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Factors Associated With Social Inclusion and Labour Status in People With Intellectual Disabilities, From Urban and Rural Areas of Peru

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ABSTRACT

Background: People with intellectual disabilities face obstacles to their social-labour inclusion due to factors that must be identified in the Peruvian context.

Methods: A total of 542 people with intellectual disabilities were recruited, including 250 from urban areas and 292 from the jungle. Sociodemographic information, quality of life, adaptive behaviour, caregiver burden, and risk of maltreatment were collected from caregivers, who served as the primary source of data. Two models were proposed: social inclusion and employment status, as dependent variables. In both cases, region was considered as a grouping variable to control for random intercepts.

Results: The caregiver burden, along with gender, age, employment status, and self-care were predictors of social inclusion, whereas age, social inclusion, verbal communication, and self-determination were predictors of employment status.

Conclusions: The factors identified will allow improving interventions or public policies for the benefit of people with intellectual disabilities and their families.

The social and labour inclusion of people with intellectual disabilities continues to face significant barriers. Stigma, discrimination and misinformation generate rejection and indifference, which limit their participation in society (Buljevac et al. 2022). In addition, lack of access to adequate education (Garrels and Sigstad 2021) not only limits the social participation of people with intellectual disabilities but also compromises their trajectory towards independent living by restricting the development of essential functional and socio-occupational competencies. Academic training and the strengthening of adaptive skills are fundamental to foster self-determination and an effective transition to employment, key aspects in their labour inclusion process (Wehman et al. 2018). Added to this is the absence of work environments adapted to their needs (Zulmi et al. 2021), which further reduces their opportunities for participation. These barriers, both social and environmental, hinder the development of their autonomy and independence, often excluding them from the formal settings of education and employment (Lemaire and Mallik 2008).

In this context, family difficulties are exacerbated, increasing family caregiver overload, economic crises and deteriorating quality of life (Al-Krenawi et al. 2011; Saunders et al. 2015). Despite the difficulties, the family acts as the main socialising agent and support, which helps to face obstacles such as a lack of accessibility, prejudice and social stigma (Tétreault et al. 2014). However, gender inequality is evident in the caregiving field (United Nations 2006; Vigna et al. 2024).

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Lay Summary

- The study identified the female caregiver as a protective factor for the promotion of social inclusion from an early age, being caregiver overload a risk factor that hinders the social development of people with intellectual disabilities.
- It has also been shown that the development of adaptive behaviour through self-care skills favours interpersonal skills.
- On the other hand, age, social participation, verbal communication, and self-determination skills were significant predictors of employment status.
- The factors identified represent a starting point for future, more detailed research, with the aim of improving interventions, promoting equal opportunities in the educational, social and labour spheres, and proposing public policies for the benefit of people with intellectual disabilities in Peru.

1 | Global Context of Social and Labour Inclusion

In response to these difficulties, governments have implemented policies to ensure the inclusion, dignity and rights of people with intellectual disabilities (United Nations 2017). It is important to note that some countries successfully regulate the inclusion of people with intellectual disabilities, such as Norway, which has a hiring system where the public sector promotes competitive employment with benefits for people with intellectual disabilities (Wendelborg et al. 2022).

Also, since the 1970s in the United States and Canada, people with hearing impairments, physical disabilities, autism and cerebral palsy have been successfully included in the labour market through the 'Supported Employment' program (Wehman et al. al., 1998). This inclusion strategy is developed in stages and accompanied throughout the process, thus ensuring job stability (Vigna et al. 2024). On the other hand, some studies show the participation of people with intellectual disabilities in other occupational activities, such as volunteering (Trembath et al. 2010), which has been shown to be associated with an improvement in mental and emotional health indicators, in addition to the social support provided by friends and family (McCausland et al. 2020).

It is worth noting that a qualitative study conducted in 13 companies that established partnerships with Special Education Centers to offer internships to people with intellectual disabilities in the USA revealed the mutual benefits of this collaboration. Employers highlighted the importance of adapting the work environment, through appropriate task assignments, probationary periods, flexibility and constant communication. These findings underline the crucial role of internships as a first step towards employment inclusion, (Valentini et al. 2019).

To address the challenges faced by people with intellectual disabilities and their families, various research has highlighted the effectiveness of psychosocial interventions, such as the cognitive-behavioural model, to increase social skills and promote participation (Boluarte et al. 2006). A comprehensive review of the literature (Koller and Stoddart 2021) confirms that the development of social competencies is a central goal in preparing for inclusion. Therefore, learning social skills from a holistic perspective is the predominant approach used to address social exclusion. However, barriers to the inclusion of people with intellectual disabilities require a multidisciplinary and cross-cutting approach that considers social, economic, cultural, and political aspects (Bietti 2023).

In Latin America, although regional laws have made progress in enacting regulations, these tend to be general and lack specific regulations according to the needs of people with intellectual disabilities (Cornejo et al. 2024; Paz-Maldonado and Silva-Peña 2020). Moreover, during the COVID-19 pandemic, the opportunities for social and labour inclusion of people with intellectual disabilities were critically affected (Silván and Quífez 2020).

A study in Brazil identified that organisations do not have labour inclusion processes and frame accessibility as an individual demand, a situation that represents a barrier to the equalisation of conditions (Aydos et al. 2021). Therefore, today disability constitutes one of the limitations in employment indicators in Latin America, particularly in women who live in rural areas (Pinilla-Roncancio and Gallardo 2023).

2 | Peruvian Context

Peru has a General Law for People with Disabilities. It seeks to ensure the equal status of people with disabilities in general, through various public institutions such as the National Council for the Integration of People with Disabilities (CONADIS), the Municipal Offices for the Attention of People with Disabilities (OMAPED), the National System for the Integration of People with Disabilities (SINAPEDIS), and other institutions that promote social inclusion policies (Congress of the Republic of Peru 2012, Law no. 29973).

The OMAPED are responsible for labour inclusion. However, none of them report job placement statistics. Their main function is focused on issuing disability cards, and only in some districts of Lima do they offer training courses (OMAPED San Isidro 2023). On the other hand, one of the functions of CONADIS is to promote job training workshops, being the CETPRO 'Salomón Zorrilla' the only public center that offers training courses to people with intellectual disabilities in Peru (National Council for the Integration of People with Disabilities 2024).

