001 (*d*=.74)**
Psychological empowerment	.66	.09	.85	.21	.97	.09	**.01 (*d*=.44)**
Self-realization	.86	.11	.70	.91	.90	.87	**.<.001 (*d*=.84)**
Control expectations	.83	.48	.95	.22	.69	.36	**.003 (*d*=.58)**

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Essential Characteristics							
Volitional Action	**.002 (*d*=.50)**	.76	.98	.60	.98	.90	**<.001 (*d*=.81)**
Agentic Action	.65	.27	.39	.76	.68	.47	**<.001 (*d*=.74)**
Action-Control Beliefs	.87	.11	.79	.47	.84	.41	**<.001 (*d*=.72)**
SDI total	.28	.26	.70	.58	.89	.51	**<.001 (*d*=.84)**

Note. *$p \leq .05$; ** $p \leq .01$; ***$p \leq .001$.

Table 3 (cont). Self-determination scores between adolescents and adults with and without IDD – age

Items / **Participants with IDD**	**13-15 vs. 16-20**	**16-20 vs. 21- 25**	**21-25 vs. 26-30**	**26-30 vs. 31-35**	**31-35 vs. 36-40**	**36-40 vs. ≥40**	**≥40 vs. 13-15**
	p	*p*	*p*	*p*	*p*	*p*	*p*
Item 1	.36	76	.52	.82	.77	**.05 (*d*=.41)**	.74
Item 2	**<.001 (*d*=0.91)**	.57	.10	.75	.73	.70	.39
Item 3	.90	.62	.50	.86	.60	.33	.22
Item 4	.07	.56	.30	.75	.81	.86	.85
Item 5	.16	.74	.48	.13	.34	.78	.47
Item 6	.45	.92	.84	**.004 (*d*=.18)**	.56	.53	.33
Item 7	.53	.72	.75	.32	.86	.56	**.002 (*d*=.09)**
Item 8	.43	.82	.11	.01 (*d*=.55)	.38	.08	.93
Item 9	**.005 (*d*=.88)**	.36	.81	.34	.57	.48	.89
Item 10	.60	.92	.28	.54	.35	.68	.84
Item11	**.002 (*d*=1.2)**	.34	.42	.33	.28	.47	.34
Item12	.30	.84	.85	.61	.90	.49	.91
Item13	.54	.29	.80	.24	.18	.51	.98
Item14	.13	.89	.97	.08	.82	.72	.88
Item15	.66	.14	.99	.55	.83	.55	.74
Item 16	.82	.63	.89	**<.001 (*d*=.29)**	.34	.32	.72
Item 17	.73	.69	.81	.23	.72	.19	.43
Item 18	.13	.08	.18	.78	.86	.90	.92
Item 19	.24	.54	.46	**.01 (*d*=.93)**	**.01 (*d*=.54)**	.24	.21
Item 20	**.009 (*d*=.72)**	.33	.65	**.004 (*d*=.97)**	.13	.93	.78
Item 21	.58	.67	.73	.40	.11	.76	.54
Component- construct							
Autonomy	.10	.19	.35	.009	.77	.75	.96
Self-initiation	.58	.58	.64	.16	.63	.13	.67
Self-direction	.21	.56	.21	**.05 (*d*=.61)**	.64	.46	.69
Reflective paths	.33	.92	.53	.51	**.02 (*d*=.79)**	.30	.55
Psychological empowerment	**.02 (*d*=.86)**	.99	.23	**.01 (*d*=.37)**	**.01 (*d*=.41)**	.32	.71
Self-realization	.31	.62	.64	.41	.52	.92	.91
Control expectations	.13	.92	.72	.24	.68	.37	.16
Essential Characteristics							
Volitional Action	.74	.46	.86	.09	.16	.50	.95
Agentic Action	.72	.99	.81	.30	.06	.13	.82
Action-Control Beliefs	.57	.76	.67	.22	.37	.48	**.05 (*d*=.37)**
SDI total	**<.001 (*d*=1.23)**	.35	.90	.80	.30	.80	.45

Note. *$p \leq .05$; ** $p \leq .01$; ***$p \leq .001$

Table 3 (cont). Self-determination scores between adolescents and adults with and without IDD – age

Participants without IDD vs. with IDD / **Items**	**13-15 vs. 13-15**	**16-20 vs. 16-20**	**21-25 vs. 21-25**	**26-30 vs. 26-30**	**31-35 vs. 31-35**	**36-40 vs. 36-40**	**≥40 vs. ≥40**
	p	*p*	*p*	*p*	*p*	*p*	*p*
Item 1	**<.001 (*d*=5.0)**	**<.001 (*d*=4.7)**	<.001 (*d*=2.9)	.06	**<.001 (*d*=3.7)**	**<.001 (*d*=2.1)**	**<.001 (*d*=3.9)**