Likewise, Social Health Insurance, through 2 Specialized Centers for Professional Rehabilitation (2026) located in Lima, offers various training courses with a welfare approach. Similarly, the National Rehabilitation Institute (2026) is a public agency whose mission is to establish standards of care for social and labour inclusion based on scientific evidence. Its main activity is welfare-based, so that policies derived from scientific research are nonexistent in Peru.

The employment situation of people with disabilities in general is alarming in our country. Statistics report that in Lima only

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32% of the companies have fulfilled their employment quota (3%) while in the provinces it does not even reach 10% (National Council for the Integration of People with Disabilities 2021). On the other hand, among people with some type of disability, 23.9% work as unskilled service workers (National Institute of Statistics and Informatics 2019).

In Peru, only one private institution has implemented the supported employment system; however, its results are focalised (Ann Sullivan Center of Peru 2026). Despite this initiative, public agencies, such as the Ministries of Labour, Education and Health, do not provide sustainable alternatives that address the needs of people with intellectual disabilities, who in turn present comorbidities associated with autism and epilepsy, with a considerable prevalence of 40%–70% (Santander et al. 2021; Guerrini et al. 2019; Matson and Shoemaker 2009).

Labour inclusion helps to address the existing stigma and labour gap, evident in their high labour inactivity figures of 55.6% (Ministry of Labor and Employment Promotion 2022). However, negative attitudes in those responsible for human resources areas are another barrier to the fulfilment of inclusion quotas (Paz-Maldonado and Silva-Peña 2020; Gastelo 2017). Precisely, a mixed design carried out in Peru detected that 31% of respondents would not be willing to hire people with intellectual disabilities if they had an enterprise (Zapata 2023). Unfortunately, there is still a perception that people with disabilities are less eligible as workers (Gormley 2015).

This lack of inclusive strategies highlights the need to generate scientific evidence to systematically guide the processes of inclusion and equalisation of opportunities. Currently, there are few studies with a quantitative approach that provide scientific information on social and labour inclusion, which underscores the urgency of research in this field. Research addressing social inclusion has been found to be largely developed under a qualitative approach (Alanazi 2022; Garrels and Sigstad 2019; Merrells et al. 2019) aimed primarily at promoting the development of adaptive behaviours (Traina et al. 2022). This underscores the urgency of conducting research in this field.

This study reveals significant differences in the social and labour inclusion of people with intellectual disabilities between the San Martin region of the Peruvian jungle and the capital, Lima. Making both realities visible reflects the existence of centralisation where accessibility to health services, education, qualified professionals, and job opportunities are concentrated in the capital (Serrano and Astrid 2024). This gap between urban and rural realities is a topic that has been little addressed in the literature on intellectual disabilities in Latin America. These results provide empirical evidence for the development of more effective policies with precise indicators and monitoring mechanisms, ensuring tangible improvements in the lives of people with intellectual disabilities (Pinilla-Roncancio and Gallardo 2023). Therefore, we propose to identify the factors associated with the social inclusion and employment situation of people with intellectual disabilities in the Peruvian context, based on the following study hypotheses:

H1. *Personal factors (age, educational level, adaptive behavior, occupation, self-determination) predict the social inclusion and labor force participation of people with intellectual disabilities.*

H2. *Relational factors (caregiver burden, risk of abuse) predict the social inclusion and labor force participation of people with intellectual disabilities.*

H3. *The personal and relational factors that predict the social inclusion and labor force participation of people with intellectual disabilities differ according to the urban and rural context in Peru.*

3 | Methods

3.1 | Study Design and Participants

A total of 542 people with intellectual disabilities were recruited, 250 from urban areas and 292 from the Peruvian jungle. In both cases, region was considered as a grouping variable to control for random intercepts, due to cultural, geographic, or other differences that could affect the results (Mera-Mamián et al. 2023).

Non-probability purposive sampling (direct and selective choice of participants) was used to select people with intellectual disabilities from two regions of Peru: Lima (capital city located on the coast of Peru) and San Martín (jungle of Peru), coming from the Shawi and Quechua ethnic groups. Participants were identified from government records of the Municipal Office of Attention to People with Disabilities (OMAPED, from their Spanish initials) in each district.

The demographic characteristics of the participants are shown in Table 1. In the San Martin Region (jungle), the ages of the participants ranged from 14 to 58 years ($M = 30$, SD = 11.78), 53.2% were male and 46.8% female. Most had primary education (49.2%) and a significant proportion lacked formal education (29.2%). With respect to the educational modality, Special Basic Education Centers (CEBE) predominate with 28.8% and 53.2% did not report comorbidities. The family structure reflected a greater presence of nuclear families (34.8%). The majority did not work (86.8%). People with intellectual disabilities in Lima ranged in age from 14 to 57 years ($M = 24$, SD = 8.88). 59.9% were men and 40.1% were women. Most had primary education (56.5%), while a small percentage had technical education (2.4%), mostly coming from CEBE (42.5%). 57.2% reported no comorbidities. Only 38.0% lived in households with a nuclear structure. 78.4% did not have a job.

In addition, the sociodemographic data of the caregivers are presented in Table 2. In the San Martin region, the age ranged from 18 to 86 years ($M = 53$, SD = 14.56). In most cases, caregivers were mothers (66.0%), followed by fathers (8.8%) and immediate family members (10.8%). Primary education was the most common (44.8%), although a significant number also had secondary education (29.6%). In terms of occupations, 'Homemaker' was the most frequent (63.6%), followed by 'Self-employed' jobs (26.8%). In contrast, caregivers in Lima ranged in age from 18 to 83 years ($M = 55$, SD = 10.48). The majority were mothers (75.3%), but there was also a considerable percentage of fathers (13.7%). In

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TABLE 1 | Sociodemographic characteristics of people with intellectual disabilities.

		Region			
		San Martin		Lima	
Variable	**Level**	***n***	**%**	***n***	**%**
Gender	Woman	117	46.8	117	40.1
	Man	133	53.2	175	59.9
Education level	Primary	123	49.2	165	56.5
	Secondary	51	20.4	104	35.6
	Technological	2	0.8	7	2.4
	No education	73	29.2	16	5.5
Education modality	CEBR	59	23.6	71	24.3
	CEBA	17	6.8	21	7.2
	Inclusive School	29	11.6	52	17.8
	CEBE	72	28.8	124	42.5
	CETPRO	1	0.4	8	2.7
	Does not report	72	28.8	16	5.5
Comorbidity	Yes	101	40.4	125	42.8
	No	133	53.2	167	57.2
Family type	Nuclear	87	34.8	111	38.0
	Incomplete	84	33.6	90	30.8
	Extended	74	29.6	70	24.0
	Reconstituted	5	2.0	16	5.5
Work status	Yes	33	13.2	63	21.6
	No	217	86.8	229	78.4
	Total	250	100.0	292	100.0

Abbreviations: CEBA = Center of Alternative Education; CEBE = Center of Special Basic Education; CEBR = Center of Basic Education; CETPRO = Center of Technological Education.

TABLE 2 | Sociodemographic characteristics of caregivers.

		Region			
		San Martín		Lima	
Variable	**Level**	***n***	**%**	***n***	**%**
Relationship	Dad	22	8.8	40	13.7
	Mom	165	66.0	220	75.3
	Other relative	27	10.8	20	4.1
	Non-relative	36	14.4	12	4.1
Educational level	Primary	112	44.8	20	6.8
	Secondary	74	29.6	143	49.0
	Technological	14	5.6	53	18.2
	University	27	10.8	70	24.0
	No education	23	9.2	6	2.1
Work status	Housewife	159	63.6	176	60.3
	Self-employed	67	26.8	62	21.2
	Employed	15	6.0	38	13.0
	Other	9	1.2	16	4.1
	Total	250	100.0	292	100.0

educational terms, those with secondary education (49.0%) and higher education (24.0%) stood out. The most common occupations continued to be 'Homemaker' (60.3%) and 'Self-employed' (21.2%). In both regions, most caregivers were mothers, although in Lima there were also a significant number of fathers involved in caregiving. In San Martin, the educational level of caregivers is mostly primary or secondary, while in Lima, there is a higher proportion of caregivers with university level education. The most common occupation of caregivers was 'housewife' and the average age of caregivers was similar in both regions, although in Lima it tended to be slightly higher.

3.2 | Data Collection Procedure

Data collection was carried out over a period of 4 months, from December 2022 to March 2023. Access to the study sample was obtained by submitting a formal request to the authorities of various institutions that serve people with intellectual disabilities (OMAPED, CEBE and CETPRO) in the regions of Lima and San Martin.

Once permissions were obtained, participants who met the inclusion criteria established in the research protocol were identified. The following enrollment strategies were implemented, adapted to the characteristics of each locality:

- *Informative meetings.* Group meetings were held to explain the objective of the study, its procedures, risks, and benefits aimed at the heads and staff of the institutions, as well as the caregivers of people with intellectual disabilities.
- *Public announcements.* In both regions, Lima and San Martin, local media (radio interviews, advertisements, loudspeakers) and other community outreach channels were used to call potential participants and their caregivers.
- *Home visits and appointments.* Individual interviews were conducted in the participants' homes or by scheduled appointments, depending on the availability of the institution and caregivers.

Initial contact with the caregivers was made through the directors of the Special Basic Education Centers (CEBE) and the heads of OMAPED.

3.3 | Informed Consent

Prior to the application of the tests, written informed consent was obtained from the legal caregivers of people with intellectual disabilities. They were provided with detailed information

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about the study, including its objectives, procedures, risks and benefits, and were given the opportunity to ask questions.

The decision to obtain informed consent from legal caregivers was based on careful consideration of the specific cultural context. In Peru, there are strong cultural practices of overprotection of people with intellectual disabilities. These practices, although well-intentioned, can limit the autonomy and participation of people with intellectual disabilities in decision-making. Therefore, obtaining the consent of legal caregivers was considered the most appropriate way to ensure the protection of the rights and well-being of participants, while respecting prevailing cultural norms and ensuring the ethical validity of the research.

3.4 | Development of Interviews

The application of the tests was carried out in the interview modality, with an approximate duration of 40 min per participant. Pictograms were used as visual support to facilitate the understanding of the questions, adapting the language and presentation to the individual needs of each participant.

To ensure the reliability of the information obtained, interviews were conducted in three stages:

1. *Interview with the caregiver.* Sociodemographic data and relevant background information about people with intellectual disabilities were collected, application of the Caregiver Abuse Screen.
2. *Interview with people with intellectual disabilities.* The tests were applied, and data was obtained directly from the participants, using visual aids and adapted language. Adaptive Behaviour Test Battery, Comprehensive Quality of Life Scale for People with Intellectual Disabilities.
3. *Joint interview.* A final interview was conducted with the caregiver and people with intellectual disabilities to contrast the information obtained in the previous stages and clarify any discrepancies

Compliance with Peruvian regulations on the care of people with disabilities was guaranteed at all times, protecting their rights and well-being.

3.5 | Instruments

Integral Scale of Quality of Life of People with Intellectual Disabilities (Verdugo et al. 2007).

The Integral Scale of Quality of Life of People with Intellectual Disability (Verdugo et al. 2007) in its version adapted by Boluarte and Tamari (2017) was used. Initially, the content validity procedure was carried out with the participation of 19 expert judges, who performed a self-evaluation to assess their level of expertise (Marín-González et al. 2021) and ensure strict methodological rigour. The scale is composed of 23 items in a dichotomous response format measuring two dimensions: Social Participation and Self-Determination, completed by the caregiver.

Adaptive Behaviour Test Battery (Boluarte-Carbajal et al. 2024).

Adaptive behaviour was measured with the Adaptive Behaviour Test Battery designed by Boluarte-Carbajal et al. (2024). The application system combines direct observation, recording, and the participation of the main caregiver as informant in 24 items, using a 5-point Likert scale to measure the frequency of the target behaviours. The authors developed the instrument and assessed its content validity through the criterion of judges, as well as its interobserver reliability. After making the necessary adjustments, they obtained a final version with which they continued the confirmatory factor analysis, which supported a three-factor structure. In addition, the invariance analysis confirmed the equivalence of the variable according to gender, region, and age of the participants. Finally, the internal consistency of the three dimensions was evaluated with the ordinal alpha coefficient and showed adequate values (0.81–0.91), exceeding the established cut-off point.