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Item 2	**<.001 (*d*=3.2)**	**<.001 (*d*=3.8)**	**<.001 (*d*=3.6)**	**.05 (*d*=2.1)**	**<.001 (*d*=3.4)**	**<.001 (*d*=1.8)**	**<.001 (*d*=3.3)**
Item 3	**<.001 (*d*=3.9)**	**<.001 (*d*=2.9)**	**<.001 (*d*=5.0)**	**<.001 (*d*=4.5)**	**<.001 (*d*=3.2)**	**<.001 (*d*=3.1)**	**<.001 (*d*=2.9)**
Item 4	**<.001 (*d*=4.9)**	**<.001 (*d*=4.0)**	**<.001 (*d*=4.0)**	**<.001 (*d*=5.7)**	**<.001 (*d*=5.4)**	**<.001 (*d*=2.1)**	**<.001 (*d*=3.1)**
Item 5	**<.001 (*d*=6.0)**	**<.001 (*d*=3.8)**	**<.001 (*d*=4.3)**	.25	**<.001 (*d*=4.5)**	**<.001 (*d*=2.9)**	**<.001 (*d*=4.3)**
Item 6	**<.001 (*d*=4.7)**	**<.001 (*d*=3.5)**	**<.001 (*d*=3.4)**	**<.001 (*d*=3.5)**	**<.001 (*d*=4.8)**	**<.001 (*d*=1.9)**	**<.001 (*d*=3.6)**
Item 7	**<.001 (*d*=4.7)**	**<.001 (*d*=3.9)**	**<.001 (*d*=4.4)**	**.02 (*d*=1.4)**	**<.001 (*d*=2.2)**	**<.001 (*d*=2.1)**	**<.001 (*d*=2.8)**
Item 8	**<.001 (*d*=3.4)**	**<.001 (*d*=3.0)**	**<.001 (*d*=3.4)**	**<.001 (*d*=2.1)**	**<.001 (*d*=1.7)**	**<.001 (*d*=1.9)**	**<.001 (*d*=3.8)**
Item 9	**<.001 (*d*=5.2)**	**<.001 (*d*=3.9)**	**<.001 (*d*=3.2)**	.08	**<.001 (*d*=3.4)**	**<.001 (*d*=3.0)**	**<.001 (*d*=3.1)**
Item 10	**<.001 (*d*=4.3)**	**<.001 (*d*=3.3)**	**<.001 (*d*=3.7)**	**<.001 (*d*=1.4)**	**<.001 (*d*=2.2)**	**<.001 (*d*=3.0)**	**<.001 (*d*=3.1)**
Item11	**<.001 (*d*=4.2)**	**<.001 (*d*=3.2)**	**<.001 (*d*=3.2)**	**.02 (*d*=2.1)**	**<.001 (*d*=4.7)**	**<.001 (*d*=1.9)**	**<.001 (*d*=3.0)**
Item12	**<.001 (*d*=5.2)**	**<.001 (*d*=4.1)**	**<.001 (*d*=3.6)**	**.05 (*d*=2.1)**	**<.001 (*d*=4.0)**	**<.001 (*d*=3.0)**	**<.001 (*d*=3.5)**
Item13	**<.001 (*d*=5.1)**	**<.001 (*d*=3.3)**	**<.001 (*d*=3.3)**	**.008 (*d*=.70)**	**<.001 (*d*=3.6)**	**<.001 (*d*=2.2)**	**<.001 (*d*=3.4)**
Item14	**<.001 (*d*=5.0)**	**<.001 (*d*=3.4)**	**<.001 (*d*=2.6)**	**<.001 (*d*=3.3)**	**<.001 (*d*=3.4)**	**<.001 (*d*=1.8)**	**<.001 (*d*=3.2)**
Item15	**<.001 (*d*=4.0)**	**<.001 (*d*=3.6)**	**<.001 (*d*=3.2)**	**.05(*d*=2.1)**	**<.001 (*d*=4.0)**	**<.001 (*d*=1.7)**	**<.001 (*d*=2.7)**
Item 16	**<.001 (*d*=4.4)**	**<.001 (*d*=3.2)**	**<.001 (*d*=3.5)**	**.01(*d*=.70)**	**<.001 (*d*=5.0)**	**<.001 (*d*=2.0)**	**<.001 (*d*=3.1)**
Item 17	**<.001 (*d*=4.3)**	**<.001 (*d*=4.1)**	**<.001 (*d*=4.0)**	**.04(*d*=3.5)**	**<.001 (*d*=3.4)**	**<.001 (*d*=1.9)**	**<.001 (*d*=2.8)**
Item 18	**<.001 (*d*=5.2)**	**<.001 (*d*=4.5)**	**<.001 (*d*=5.5)**	**<.001 (*d*=2.3)**	**<.001 (*d*=3.5)**	**<.001 (*d*=2.0)**	**<.001 (*d*=3.5)**
Item 19	**<.001 (*d*=4.3)**	**<.001 (*d*=3.3)**	**<.001 (*d*=3.1)**	**<.001 (*d*=3.4)**	**<.001 (*d*=3.8)**	**<.001 (*d*=2.6)**	**<.001 (*d*=3.1)**
Item 20	**<.001 (*d*=4.7)**	**<.001 (*d*=3.5)**	**<.001 (*d*=3.7)**	**.03(*d*=2.8)**	**<.001 (*d*=3.4)**	**<.001 (*d*=2.1)**	**<.001 (*d*=3.2)**
Item 21	**<.001 (*d*=3.7)**	**<.001 (*d*=2.5)**	**<.001 (*d*=2.9)**	**<.001 (*d*=4.0)**	**<.001 (*d*=3.5)**	**<.001 (*d*=1.9)**	**<.001 (*d*=3.1)**
Component- construct							
Autonomy	**<.001 (*d*=12.6)**	**<.001 (*d*=8.6)**	**<.001 (*d*=9.2)**	.07	**<.001 (*d*=6.9)**	**<.001 (*d*=6.4)**	**<.001 (*d*=8.8)**
Self-initiation	**<.001 (*d*=10.1)**	**<.001 (*d*=6.6)**	**<.001 (*d*=8.9)**	**<.001 (*d*=11.3)**	**<.001 (*d*=7.2)**	**<.001 (*d*=6.4)**	**<.001 (*d*=7.5)**
Self-direction	**<.001 (*d*=11.0)**	**<.001 (*d*=9.3)**	**<.001 (*d*=8.9)**	**.006 (*d*=1.4)**	**<.001 (*d*=6.6)**	**<.001 (*d*=4.6)**	**<.001 (*d*=9.9)**
Reflective paths	**<.001 (*d*=8.5)**	**<.001 (*d*=8.2)**	**<.001 (*d*=8.2)**	**.01(*d*=7.8)**	**<.001 (*d*=9.1)**	**<.001 (*d*=5.2)**	**<.001 (*d*=7.7)**
Psychological empowerment	**<.001 (*d*=8.3)**	**<.001 (*d*=8.6)**	**<.001 (*d*=7.2)**	**.003(*d*=8.8)**	**<.001 (*d*=6.1)**	**<.001 (*d*=4.2)**	**<.001 (*d*=8.5)**
Self-realization	**<.001 (*d*=11.4)**	**<.001 (*d*=10.1)**	**<.001 (*d*=8.9)**	**.02(*d*=6.3)**	**<.001 (*d*=9.2)**	**<.001 (*d*=6.6)**	**<.001 (*d*=8.3)**
Control expectations	**<.001 (*d*=10.1)**	**<.001 (*d*=8.9)**	**<.001 (*d*=7.8)**	**.007(*d*=5.5)**	**<.001 (*d*=8.2)**	**<.001 (*d*=6.0)**	**<.001 (*d*=8.0)**
Essential Characteristics							
Volitional Action	**<.001 (*d*=20.1)**	**<.001 (*d*=12.9)**	**<.001 (*d*=15.4)**	**.03 (*d*=12.7)**	**<.001 (*d*=10.3)**	**<.001 (*d*=11.5)**	**<.001 (*d*=14.7)**
Agentic Action	**<.001 (*d*=17.5)**	**<.001 (*d*=16.2)**	**<.001 (*d*=14.4)**	**<.001 (*d*=13.4)**	**<.001 (*d*=11.0)**	**<.001 (*d*=8.5)**	**<.001 (*d*=13.9)**
Action-Control Beliefs	**<.001 (*d*=24.5)**	**<.001 (*d*=21.8)**	**<.001 (*d*=20.0)**	**.01 (*d*=21.4)**	**<.001 (*d*=20.9)**	**<.001 (*d*=15.6)**	**<.001 (*d*=22.5)**
SDI total	**<.001 (*d*=55.8)**	**<.001 (*d*=48.0)**	**<.001 (*d*=47.8)**	**<.001 (*d*=49.0)**	**<.001 (*d*=54.1)**	**<.001 (*d*=34.0)**	**<.001 (*d*=47.7)**

Note. *$p \leq .05$; ** $p \leq .01$; ***$p \leq .001$

On the other hand, adolescents and youth participants (13-15) with IDD tend to present more self-determined skills than the older participants with IDD, although between 26- 30y scores tend to increase. When comparing self-determination component-constructs and essential characteristics in both groups, is possible to see that there are significant differences between all intra-group-ages. Participants without IDD tend to present higher mean scores than their peers with IDD, except

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between 13-15y and 26-30 where participants with IDD are more autonomous. Effect sizes tend to be strong. Findings also suggest participants without IDD show lower scores in primary schooling (3rd cycle). Unlike results from typical participants, responses from the IDD sample were not statistically significant as academic habilitations increased (Table 4). Results from participants without IDD increased with age and academic habilitations, but that is not reflected for participants with IDD. Surprisingly, self-determined skills seem to decrease in the last stage of schooling in items such as *keep trying even after mistakes*, *plan weekend activities*, *work hard to achieve goals*, *find ways around obstacles*, *self-confidence and using past experiences to plan what to do next*. It seems that younger participants (1st, 2nd and 3rd cycle) with IDD are more self-determined than their peers with IDD in secondary.