Zarit Caregiver Overload Scale (Zarit et al. 1980). *Adapted by* Boluarte-Carbajal et al. (2022).

Caregiver overload was measured with a 12-item unidimensional scale psychometrically adapted (Boluarte-Carbajal et al. 2022) from the Zarit Caregiver Overload Scale (Zarit et al. 1980). This instrument was designed to assess subjective events of perceived caregiver overload. Its original version consists of 29 items, with a scaling ranging from 'never' to 'almost always'.

3.6 | Procedure

The project was approved by the Ethics Committee of the Universidad César Vallejo. Study participants were selected through the OMAPEDs and Special Education Centers (CEBEs) in both regions. The data collection stage lasted approximately 4 months, from December 2022 to March 2023. Recruitment was carried out through the directors of the CEBEs and heads of OMAPEDs, after formalisation through a Letter of Introduction. The application of the tests was carried out in a rigourous manner, complying with all the inclusion criteria established in the research protocol and obtaining the written informed consent of the legal caregivers of the people with intellectual disabilities. Likewise, the provisions of the Peruvian regulations in force on care for people with disabilities were respected at all times, thus guaranteeing the protection of the rights and well-being of the participants.

3.7 | Data Analysis

Factor Score Regression (FSR), also referred to as Multistage Factor Score Regression or Factor Score Path Analysis, was employed as an alternative method to address the limitations of Structural Equation Modelling (SEM), as highlighted by Devlieger et al. (2019). In essence, FSR breaks down the simultaneous estimation process of SEM into distinct stages. Initially, each latent variable is represented through Confirmatory Factor Analyses (CFA), connecting them to their respective observable indicators in measurement models, as proposed by Devlieger and Rosseel (2017). Subsequently, factor scores are

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computed, serving as measures that indicate an individual's relative position on a specific latent trait and are derived from the information obtained through factor analysis (DiStefano et al. 2009). Lastly, in the final stage, these factor scores are treated as observed variables in a regression model, functioning similarly to the structural model within SEM, as described by Hayes and Usami (2020b). FSR has been previously used in social science research (Azzopardi et al. 2014; Loncke et al. 2018; Tiego et al. 2020; Zegarra-López et al. 2022), and has several benefits compared to using sum scores, especially with small sample sizes (Devlieger et al. 2019; Widaman and Revelle 2023).

Due to the extensive number of required commands, all the procedures were carried out using the R programming language; in particular, with the lavaan package (Rosseel 2012). The SEM function of lavaan was employed to fit the measurement models, using the WLSMV estimator given its benefits with respect to deviations from multivariate normality and because all observed indicators were ordered categorical responses (DiStefano et al. 2019; Li 2016). The fit for the measurement models was assessed considering three main fit indexes: Comparative Fit Index (CFI), Root Mean Squared Error of Approximation (RMSEA) and Standardised Root Mean Square Residual (SRMR). The values of the indexes were contrasted taking into consideration the cut-off points CFI ≥ 0.95, RMSEA ≤ 0.05 and SRMR ≤ 0.06 as indicators of a good fit to the empirical data; and CFI ≥ 0.90, RMSEA ≤ 0.08 and SRMR ≤ 0.08 as indicators of a reasonable fit of the model (Keith 2019). It is important to note that by using the WLSMV estimator under the conditions of the study, we might expect a high RMSEA, and conventional cutoff criteria may not be suitable; thus, more emphasis will be given to SRMR (Shi and Maydeu-Olivares 2020). Additionally, if any instrument demonstrated an inappropriate fit to the observed data, the modification indices were used to make changes in the specification of the model that may be supported by theoretical criteria, mainly in the correlation of uniqueness (Kline 2016). Despite being discouraged in psychometric literature, disregarding related uniqueness can lead to biased estimates when employing an FSR (Hayes and Usami 2020a). Factor scores were estimated using the Empirical Bayes Modal approach (EBM) method which is suitable for categorical indicators (Skrondal and Rabe-Hesketh 2004).

For the structural models, the factor scores previously estimated were introduced, along with other categorical indicators in the two main models. The first model consisted of a linear mixed model with random intercepts (Jiang and Nguyen 2021) where the region (i.e., whether people with disabilities lived in the coast or jungle) was used as grouping variable, due to the differences in social, cultural, and economic features. In this model, social participation was the dependent variable, and the other indicators mentioned in the *measures* section were considered as predictors. The relationship between each predictor and the dependent variable is expressed in a β coefficient that can be interpreted as small ($\beta = 0.10, -0.29$), moderate ($\beta = 0.30, -0.49$), and strong ($\beta > 0.50$), as suggested by Cohen (1988). The second model considered a generalised linear mixed model with a binomial family and a logit link function (Jiang and Nguyen 2021), since the dependent variable was work status, a dichotomous indicator. For this second model, the grouping variable for a random intercepts structure was still the region, and the other variables described in the *measures* section were considered as predictors. The relationship between each predictor and the dependent variable is expressed in a β coefficient that is usually transformed in its logarithmic form to obtain odds ratios (OR), that can be interpreted as small (OR = 2.00, − 2.99), moderate (OR = 3.00, − 3.99), and strong ($OR > 4$), as suggested by Ferguson (2009).

In both models, the intra class correlation (ICC), also known as the variance partition coefficient, and its adjusted version was provided as a measure of the variability accounted for the grouping variables (Pleil et al. 2018), following the algorithms presented by Nakagawa et al. (2017). The ICC ranges from 0 to 1, and as it gets closer to 1, it suggests that the variations between subjects can be attributable to the grouping variable; whereas, as the ICC approaches 0, it denotes that the grouping variable does not account for differences between subjects and that the random effects are not necessary. In practice, a value below 0.05 implies that random effects are not required (Raudenbush and Bryk 2002; Mangino and Finch 2021) but including them could lead to better estimates regardless (Bliese et al. 2017). In addition, the R^2 was computed following Nakagawa and Schielzeth (2012), and Nakagawa et al. (2017) approaches for the amount of variance account for the fixed effects (i.e., marginal R^2), and for both random and fixed effects (i.e., conditional R^2), both are important diagnostic indicators when working with generalised linear mixed models (Bono et al. 2021).

4 | Results

4.1 | Measurement Models

As the Factor Score Regression approach was endorsed, Table 3 shows the fit indexes for the measurement models of the latent variables that will be included in the structural regressions. As can be seen, the correlated 2-factor model proposed for the Daily Life Activities Scale reached an excellent fit to empirical data with two highly dimensions with high reliability autonomy ($\lambda = 0.594–0.810$, $\alpha = 0.740$, $\omega = 0.768$) and personal hygiene ($\lambda = 0.589–0.929$, $\alpha = 0.897$, $\omega = 0.912$), and strongly correlated ($r = 0.700$). For the instrumental skills scale, a unidimensional model proved an adequate fit with highly internally correlated indicators ($\lambda = 0.502–0.890$, $\alpha = 0.734$, $\omega = 0.778$). Regarding communication, a multidimensional correlated 2-factor model had excellent fit to the empirical data along with two highly correlated ($r = 0.618$) and internally consistent dimensions verbal communication ($\lambda = 0.500–0.958$, $\alpha = 0.896$, $\omega = 0.918$), and assertive communication ($\lambda = 0.771–0.910$, $\alpha = 0.720$, $\omega = 0.763$). With respect to quality of life, the self-determination scale had an adequate unidimensional structure with high factor loadings ($\lambda = 0.498–0.641$), and moderate reliability ($\alpha = 0.620$, $\omega = 0.674$); a similar result was found for the social participation instrument ($\lambda = 0.463–0.808$, $\alpha = 0.671$, $\omega = 0.745$). On the other hand, the caregiving burden measured by the Zarit scale indicated an excellent fit to a unidimensional structure with high factor loadings ($\lambda = 0.421–0.788$) and internal consistency ($\alpha = 0.877$, $\omega = 0.885$).

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4.2 | Structural Model for Social Participation

On Table 4 the results of the mixed linear model for social participation are shown. The region in which a participant lived was defined as the grouping variable in a random intercept model. By estimating the intraclass correlation, we found that a significant amount of the proportion of the variance explained could be attributed to the grouping structure in the population ICC = 0.086, $ICC_{adjusted} = 0.112$, which justifies the proposed mixed model. The overall predictors explained a significant amount of the variance for social participation since the fixed factors had an $R^2_{marginal} = 0.235$. In addition, while considering both fixed and random factors we found that an important amount of variance was explained to the random effects, expressed in a $R^2_{conditional} = 0.321$. In addition, the estimated random effects denoted a moderate difference in social participation of 0.408

TABLE 3 | Measurement models for the proposed latent variables.

Scale	Model	χ^2 (df)	*p*	CFI	RMSEA (90% CI)	SRMR
Daily life activities	Correlated 2-factor model	185.686 (43)	< 0.001	0.982	0.081 (0.069, 0.093)	0.051
Instrumental skills	1-factor model	13.844 (2)	0.001	0.984	0.108 (0.059, 0.165)	0.040
communication	Correlated 2-factor model	55.918 (19)	< 0.001	0.991	0.062 (0.043, 0.081)	0.031
Self- determination	1-factor model	9.157 (2)	0.010	0.977	0.084 (0.035, 0.142)	0.035
Social participation	1-factor model	8.196 (4)	0.085	0.994	0.045 (0.000, 0.090)	0.026
Caregiving burden	1-factor model	213.565 (54)	< 0.001	0.964	0.076 (0.066, 0.087)	0.051

Note: = Chi-squared value with Huber-White correction.
Abbreviations: CFI = comparative fit index; CI = confidence intervals; df = degrees of freedom; *p* = *p* value; RMSEA = root mean square error of approximation; SRMR = standardised root mean square residual.

TABLE 4 | Factors associated with social participation.

Predictor	*β*	95% CI	SE	*t*	*p*
Relationship with PID	−0.098	[−0.292, 0.096]	0.099	−0.992	0.322
Age	0.004	[−0.003, 0.010]	0.003	1.085	0.278
Educational level (1)	0.095	[−0.243, 0.433]	0.172	0.554	0.580
Educational level (2)	0.348	[−0.030, 0.726]	0.192	1.811	0.071
Occupation (1)	−0.112	[−0.291, 0.067]	0.091	−1.230	0.219
Occupation (2)	0.097	[−0.332, 0.527]	0.219	0.445	0.656
Comorbidity	0.011	[−0.143, 0.164]	0.078	0.140	0.889
Age of PID	−0.010	[−0.019, −0.002]	0.004	−2.474	0.014
Educational level (PID)	−0.218	[−0.439, 0.003]	0.112	−1.941	0.053
Family (1)	−0.176	[−0.356, 0.005]	0.092	−1.915	0.056
Family (2)	−0.072	[−0.256, 0.111]	0.093	−0.775	0.439
Caregiver gender	0.179	[0.024, 0.334]	0.079	2.268	0.024
Work status	0.230	[0.016, 0.444]	0.109	2.108	0.036
Autonomy	0.090	[−0.042, 0.222]	0.067	1.339	0.181
Personal hygiene	0.130	[0.004, 0.257]	0.064	2.024	0.044
Instrumental skills	0.052	[−0.056, 0.161]	0.055	0.944	0.346
Verbal communication	−0.066	[−0.183, 0.050]	0.059	−1.116	0.265
Assertive communication	0.065	[−0.043, 0.174]	0.055	1.180	0.239
Self determination	0.104	[−0.004, 0.213]	0.055	1.886	0.060
Caregiver burden	−0.122	[−0.206, −0.037]	0.043	−2.829	0.005
Risk of mistreatment	0.020	[−0.063, 0.103]	0.042	0.473	0.636

Abbreviations: CI, confidence intervals; PID, people with intellectual disabilities; SE, standard error.

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standard deviations in favour of the participants from the Lima region ($\beta_{0_L} = 0.204$) compared to the participants from the San Martín region ($\beta_{0_{SM}} = -0.204$).