Table 4. Self-determination scores between adolescents and adults with and without IDD – academic habilitations.

Items	Participants without IDD				Participants with IDD			
	3rd cycle	Secondary education	Secondary-professional	Bachelor Degree	1st cycle	2st cycle	3rd cycle	Secondary education
	M±*SD*	*M*±*SD*	*M*±*SD*	*M*±*SD*	*M*±*SD*	*M*±*SD*	*M*±*SD*	*M*±*SD*
Item 1	14.5±4.6	14.4±4.9	15.8±4.5	16.2±3.3	13.9±5.7	13.4±5.9	12.2±6.1	14.5±7.1
Item 2	14.4±3.8	15.9±3.4	16.6±3.6	17.7±3.7	12.4±6.3	12.3±5.7	13.4±5.6	12.5±6.5
Item 3	14.4±4.8	16.0±3.6	16.8±2.1	17.7±2.4	13.8±5.7	12.7±5.5	13.5±6.0	12.5±9.6
Item 4	14.4±5.1	15.1±4.01	17.3±3.5	16.9±2.6	14.2±5.6	14.3±5.9	13.9±5.9	17.0±6.0
Item 5	11.5±6.1	13.7±4.2	12.4±4.9	13.9±4.3	13.2±6.1	11.4±6.2	12.9±5.9	9.3±8.7
Item 6	14.8±4.1	14.3±4.7	15.0±3.9	16.9±3.2	14.9±4.4	14.1±5.9	14.7±62	10.0±7.1
Item 7	14.9±5.2	15.6±3.8	16.3±3.5	17.4±2.4	13.7±6.1	13.5±4.9	13.1±6.1	12.5±9.6
Item 8	17.2±3.5	17.2±3.2	16.5±4.5	17.9±2.4	15.6±4.8	16.0±4.9	16.1±4.8	13.8±9.5
Item 9	14.0±5.6	16.8±3.3	16.2±4.0	16.7±2.7	13.6±6.1	13.3±5.2	15.1±5.4	16.3±3.5
Item 10	14.2±4.4	16.24±3.5	17.1±3.9	17.2±2.3	14.3±5.5	15.7±4.5	14.3±5.2	11.3±6.3
Item11	14.6±4.4	15.7±3.6	16.9±4.3	17.1±2.1	12.9±5.6	13.9±5.6	13.5±5.2	5.0±7.1
Item12	13.3±5.5	14.7±4.2	16.6±4.1	16.4±3.0	14.2±6.1	13.0±6.7	12.8±5.9	8.8±8.5
Item13	13.6±4.9	15.4±4.2	15.9±4.6	17.7±2.0	14.1±5.5	13.5±5.4	14.4±5.7	7.5±9.6
Item14	13.6±5.4	16.0±3.3	17.2±3.8	17.3±2.3	14.2±5.2	12.5±6.9	14.4±5.5	11.3±8.5
Item15	14.4±4.2	16.2±3.3	17.3±3.0	17.1±2.4	13.9±5.7	16.3±4.7	14.5±5.0	15.0±4.1
Item 16	14.3±4.6	16.5±3.2	15.5±3.9	16.4±2.2	14.1±6.0	13.9±5.8	15.6±5.4	12.8±8.8
Item 17	14.4±4.5	14.8±4.3	16.8±3.3	16.6±2.5	15.2±4.9	14.9±5.6	13.6±5.7	12.5±9.6
Item 18	13.8±5.4	14.9±5.1	17.2±4.3	17.9±2.4	13.6±5.9	13.5±4.7	12.9±7.3	14.8±9.8
Item 19	14.1±4.3	16.1±3.3	15.2±4.2	17.2±1.9	14.0±5.6	13.8±6.9	15.6±4.6	15.0±5.8
Item 20	13.6±5.2	15.4±3.5	16.6±3.9	16.8±2.6	13.1±6.5	14.0±5.3	14.3±5.9	11.3±8.5
Item 21	15.1±3.8	16.1±3.1	16.4±3.6	17.3±2.4	13.9±6.3	14.9±4.9	15.1±4.8	12.5±9.6

Note. M = Mean; *SD* = Standard deviation.

Table 4. Self-determination scores between adolescents and adults with and without IDD – academic habilitations.

Items	Participants without IDD				Participants with IDD			
	3rd cycle	Secondary education	Secondary professional	Bachelor Degree	1st cycle	2st cycle	3rd cycle	Secondary education

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	M±SD	*M±SD*	*M±SD*	*M±SD*	*M±SD*	*M±SD*	*M±SD*	*M±SD*
Component constructs								
Autonomy	12.82±1.77	45.33±9.00	45.78±10.33	48.60±6.84	40.33±14.4	38.0±11.83	40.93±13.6	40.25±14.66
Self-initiation	10.47±1.45	47.93±7.95	48.25±9.69	51.83±4.75	42.05±13.1	40.40±12.9	43.60±12.7	32.75±24.70
Self-direction	11.80±1.63	47.69±8.27	48.60±9.27	51.81±5.15	41.91±13.5	42.60±15.3	42.97±13.8	38.75±23.22
Reflective paths	9.17±1.27	47.77±7.92	49.78±9.69	52.13±4.98	39.21±13.5	41.40±13.6	42.06±12.3	30±17.79
Psychological empowerment	8.94±1.24	47.62±7.95	48.82±9.42	51.95±6.37	44.41±10.6	46.90±13.1	45.27±11.7	38.75±17.96
Self-realization	12.39±1.71	45.15±9.25	50.60±10.00	50.13±6.90	41.51±14.6	40.30±15,3	41.02±14.4	37±20.31
Control expectations	10.65±1.47	45.38±8.37	49.64±9.54	50.04±5.96	43.40±11.2	43.60±15.8	40.06±13.2	38.25±21.88
Essential Characteristics								
Volitional Action	20.31±2.81	93.27±14.8	94.03±17.45	100.44±9.05	82.38±24.0	78.40±23.28	84.54±22.7	73±31.88
Agentic Action	18.84±2.61	95.47±14.4	98.39±16.33	103.95±9.13	81.13±24.9	84±28.68	85.04±24.1	68.75±40.49
Action-Control Beliefs	26.45±3.66	138.16±20.7	149.07±26.1	152.13±16.5	129.33±31.9	130.80±43.3	126.35±33,3.	114±59.70
SDI total	57.92±8.03	326.9±47.2	341.5±56.5	356.5±31.9	292.9±75.4	293.20±91.6	295.9±73.7	255.8±124.2

Note. *M* = Mean; *SD* = Standard deviation.