After controlling the effect of region and other predictors, we found that the age of people with disabilities was a statistically significant negative predictor of social participation, which denotes that as the patient grows older, his or her degree of social involvement is significantly reduced ($\widehat{\beta} = -0.010$, $p = 0.014$). Additionally, we found statistically significant differences regarding gender ($\widehat{\beta} = 0.179$, $p = 0.024$), specifically, when the caregiver was a female, people with disabilities had higher social participation. Another statistically significant positive predictor was work status, which results denote that if people with disabilities have a job, their social participation tends to be higher ($\widehat{\beta} = 0.230$, $p = 0.036$). Personal hygiene was another positive predictor of social participation ($\widehat{\beta} = 0.130$, $p = 0.044$), denoting that when people with disabilities have higher personal hygiene, they tend to engage more in social interactions. Lastly, the caregiver burden was a statistically significant moderate negative predictor of social participation ($\widehat{\beta} = -0.122$, $p = 0.005$), thus people with disabilities will engage more in social activities when its caregiver experiences less burden.

4.3 | Structural Model for Work Status

With respect to work status, a generalised linear mixed model was used considering region as a grouping variable for a random intercepts model. The intraclass correlation showed that negligible amounts of variance were accounted for the grouping variable, which denoted that the region where participant lived had no strong impact on the differences regarding work status of people with disabilities ICC = 0.007, $\text{ICC}_{\text{adjusted}} = 0.012$. A similar result is found while looking at the explained variance of the model; overall, both fixed and marginal factors together explained a significant amount of the variance $R^2_{\text{conditional}} = 0.407$; nevertheless, by looking at the marginal effects of the fixed factor, we can determine that much of the explained variance is solely attributable to the predictors and not the grouping variable $R^2_{\text{marginal}} = 0.399$. Thus, not a generalised linear model could have given similar results as the ones presented at Table 5. Additionally, the estimated random effects denoted a moderate difference in social participation of 0.408 standard deviations in favour of the participants from the Lima region ($\beta_{0_L} = 0.204$) compared to the participants from the San Martín region ($\beta_{0_{SM}} = -0.204$).

After controlling the effect of region and other predictors, we found that self-determination was the strongest positive predictor of work status ($\text{OR}_{\text{adj}} = 2.382$, $p < 0.001$), meaning that people with disabilities exhibit stronger resolve and confidence are more likely to have a job. Similarly, both verbal communication ($\text{OR}_{\text{adj}} = 1.550$, $p = 0.044$) and social participation ($\text{OR}_{\text{adj}} = 1.440$, $p = 0.025$) were positive statistically significant predictors of work status; in this sense, people with disabilities have better communication skills as well as involvement in social activities, he or she will be more likely to be employed. Regarding demographic aspects, we found that age was a positive predictor of work status, which suggests that as people with disabilities get older, it will be more likely for them to be employed. Lastly, comorbidity had a positive relationship with work status ($\text{OR}_{\text{adj}} = 1.851$, $p = 0.029$), denoting that a person with disability and other conditions is more likely to find a job.

5 | Discussion

The study arises from the need to respond to the theoretical gaps in the factors that underlie the explanation of the social and labour inclusion of people with intellectual disabilities in the Peruvian context. The results revealed that the social inclusion of people with intellectual disabilities is associated with greater autonomy in personal care and labour participation, being younger and having a female caregiver (especially the mother) with a lower caregiving burden. In addition, it was found that the labour participation of people with intellectual disabilities, in turn, is associated with self-determination, verbal communication, social inclusion, and older age.

5.1 | Factors Associated With Social Inclusion

In this study, people with intellectual disabilities in Lima showed a higher level of social inclusion than those in the San Martin region. In the context of Lima, as the Peruvian capital, there is a higher diversity of specialised educational services for people with intellectual disabilities. Therefore, the responsibility for training people with intellectual disabilities to acquire adaptive skills does not fall exclusively on the primary caregivers (parents) but also on specialists in educational institutions and social organisations. In addition, the main caregivers in Lima, having a higher educational level than those in San Martín, possibly have more educational resources for their children and stimulate their learning.

In the department of San Martin, which belongs to the Peruvian jungle, unlike Lima, there are limitations that restrict the access of people with intellectual disabilities to quality education, such as lack of qualified professionals, scarce economic resources, as well as large geographical distances. Environmental and social barriers generate exclusion from education (Wehman et al. 1998), which negatively impacts the development of people with intellectual disabilities and their families (Garrels and Sigstad 2021), consequently, the lack of leadership of the State involvement in addressing geographical and social barriers would make it impossible for people with intellectual disabilities to be socially included.

In the Peruvian context, there is inequity in access to opportunities for social inclusion of people with intellectual disabilities depending on their origin, which impacts on families. Consequently, this gap would generate adverse consequences for people with intellectual disabilities because the lack of access to education negatively affects their social inclusion and quality of life (Wehman et al. 1998; Athamanah et al. 2019; Jacoby et al. 2022).

Regarding the family environment, the results suggest that social inclusion is enhanced when people with intellectual disabilities are cared for by a caregiver, especially the mother. This finding coincides with that of other studies (Barratt et al. 2025; Hosseini et al. 2024; Martínez-Rico et al. 2024), where it is

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TABLE 5 | Factors associated with work status.