Table 4 (cont.). Self-determination scores between adolescents and adults with and without IDD – academic habilitations.

	Participants without IDD					**Participants with IDD**					
Items	**3rd cycle vs. Sec**	**3rd cycle vs. Profession**	**3rd cycle vs. Graduates**	**Prof. vs. Grad**	**Graduates vs. Sec**	**1st vs. 2nd cycle**	**1st vs. 3rd cycle**	**1st vs. Sec.**	**3rd cycle vs. Sec.**	**2nd cycle vs. Sec**	**3rd cycle vs. Sec**
	p	*p*	*p*	*p*	*p*	*p*	*p*	*p*	*p*	*p*	*p*
Item 1	.45	.80	**.03** (*d*=4.0)	.10	.32	.42	.31	.58	.90	.90	.85
Item 2	.98	.87	**.009** (*d*=3.1)	**.004** (*d*=2.7)	**.001p*** ** (*d*=2.9)	.43	.23	**.**78	.99	.88	.87

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Item 3	**.03** (*d*=3.9)	.25	**.001***** (*d*=3.5)	**.01**** (*d*=2.9)	.09	.74	.44	.09	.40	.10	.14
Item 4	**.02** (*d*=4.5)	**.02**(*d*=4.6)	**.001***** (*d*=4.1)	**.007** (*d*=2.9)	**.01** (*d*=3.4)	.55	.57	.98	.84	.73	.82
Item 5	**.004** (*d*=5.1)	.21	**.007** (*d*=5.3)	.18	.83	.86	.74	.32	.97	.41	.32
Item 6	.82	.64	.07	.28	.09	.28	**.006** (*d*=5.2)	.30	.49	.80	.93
Item 7	**.03** (*d*=4.4)	**.03**(*d*=4.6)	**.001***** (*d*=4.1)	.08	**.01**** (*d*=3.2)	.26	.83	.16	.36	**.05*** (*d*=6.0)	.16
Item 8	.27	.28	**.002** (*d*=3.0)	**.002** (*d*=3.3)	**.05*** (*d*=2.9)	.90	.86	.05	.81	.12	.06
Item 9	**<.001**** (*d*=4.5)	.07	**.001***** (*d*=4.5)	**.03** (*d*=3.2)	.18	.33	.18	.14	.95	.28	.32
Item 10	.23	.42	**.001***** (*d*=3.6)	**.008** (*d*=3.0)	**.001***** (*d*=3.0)	.38	.89	.98	.26	.63	.93
Item 11	.65	.79	**.002** (*d*=3.5)	**.001***** (*d*=3.1)	**.001***** (*d*=3.0)	.83	.66	.78	.59	.87	.64
Item 12	**.01**** (*d*=4.8)	.05	**.001***** (*d*=4.5)	.08	**.04** (*d*=3.7)	.54	.93	.49	.47	.75	.43
Item 13	**.001** (*d*=4.5)	.05	**.001***** (*d*=3.9)	**.009** (*d*=3.2)	**.01**** (*d*=3.4)	.03	.63	.19	.09	.88	.29
Item 14	**.001** (*d*=4.4)	**.50**	**<.001 (*d*=4.3)**	.35	**.01 (*d*=2.9)**	**.03 (*d*=5.5)**	.60	.20	.29	.80	.30
Item 15	.07	.15	**.001***** (*d*=3.5)	**.02** (*d*=2.6)	.07	.57	.30	.22	.86	.24	.37
Item 16	**.007** (*d*=3.9)	.15	**.001***** (*d*=3.7)	**.01****(*d*=3.0)	**.005** (*d*=2.8)	.91	.16	.44	.40	.43	.22
Item 17	.49	.06	**.001***** (*d*=3.7)	.13	**.004** (*d*=3.6)	.43	.09	.02	.73	.12	.10
Item 18	.68	.18	**.001***** (*d*=4.2)	**.001***** (*d*=3.2)	**.001***** (*d*=4.1)	.19	**.01**** (*d*=6.5)	.14	**.004** (*d*=7.4)	**.05** (*d*=6.2)	.60
Item 19	.27	.77	**.001***** (*d*=3.4)	**.003** (*d*=3.0)	**.001***** (*d*=2.8)	.14	.31	.72	**.01** (*d*=4.6)	.63	.35
Item 20	**.002** (*d*=4.3)	.08	**.001***** (*d*=4.2)	**.01** (*d*=3.2)	.06	.23	.31	.67	.59	.30	.41

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Item 21	.83	.65	.087	**.01** (*d*=2.9)	**.005** (*d*=2.8)	.10	**.01** (*d*=5.6)	.20	.99	**.05** (*d*=5.9)	**.02** (*d*=5.2)

Note. *M* = Mean; *SD* = Standard deviation; *$p \leq .05$; ** $p \leq .01$; ***$p \leq .001$.

Table 4 (cont.). Self-determination scores between adolescents and adults with and without IDD – academic habilitations.

	Participants without IDD					Participants with IDD					
Items	**3rd cycle vs. Sec**	**3rd cycle vs. Profession**	**3rd cycle vs. Graduates**	**Prof. vs. Grad**	**Graduates vs. Sec**	**1st vs. 2nd**	**1st vs. 3rd cycle**	**1st vs. Sec.**	**3rd cycle vs. Sec.**	**2nd cycle vs. Sec**	**3rd cycle vs. Sec**
	p	*p*	*p*	*p*	*p*	*p*	*p*	*p*	*p*	*p*	*p*
Components construct											
Autonomy	**.04 (*d*=10)**	.21	**.001 (*d*=10)**	.09	.06	.38	.50	.32	.94	.79	.94
Self-initiation	**.04 (*d*=9.2)**	.77	**<.001 (*d*=8.4)**	**<.001 (*d*=7.1)**	**.002 (*d*=6.7)**	.65	.51	.70	.15	26	.15
Self-direction	**.002 (*d*=10)**	**.05 (*d*=10)**	**<.001 (*d*=9.2)**	**.002 (*d*=7.0)**	**<.001 (*d*=7.1)**	.45	.37	.77	.06	.24	.06
Reflective paths	.46	.66	**<.001 (*d*=9.4)**	**<.001 (*d*=7.2)**	**<.001 (*d*=6.8)**	.91	.56	.60	.50	.73	.50
Psychological empowerment	.28	.51	**.01 (*d*=7.8)**	**.003 (*d*=7.7)**	.11	.29	.17	.72	.25	.30	.25
Self-realization	.06	.29	**.002 (*d*=10.2)**	**.04 (*d*=8.2)**	.07	.67	.93	.54	.47	.54	.47
Control expectations	.09	.39	**.001 (*d*=8.8)**	**.03 (*d*=7.5)**	**.04 (*d*=7.4)**	.09	.17	.34	.14	.25	.14
Essential Characteristics											
Volitional Action	**.005 (*d*=17)**	.21	**<.001 (*d*=16.3)**	**.003 (*d*=13.1)**	**.02 (*d*=12.8)**	.87	.69	.86	.40	.33	.40
Agentic Action	**.01 (*d*=16)**	.16	**<.001 (*d*=15.2)**	**.003 (*d*=12.4)**	**.005 (*d*=12.4)**	.49	.48	.97	.11	.29	.11
Action-Control Beliefs	**.02 (*d*=23)**	.77	**<.001 (*d*=22.5)**	**.006 (*d*=20.8)**	.10	.15	.50	.68	.12	.34	.12

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SDI total	**.04 (*d*=52)**	.65	**<.001*** (*d*=47.9)**	**.002 (*d*=43.2)**	**.02 (*d*=41.4)**	.46	.80	.77	.24	.40	.24

Note. *$p \leq .05$; ** $p \leq .01$; ***$p \leq .001$.

The living environment (Table 5) seems to impact self-determination component-constructs and essential characteristics in both groups (with and without IDD). Participants without IDD living in their own home present higher scores when compared with their peers living with relatives, leading to significant differences in most items, except *I have what it takes to achieve my goals*, Item 6, *I set my own goals*, *I think working hard helps me get what I want*; *I make choices important to me*, and Item 18. The only items without differences involved *belief in self to achieve goals*, *goal setting*, keep *trying even after making mistakes* and *working hard will help me to get what I want*. Surprisingly, participants with IDD seem to be more self-determined in institutional settings, followed by own home and relative homes. Significant differences are found in *self-initiation* and *self-realization* when comparing "institution vs. own home", and total between "institution vs. relative home". Participants with IDD living at home seems to take advantage of every opportunity, and participants in institution have *more confidence in own abilities*, and *make more choices important for the person*. When comparing participants with and without IDD scores presented indicated better scores by the second group. Effect sizes vary between medium to strong.

Table 5. Self-determination scores between adolescents and adults with and without IDD – living environment

	Participants without IDD			**Participants with IDD**					
Items	**Own home**	**W/relative**		**Own home**	**W/relative**	**own home vs relatives**	**institution**	**own home vs inst.**	**relative vs. instit.**
	M±SD	***M±SD***	***p***	***M±SD***	***M±SD***	***p***	***M±SD***	***p***	***p***
Item 1	15.3± 4.74	14.84± 4.13	. *p* 47	14.8± 4.96	13.42± 5.91	.17	15.57±4.53	.31	.28
Item 2	17.2± 3.06	15.07± 3.48	**.001 (*d*=.65)**	14.47± 3.1	12.66± 5.99	.58	14.30±5.32	.13	.58
Item 3	17.1± 2.8	15.23± 4.21	**.001 (*d*=.51)**	15.0± 4.18	12.65± 6.17	.56	16.52±4.10	.10	.56
Item 4	16.7± 3.3	14.81± 4.58	**.002 (*d*=.47)**	17.1± 3.08	13.66± 6.03	.16	16.0±4.94	.59	.16
Item 5	14.3± 4.2	11.83± 5.36	**.001 (*d*=.51)**	16.4± 5.44	12.66± 5.97	.25	16.0±5.14	.81	.25
Item 6	15.6± 4.6	14.87± 3.73	.24	15.6± 4.67	13.90± 5.81	.68	15.43±4.19	.99	.69
Item 7	16.2± 3.7	15.74± 4.23	.47	16.4± 4.37	13.22± 6.14	.77	15.78±4.62	.27	.77
Item 8	17.5± 3.1	17.02± 3.56	.31	16.9± 3.92	15.09± 5.44	.13	16.52±4.07	.89	.13
Item 9	17.1± 3.2	14.88± 4.69	**.001 (*d*=.54)**	15.47± 5.2	14.10± 5.75	.37	15.57±4.65	.63	.37
Item 10	17.1± 3.1	15.09± 4.10	**.001 (*d*=.56)**	16.5± 4.09	14.03± 5.44	.39	15.54±4.75	.31	.39

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Item11	16.6±3.3	15.28±4.10	**.01 (*d*=.36)**	15.18±3.9	12.91±5.75	.33	14.17±5.01	.66	.33
Item12	16.1±3.6	14.05±4.97	**.002 (*d*=.48)**	15.5±4.47	12.88±6.43	.63	15.59±4.96	**.03 (*d*=.01)**	.63
Item13	16.3±3.7	14.90±4.70	**.02 (*d*=.33)**	18.0±2.50	13.66±5.92	.12	15.50±5.03	.19	.12
Item14	16.8±2.86	14.97±4.86	**.003 (*d*=.46)**	17.0±3.20	13.53±6.03	.60	15.87±3.53	.12	.60
Item15	16.6±3.07	15.60±3.81	**.049 (*d*=.28)**	16.88±2.9	14.11±5.63	.50	16.28±4.64	.83	**.05 (*d*=.42)**
Item 16	16.7±2.88	14.86±4.06	**.001 (*d*=.51)**	16.59±3.9	14.02±6.22	.89	17.39±3.21	.19	.89
Item 17	16.18±3.6	14.80±4.14	**.01 (*d*=.35)**	16.94±3.30	14.07±5.66	.26	16.26± 3.63	.77	.26
Item 18	16.43±4.1	15.05±5.27	**.049 (*d*=.29)**	17.0±4.35	12.94±6.47	.58	16.22± 4.46	.98	.58
Item 19	17.0±2.99	14.52±3.82	**<.001 (*d*=.72)**	15.88±3.8	14.03±5.78	**.009 (*d*=.37)**	16.00± 4.13	.94	**.009 (*d*=.39)**
Item 20	16.1±2.96	14.40±4.69	**<.001 (*d*=.56)**	15.2±5.03	13.76±6.37	.08	16.09± 4.36	.92	.08
Item 21	17.0±2.91	15.46±3.46	**.002 (*d*=.48)**	16.9±3.34	13.97±6.09	.81	15.54± 4.52	.55	.81

Note. M = Mean; *SD* = Standard deviation; *$p \leq .05$; ** $p \leq .01$; ***$p \leq .001$.

Table 5. Self-determination scores between adolescents and adults with and without IDD – living environment

	Participants without IDD			Participants with IDD					
	own home	**with relative**	***p***	**own home**	**with relatives**	***p* own home vs relatives**	**institution**	***p* own home vs institution**	***P* relative vs. institution *p***
	M*±*SD	***M*±*SD***		***M*±*SD***	***M*±*SD***		***M*±*SD***		
Component construct									
Autonomy	47.76±8.54	41.75±11.34	.25	48.88±11.11	39.70±13.74	.25	47.78±10.98	.64	.25
Self-initiation	50.08±7.11	44.98±9.91	.29	49.58±7.92	40.31±14.38	.08	49.41±7.83	**.03 (*d*=.02)**	.85
Self-direction	49.98±7.74	45.22±10.43	.91	49.29±7.63	40.76±14.58	.64	47.65±9.35	.71	.64
Reflective paths	50.84±7.03	45.81±8.98	.94	46.58±8.47	39.52±14.03	.84	44.02±10.24	.34	.84
Psychological	49.71±8.04	47.48±8.51	.30	49.47±8.37	43.09±12.67	.42	48.23±8.53	.95	.77

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empowerment									
Self-realization	49.45±7.65	43.26±11.74	.89	47.88±7.37	40.29±15.08	.20	47.67±11.08	**.05 (*d*=.02)**	.42
Control Expectations	48.61±8.07	44.72±9.71	.80	48.29±8.92	41.51±13.01	.78	47.36±8.71	.41	
Essential Characteristics									
Volitional Action	97.84±13.49	86.74±18.70	.60	98.47±16.27	80.02±24.33	**.049 (*d*=.89)**	97.19±16.46	.16	.05
Agentic Action	100.83±13.58	91.04±17.14	.39	95.88±13.97	80.29±26.69	.77	91.67±17.56	.54	.54
Action-Control Beliefs	147.78±20.42	135.47±25.29	.84	145.64±19.05	124.90±35.90	.27	143.28±23.27	.88	.32
SDI Total	346.46±44.60	313.26±55.41	**<.001 (*d*=.66)**	340.00±41.07	285.22±80.77	.85	332.2±52.8	.66	**.02 (*d*=.68)**

Note. *M* = Mean; *SD* = Standard deviation; *$p \leq .05$; ** $p \leq .01$; ***$p \leq .001$.