Predictor	OR_{adj}	95% CI	SE	*t*	*p*
Relationship with PD	1.250	[0.629, 2.484]	0.351	0.636	0.525
Age	1.013	[0.988, 1.039]	0.013	1.013	0.311
Educational level (1)	0.676	[0.193, 2.373]	0.641	−0.611	0.541
Educational level (2)	0.855	[0.218, 3.354]	0.698	−0.225	0.822
Occupation (1)	0.665	[0.349, 1.269]	0.329	−1.237	0.216
Occupation (2)	1.232	[0.326, 4.657]	0.678	0.308	0.758
Comorbidity	1.851	[1.064, 3.220]	0.283	2.179	0.029
Age of PID	1.032	[1.001, 1.064]	0.016	2.012	0.044
Educational level (people with intellectual disabilities)	1.192	[0.448, 3.169]	0.499	0.351	0.725
Family (1)	1.204	[0.621, 2.336]	0.338	0.549	0.583
Family (2)	0.715	[0.356, 1.439]	0.356	−0.940	0.347
Gender	1.449	[0.795, 2.640]	0.306	1.212	0.226
Social Participation	1.440	[1.046, 1.983]	0.163	2.238	0.025
Autonomy	1.418	[0.876, 2.295]	0.246	1.420	0.156
Personal hygiene	0.896	[0.552, 1.456]	0.247	−0.443	0.658
Instrumental skills	0.995	[0.677, 1.461]	0.196	−0.027	0.979
Verbal communication	1.550	[1.012, 2.374]	0.218	2.014	0.044
Assertive communication	0.740	[0.498, 1.102]	0.203	−1.482	0.138
Self determination	2.382	[1.578, 3.594]	0.210	4.134	<0.001
Caregiving burden	0.992	[0.721, 1.364]	0.163	−0.049	0.961
Risk of mistreatment	1.032	[0.753, 1.414]	0.161	0.198	0.843

Abbreviations: CI, confidence intervals; OR_{adj}, adjusted odds ratio; PID, people with intellectual disabilities; SE = Standard error.

reported that the responsibility for the principal or exclusive care of children with intellectual disabilities falls on mothers. Apparently, it is the natural and everyday interaction environments that especially favour social development and require the caregiver to take responsibility for the guardianship, discipline, health care and development of children's skills, according to their needs (Martínez-Rico et al. 2024).

The role of the caregiver is very relevant and demanding in the development of people with intellectual disabilities. In this regard, this study found that a lower burden on caregivers predicts social inclusion, which aligns with the findings of another study (Mishra et al. 2023; Murphi et al. 2006). The overload experienced by caregivers has a negative impact on their own quality of life (Barratt et al. 2025; García-Ortiz et al. 2021) and mental health, to balance the care of children with intellectual disabilities and their other responsibilities (Rydzewska et al. 2021; Scherer et al. 2019).

One of the relevant findings of this study is the predictive relationship between age and social inclusion, that is, at a younger age, greater possibilities of social participation are observed. Since the sample evaluated consisted of individuals with intellectual disabilities aged 14 and older, caregivers are likely to provide greater socialisation experiences for their children while they are in school, compared to adult children who are excluded from the workforce. Therefore, it is inferred that adolescents with intellectual disabilities have greater social participation than adults because they are in inclusive educational settings. However, social interaction decreases when school activities end. This situation increases the difficulties in accessing employment, which is confirmed by previous studies (Babikian and Hamdani 2023; Viñarás-Abad et al. 2021).

The likelihood of people with intellectual disabilities experiencing social participation decreases significantly in adulthood. This finding is consistent with a previous study reporting that as adults with intellectual disabilities age, their social inclusion becomes more challenging and limited (McCausland et al. 2023). Most people with intellectual disabilities in the sample were unable to enter the workforce. Being part of the economically active population provides an opportunity to interact and make friends, leading to greater community participation (Athamanah et al. 2019; Brand et al. 2024) and a lower likelihood of defiant oppositional behaviours and communication problems in people with intellectual disabilities (McCausland et al. 2021).

Our findings report that greater social participation in people with intellectual disabilities is related to their work status.

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Having support at work not only contributes to the development of work resources, but also personal ones (Flores et al. 2021). In this context, important natural support is provided by coworkers, who can help people with intellectual disabilities achieve greater work autonomy (Becerra et al. 2017). Especially, women deploy greater help strategies, social skills, teaching, and reinforcement in the execution of the tasks of people with intellectual disabilities (Becerra and Gutiérrez 2020). This also leads to greater social interaction of people with intellectual disabilities in the work environment and, therefore, to better communication.

The results highlight the importance of facilitating social interaction experiences throughout life, such as sports, artistic, and community activities that promote integration with peer groups (Giummarra et al. 2022).

Another finding of this study is the association between social inclusion and autonomous personal hygiene of people with intellectual disabilities. Hygiene practice may be motivated by pleasing others, disease prevention, and aesthetics (Curtis et al. 2003). However, the lack of it may be unpleasant (e.g., halitosis; Son and Ahn 2023) or may be associated with health problems in people with intellectual disabilities that limit social interaction (Abbaszadeh et al. 2021). Therefore, self-care of personal hygiene implies respect for others, contributes to health, and community participation.

Considering the existing literature, it is inferred that people with intellectual disability have greater social participation during their childhood and adolescence, thanks to parental support because they are especially dependent on parents and inclusive educational contexts. However, social interaction decreases when formal education ends, and increasing barriers to employment, as reported in previous studies, is limited when school activities come to an end (Babikian and Hamdani 2023; Viñarás-Abad et al. 2021).

5.2 | Factors Associated With Work Status

The study reported that the employment status of people with intellectual disabilities does not differ between those from Lima and those from San Martin. In both cases, more than three quarters of the sample are unemployed, with a slightly higher tendency in San Martin. This finding means that, even when people with intellectual disabilities from the Peruvian capital show greater social inclusion, there are social and environmental barriers that exclude people with intellectual disabilities from the work environment. Having only one private organisation for the preparation towards the autonomy of people with intellectual disabilities, concentrated in the capital does not meet the existing needs and is inaccessible to all. In addition, there is a lack of planning, implementation, and monitoring of actions aimed at the labour inclusion of people with intellectual disabilities in Peruvian public organisations.

A determining factor for the labour participation of people with intellectual disabilities is demonstrated in the study is the capacity for self-determination. This finding aligns with previous research (Dean et al. 2017; Sigstad and Garrels 2023) and supports the idea that self-determination can develop, regardless of the level of disability (Kúld et al. 2024; Wehmeyer and Garner 2023), even before puberty (Willow et al. 2024). To promote it, it is essential that families provide support to people with intellectual disabilities with the aim of strengthening their autonomy, (Carey et al. 2023). However, it is common for mothers to harbour doubts about their children's ability to fully care for themselves, as they often have a natural tendency to overprotect them (Casey et al. 2023).

According to previous research, the parenting style most conducive to promoting self-determination is one that combines authority with support for the autonomy of people with intellectual disabilities, while permissive and overprotective styles tend to hinder this process (Meral et al. 2023). Future research could include parenting styles as an explanatory factor for the labour force participation of people with occupational disabilities.