Table 5 (cont). Self-determination scores between adolescents and adults with and without IDD – living environment

	Participants without IDD (own home)	**Participants with IDD (own home)**		**Participants without IDD (relatives)**	**Participants with IDD (relatives)**		**Participants without IDD (institution)**	**Participants with IDD (relatives)**	
	M*±*SD	***M*±*SD***	***p***	***M*±*SD***	***M*±*SD***	***p***	***M*±*SD***	***M*±*SD***	***p***
Item 1	15.31± 4.74	14.88± 4.96	**<.001 (*d*=4.7)**	14.84± 4.13	13.42± 5.91	**<.001 (*d*=4.1)**	15.57±4.53	14.84± 4.13	**<.001 (*d*=4.5)**
Item 2	17.23± 3.06	14.47± 3.10	**<.001 (*d*=3.0)**	15.07± 3.48	12.66± 5.99	**<.001 (*d*=3.4)**	14.30±5.32	15.07± 3.48	**<.001 (*d*=5.3)**
Item 3	17.07± 2.84	15.00± 4.18	**<.001 (*d*=2.8)**	15.23± 4.21	12.65± 6.17	**<.001 (*d*=4.2)**	16.52±4.10	15.23± 4.21	**<.001 (*d*=4.1)**
Item 4	16.71± 3.29	17.12± 3.08	**<.001 (*d*=3.2)**	14.81± 4.58	13.66± 6.03	**<.001 (*d*=4.5)**	16.0±4.94	14.81± 4.58	**<.001 (*d*=4.9)**

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Item 5	14.29± 4.21	16.41± 5.44	**<.001 (*d*=4.2)**	11.83± 5.36	12.66± 5.97	**<.001 (*d*=5.3)**	16.0±5.14	11.83± 5.36	**<.001 (*d*=5.1)**
Item 6	15.60± 4.63	15.65± 4.67	**<.001 (*d*=4.6)**	14.87± 3.73	13.90± 5.81	**<.001 (*d*=3.7)**	15.43±4.19	14.87± 3.73	**<.001 (*d*=4.1)**
Item 7	16.17± 3.71	16.41± 4.37	**<.001 (*d*=3.7)**	15.74± 4.23	13.22± 6.14	**<.001 (*d*=4.2)**	15.78±4.62	15.74± 4.23	**<.001 (*d*=4.6)**
Item 8	17.52± 3.06	16.94± 3.92	**<.001 (*d*=3.0)**	17.02± 3.56	15.09± 5.44	**<.001 (*d*=3.5)**	16.52±4.07	17.02± 3.56	**<.001 (*d*=4.0)**
Item 9	17.05± 3.18	15.47± 5.24	**<.001 (*d*=3.1)**	14.88± 4.69	14.10± 5.75	**<.001 (*d*=4.6)**	15.57±4.65	14.88± 4.69	**<.001 (*d*=4.6)**
Item 10	17.13± 3.08	16.47± 4.09	**<.001 (*d*=3.0)**	15.09± 4.10	14.03± 5.44	**<.001 (*d*=4.1)**	15.54±4.75	15.09± 4.10	**<.001 (*d*=4.7)**
Item11	16.62± 3.25	15.18± 3.92	**<.001 (*d*=3.2)**	15.28± 4.10	12.91± 5.75	**<.001 (*d*=4.1)**	14.17±5.01	15.28± 4.10	**<.001 (*d*=5.0)**
Item12	16.13± 3.55	15.53± 4.47	**<.001 (*d*=3.5)**	14.05± 4.97	12.88± 6.43	**<.001 (*d*=4.9)**	15.59±4.96	14.05± 4.97	**<.001 (*d*=4.9)**
Item13	16.32± 3.74	18.00± 2.50	**<.001 (*d*=3.7)**	14.90± 4.70	13.66± 5.92	**<.001 (*d*=4.7)**	15.50±5.03	14.90± 4.70	**<.001 (*d*=5.0)**
Item14	16.82± 2.86	17.00± 3.20	**<.001 (*d*=2.8)**	14.97± 4.86	13.53± 6.03	**<.001 (*d*=4.8)**	15.87±3.53	14.97± 4.86	**<.001 (*d*=3.5)**
Item15	16.60± 3.07	16.88± 2.87	**<.001 (*d*=3.0)**	15.60± 3.81	14.11± 5.63	**<.001 (*d*=3.8)**	16.28±4.64	15.60± 3.81	**<.001 (*d*=4.6)**
Item 16	16.69± 2.88	16.59± 3.90	**<.001 (*d*=2.8)**	14.86± 4.06	14.02± 6.22	**<.001 (*d*=4.0)**	17.39±3.21	14.86± 4.06	**<.001 (*d*=3.2)**
Item 17	16.18± 3.60	16.94± 3.30	**<.001 (*d*=3.6)**	14.80± 4.14	14.07± 5.66	**<.001 (*d*=4.1)**	16.26± 3.63	14.80± 4.14	**<.001 (*d*=3.6)**
Item 18	16.43± 4.13	17.00± 4.35	**<.001 (*d*=4.1)**	15.05± 5.27	12.94± 6.47	**<.001 (*d*=5.2)**	16.22± 4.46	15.05± 5.27	**<.001 (*d*=4.4)**

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Item 19	17.00± 2.99	15.88± 3.82	**<.001 (*d*=2.9)**	14.52± 3.82	14.03± 5.78	**<.001 (*d*=3.8)**	16.00± 4.13	14.52± 3.82	**<.001 (*d*=4.1)**
Item 20	16.61± 2.96	15.24± 5.03	**<.001 (*d*=2.9)**	14.40± 4.69	13.76± 6.37	**<.001 (*d*=4.6)**	16.09± 4.36	14.40± 4.69	**<.001 (*d*=4.3)**
Item 21	17.00± 2.91	16.94± 3.34	**<.001 (*d*=3.0)**	15.46± 3.46	13.97± 6.09	**<.001 (*d*=3.4)**	15.54± 4.52	15.46± 3.46	**<.001 (*d*=4.5)**

Note. *M* = Mean; *SD* = Standard deviation; *$p \leq .05$; ** $p \leq .01$; ***$p \leq .001$.

Table 5 (cont). Self-determination scores between adolescents and adults with and without IDD – living environment

	Participants without IDD (own home)	**Participants with IDD (own home)**	*p*	**Participants without IDD (relatives)**	**Participants with IDD (relatives)**	*p*	**Participants with IDD (institution)**	**Participants without IDD (relatives)**	*p*
Component construct									
Autonomy	47.76±8.54	48.88±11.11	**<.001 (*d*=8.5)**	41.75±11.34	39.70±13.74	**<.001 (*d*=11.3)**	47.78±10.98	41.75±11.34	**<.001 (*d*=4.3)**
Self-initiation	50.08±7.11	49.58±7.92	**<.001 (*d*=7.1)**	44.98±9.91	40.31±14.38	**<.001 (*d*=9.9)**	49.41±7.83	44.98±9.91	**<.001 (*d*=7.8)**
Self-direction	49.98±7.74	49.29±7.63	**<.001 (*d*=7.7)**	45.22±10.43	40.76±14.58	**<.001 (*d*=10.4)**	47.65±9.35	45.22±10.43	**<.001 (*d*=10.4)**
Reflective paths	50.84±7.03	46.58±8.47	**<.001 (*d*=7.3)**	45.81±8.98	39.52±14.03	**<.001 (*d*=8.9)**	44.02±10.24	45.81±8.98	**<.001 (*d*=8.9)**
Psychological empowerment	49.71±8.04	49.47±8.37	**<.001 (*d*=8.4)**	47.48±8.51	43.09±12.67	**<.001 (*d*=8.5)**	48.23±8.53	47.48±8.51	**<.001 (*d*=8.5)**
Self-realization	49.45±7.65	47.88±7.37	**<.001 (*d*=6.4)**	43.26±11.74	40.29±15.08	**<.001 (*d*=11.7)**	47.67±11.08	43.26±11.74	**<.001 (*d*=11.7)**
Control expectations	48.61±8.07	48.29±8.92	**<.001 (*d*=8.0)**	44.72±9.71	41.51±13.01	**<.001 (*d*=9.7)**	47.36±8.71	44.72±9.71	**<.001 (*d*=9.7)**
Essential Characteristics									

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Volitional Action	97.84±13.49	98.47±16.27	**<.001 (*d*=13.4)**	86.74±18.70	80.02±24.33	**<.001 (*d*=18.7)**	97.19±16.46	86.74±18.70	**<.001 (*d*=18.7)**
Agentic Action	100.83±13.58	95.88±13.97	**<.001 (*d*=13.5)**	91.04±17.14	80.29±26.69	**<.001 (*d*=17.1)**	91.67±17.56	91.04±17.14	**<.001 (*d*=17.1)**
Action-Control Beliefs	147.78±20.42	145.64±19.05	**<.001 (*d*=20.4)**	135.47±25.29	124.90±35.90	**<.001 (*d*=25.29)**	143.28±23.27	135.47±25.29	**<.001 (*d*=25.2)**
SDI total	346.46±44.60	340.00±41.07	**<.001 (*d*=44.6)**	313.26±55.41	285.22±80.77	**<.001 (*d*=55.41)**	332.2±52.8	313.26±55.41	**<.001 (*d*=55.41)**

Note. M = Mean; *SD* = Standard deviation; **p* ≤ .05; ** *p* ≤ .01; ****p* ≤ .001.

4. Discussion

Framed by the recent Causal Agency Theory (Shogren & Raley, 2022), this study investigated self-determination levels of persons with and without IDD based on items, component-constructs and three essential characteristics on the SDI Portuguese translation, trying to establish the self-determination profile of adolescents and adults with and without IDD, as well as to analyze how some variables (gender, age, living and environment and academic habilitations) influence self-determination skills. This is becoming more important especially due to new educational and rehabilitation reform in Portugal to advance inclusion. Our most recent education law (Decree-Law n. º 54/2018) states that all children and adolescents should be in schools and have an active participation in their own scholar project. The Decree-law n. º 49/2018, eliminating, interdiction and incapacitation regimes, has instituted a legal system of giving adults with IDD the opportunity to decide and choose about their own life. Self-determined learning is a powerful tool to enable human beings to be a causal agent in their own life, either in simple or more complex decisions (Parchoumik et al., 2024). One of the strengths of our research is the use of a self-reported measure as people can share their perspectives of self-determination. Our findings contribute to the existing evidence bac on Portuguese people with IDD, advancing our understanding of self-determination skills' strengths and needs, which may play a relevant role in informing person-centered plans and supports provision adjustment. The ultimate goal is to remove systemic barriers and provide support to bridge a more active and functional life (Schalock et al., 2021).

Generally speaking, and as expected, persons with IDD tend to self-report being less self-determined than peers without IDD both at component-constructs and essential characteristics, which is reflected in total score. These results are aligned with previous research (Chao et al., 2019; Mumbardó-Adam et al., 2018; Nunes et al., 2019; Torres et al., 2022; Wehmeyer, 2020a). Being institutionalized, lacking of opportunities in regular and inclusive environments, stigma, over-protection and assistance profile of (informal and formal) caregivers may explain these lower findings (Garrels & Granhund, 2018; Santos, 2020; Vaucher et al., 2020). The only item where participants with IDD scored higher than typical peers was the one related to the planning of weekend activities. This finding maybe related with institution's strategy for creating weekend activities for groups of adults with IDD, or for how family's plan activities, which highlights the role that families play in creating self-determination opportunities especially at *volitional action* level (Mumbardó-Adam et al., 2017). On the other hand, participants without IDD that usually spent their week studying or working, prefer to have a quiet weekend. A curious finding is that self-determination levels could also be

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enhanced with persons without IDD, indicating the importance of the cultural shift towards self-determination.

Self-determination development should be understood across ages and contexts (Mumbardó-Adam et al., 2018; Santos et al., 2022), and considering personal (diagnosis, gender, age) and contextual (living environment, academic habilitations) variables (Shogren & Raley, 2022; Vicente et al., 2020). There is a need to further examine possible differences. When analyzed gender, our findings show that females without IDD are more self-determined than typical males, with higher mean scores and with significant differences in components-constructs of *self-initiated actions*, *self-direction*, *reflective paths* and *psychological empowerment*, which is reflected in essential characteristics of *volitional* and *agentic action* and in *total score*. This is aligned with other studies (Cavendish et al., 2017; Torres et al., 2022). The impact of culture may explain these results. Traditionally, women are educated to take care family, home and job, requiring skills of planning (Nunes et al., 2019; Santos, 2020). Only in *self-realization* and *control expectations* there were no differences between females and males without IDD. On the other hand, and even if with no statistical differences, except *control expectations*, males with IDD present higher mean scores in all component-construct and essential characteristics, presenting a more self-determined profile, corroborating previous studies framed by functional model (Nunes et al., 2019; Torres et al., 2022). Females with IDD seems less confidence of their own abilities, although they score higher in problem-solving. Males with IDD tend to present higher mean scores in most domains, being more autonomous and self-directed, than their typical peers. The need to operationalizing the law in institutional settings may favor the development of some skills (resilience, choosing activities to do, making some simple choices).

According to the new national profile (Dispatch n. º 6478/2017) all students, in mainstreaming schools, should be educated for an informed citizenship. During the scholar curriculum, students are confronted with some relevant choices such as: around 13-14 years they need to choose which scientific or professional studies they want to seek next, and around 17-18years they end their schooling period and apply for university degrees or jobs. Adolescence is a challenging human development period particularly for the students with IDD (Fiel et al., 1997; Vicente et al., 2020). There is a need to teach, just like their peers without IDD, to exercise their legal right of choice (Mumbardó-Adam et al., 2018). Further, self-determination is a strong predictor of quality of life. But, while self-determination is one of the most valued domains for adults with IDD, it is also the one where they are least satisfied (Simões & Santos, 2017), due to cultural restraints and devalued.

Age did not seem to influence the self-determination profile of people with and without IDD, even if previous research has suggested a positive correlation (Shogren & Raley, 2022). These results corroborate other studies (Nunes et al., 2019; Pires et al., 2024) with adults. Participants without IDD between 13-15 seems less self-confident that the older peers, aligned with the development nature of the construct (Wehmeyer, 2020a). Main differences are pointed out in *autonomy*, *self-initiation* and in *volitional action* when comparing participants with 13-15y and 16-20y that could be explained by this being a time in school when there are important choices (what do to next). This finding is aligned with Shogren et al. (2018). The group with differences in all items, components-construct and essential characteristics is the older one (≥40y). This may be because this is a time of greater maturity (job, family issues), where people have and need to have better decision-making power. The total SDI Portuguese translation index was also higher in this age group. Analyzing the responses of participants with IDD significant differences were found in *psychological empowerment* and *total*, with children and adolescents between 13-15y standing as more self-determined. This may reflect opportunities to exercise self-determination being limited during this time (Córdova et al., 2020; Díaz et al., 2018).

Age and academic habilitations are somewhat related. Results on the schooling variable showed that regarding the levels of self-determination of the sample of participants without IDD, the higher the level of schooling, the greater the self-determination profile. Unlike these results, responses from the IDD sample were not statistically significant as schooling increased: the few with a secondary education tend to be less self-determined. One of the reasons may be the additional measures that

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these students are provided in secondary year, due to barriers to learning and inclusion, that accounts for significant academic accommodations, restricting individual choices in segregated rooms. Self-determination, although an essential issue to be considered in transitioning planning, is less valued in Portugal and the main decisions, formal and informal, are viewed as caregivers' responsibility. The therapeutical focus, rather than in functional and social skills learning, may also be another explanation. Further, the majority of these students, when finishing high school do not have competences to go to labor market, with few job opportunities (Simões & Santos, 2016) and families see institutionalization or staying at home as the expectation (Nunes et al., 2019; Pires et al., 2024; Torres et al., 2022).

The living environment also appeared as an important variable that influence self-determination profiles. Participants without IDD living at home present significant differences in self-determination skills, except items 1, 6-8, with overall scores suggesting persons living at own home being more-self-determined. These results reflect real-life experiences, as people with typical development have more power of choice, and their interests and motivations are more respected (Stancliffe et al., 2011). Although evidence point to living in an institution tending to be associated with lower self-determination level (Santos, 2020; Tichá et al., 2012), the responses of participants with IDD living with relatives showed the need to school and family to be trained for the empowerment of these students/familiars. As expected, living at own home is translated into better self-determined profile, due to the need to decide and choose what is best for the individual. Persons with IDD living in their own home report acting more autonomously, with self-initiated and self-directed actions, and tending to think more reflectively about ways to solve problem/select the best path. They also report more psychological empowered, higher self-realization and better control expectations. Living at their own implies daily choices according to motivations and interests (Santos, 2020). Participants with IDD living at relative home or in an institution only present differences in total. These results are aligned with national inclusive policy, but there is still a need for implementation in the real world. The consideration of self-determined learning and the living environment (Stancliffe, 2011; Wehmeyer and Bolding, 2001) should be put on national agenda.

5. Conclusion

Portugal is advancing towards more inclusive environment expressed by recent legislative reforms. Self-determination, even if a complex construct, is relevant for all persons, regardless of personal characteristics. It is one of the keywords of national scholarly systems and organizations restructuring (Santos et al., 2022). Our findings highlight the need for instruction and measures to be leveraged to support the development of abilities to decide, act and believe in own capabilities (Shogren & Raley, 2022) across life span and diverse environments. People with IDD tend to be less self-determined that their typical peers, but that does not mean that Portuguese people are self-determined. Gender does not seem to impact self-determination, but age, academic habilitations and living environment does.

Adolescents and adults with and without IDD should be motivated and taught how to make decisions and choices, express preferences, setting and attaining goals through planning and reflexive paths and solving problems among others, expanding the scope of participation and citizenship. There is a need to rethink resources, curricular contents, opportunities and supports to support the development of self-determined skills. In addition, research suggests that self-awareness, self-regulation, problem-solving skills, and goal setting, are all critical components of practicing self-determined behavior, and may help students with IDD be academically successful (Getzel, 2014). Self-determination aids students with IDD in learning more about themselves, the strengths they bring to campus, and how to navigate the challenges they will face as they encounter a demanding curriculum. Self-determination can provide students with IDD with the skills and tools to create and attain personal and academic goals while fostering independence, self-regulation, and self-advocacy. These are all skills that individuals with IDD will use well beyond their academic life.

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The results of this study suggest that practitioners should continue to provide training in self-determination via coaching programs and design new programs to build self-determination skills in students who register their disabilities, given the variability in scores on the SDI. Given the growing importance of creating opportunities for self-determination in all contexts, and the fact that this is a universal competence in the development process, it is safe to conclude that promoting self-determination is influence by the recognition of its importance by the person, their family, teachers and the entire academic team. The biggest challenge is for people to recognize the need for change and that "labels" about people with IDD have an impact on how families and professionals perceive self-determination. This work must incorporate a multidimensional model of context, recognizing that the factors studied must interact directly with new approaches to self-determination training for real change to take place at all levels (micro, meso, macro). These changes are necessary!

This study presents some limitations. It reflects a small, convenience sample – participants were recruited from organizations that tend to partner with academy and might not be representative of the country. The cross-sectional design and the non-inclusion of all levels of severity/intensity of supports is also a limitation. Traditionally, the diagnosis of IDD is reported by professionals and is estimated mainly based on IQ measures (not be homogeneously reported and not collected). Even if a national practice, results about disability support needs should be interpreted with caution.

Even with this limitation, there are recommendations that emerge from this work, including: longitudinal studies to analyze how self-determination evolves with age and social life demands; examining how regular contexts creates opportunities for self-determined actions; assessments of the effects of instruction models to promote self-determination for adolescents and adults with IDD and other type of disabilities. Understandings of the relation between self-determination, academic success, functionality, supports needs and quality of life should be also deepened. Cross-sectional studies may be another recommendation for research. This study aims to contribute to the existing body of international knowledge and opens future research lines for a better understanding of self-determination relevance and operationalization since school in Portugal and across the world.

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