The wishes and expectations of parents regarding the postsecondary education of their children with intellectual disabilities are linked to educational inclusion and their transition planning, to facilitate their social integration and access to higher education (Pallisera et al. 2014). Likewise, a systematic review found that structured and organised interventions contribute to the social participation and social skills development of young adults with intellectual disabilities (Louw et al. 2020). This is a challenge especially if in the context of people with intellectual disabilities there are governmental, social and physical barriers that do not favour their development, as in the case of Peru, where inclusion regulations are not met (Garay and Carhuancho 2019) and the employment quota for people with disabilities is not reached (National Council for the Integration of People with Disabilities 2020).

On the other hand, verbal communication skills in people with intellectual disability predict labour inclusion. This finding corresponds with reports that working people with intellectual disability have developed communication skills (Bystrova 2022; Laborda et al. 2021; Jariot et al. 2020). Achieving this requires preparation and sustained learning over time, since people with intellectual disability generally face communication difficulties, which affect their interaction, social adaptation, the acquisition of new learning and the possibilities of accessing a job (Zashchirinskaia 2020; Smith et al. 2020).

Another aspect in which people with intellectual disabilities are more affected compared to the general population is health (McMahon 2022). However, this study found that the presence of comorbidity is positively associated with having a job. The finding is explained by the largest proportion of research participants who work being part of the Ann Sullivan Center of Peru, which has implemented supported employment (Ann Sullivan Center of Peru 2026). Consequently, continuous preparation is essential for the development and functioning of people with intellectual disabilities (Blázquez et al. 2021), regardless of whether they have any comorbidity. Therefore, the presence of comorbidities could be a confounding variable which highlights the need for broader research in this field.

Another relevant finding is the predictive relationship that indicates that, with older age, the chances of being employed

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increase. Although, the development of work skills requires a continuous process of preparation and improvement in the performance of work functions; people with intellectual disability who are working have the capacity to develop work skills that cover functional, communicative, social and attitudinal aspects, over time (Jariot et al. 2020). This coincides with a study which concludes that people with intellectual disabilities who are more likely to have employment have some previous job experience (Siperstein et al. 2014). However, this development implies facing various challenges, which include discrimination by employers, the perception of a salary lower than what they are entitled to, difficulties in accessing education that facilitates labour integration, the risk of mistreatment in the workplace (Bialik and Mhiri 2022) and parents' lack of confidence in children assuming responsibility for themselves (Arellano and Peralta 2013).

An aspect not controlled in the study is the type of employment in which people with intellectual disability work. It has been observed that there is a preference for independent work due to its flexibility and the possibility of receiving family support, even in adulthood (Bialik and Mhiri 2022). In this way, people with intellectual disability can exercise their autonomy and obtain various socialisation experiences, depending on the type and nature of the work they do.

This research presents several limitations that deserve to be highlighted. First, its cross-sectional design prevents a complete understanding of the evolution of people with intellectual disabilities' social and labour participation over time. Furthermore, we should note that the type of sampling no probabilistic used could affect the external validity of the study. Furthermore, it is relevant to mention that this research did not analyse the type of education received by people with intellectual disabilities, although previous studies have highlighted the benefits of special education for this population (Mamley Hervie 2023).

It is suggested for future studies to include social support as a mediating variable between socioeconomic status, social inclusion and labour participation, since there is evidence that socioeconomic status together with the family support received is associated with the self-determination of women with intellectual disabilities (Álvarez-Aguado et al. 2024).

In summary, this study highlights the importance of the role of the caregiver in developing self-care skills and promoting social inclusion in their children with intellectual disabilities. At the same time, it is highlighted that the probability of people with intellectual disabilities accessing paid employment is intrinsically linked to the acquisition of interpersonal and self-determination skills. These skills are forged through a continuous process of training and preparation, which is driven by both family and inclusive education, as well as the community that supports and includes people with intellectual disabilities (Patel et al. 2018).

According to the results, it is important to promote the inclusion of people with intellectual disabilities in educational and work environments, with an adequate transition to adult life with vocational orientation and training in achieving autonomy (Patel et al. 2018). Healthcare and occupational care for people with intellectual disabilities are relevant, as is providing professional support to primary caregivers. Including family caregivers in the approach will contribute to well-being and strengthen relationships with their children with intellectual disabilities. (Raina et al. 2005; Scripps et al. 2025) and prevent overload.

To promote the socio-labour inclusion of people with intellectual disabilities, it is essential to implement awareness-raising actions and access to information through mentoring, volunteering, peer support, institutional strategic alliances and training of staff interacting with them, especially in the use of clear and accessible language (Kúld et al. 2024; Ristevski et al. 2024). In addition, the behavioural strategy of group contingencies could be applied in work settings to strengthen team performance, given its effectiveness in vocational contexts involving people with intellectual disabilities (Daly et al. 2024).

Author Contributions

Alicia Boluarte Carbajal: project leader, data collection, writing article. **Gina Chávez-Ventura:** data analysis, input in article, writing article. **Sebastian Enrique Lezcano De La Cruz:** data analysis, input in article, writing article. **Angel Christopher Zegarra López:** data analysis, input in article.

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Ethics Statement

Ethics approval was granted by the Ethics Committee, University Cesar Vallejo.

Consent

Informed written consent was obtained from all participants before data collection.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

References

Abbaszadeh, M. J., M. Mohebali, S. Mohtasebi, A. Teimouri, B. Sedaghat, and R. Saberi. 2021. "Intestinal Parasites Among Intellectually Disabled

14683148, 2026, 1, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/jar.70198 by Cochrane Peru, Wiley Online Library on [05/11/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Individuals in Iran: A Systematic Review and Meta-Analysis." *Gut Pathogens* 13, no. 1: 28. https://doi.org/10.1186/s13099-021-00424-6.

Alanazi, A. 2022. "The Perceptions of Individuals With Intellectual Disability Toward Workplace Environment and Practices." *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Özel Eğitim Dergisi* 23, no. 2: 295–317. https://doi.org/10.21565/ozelegitimdergisi.776646.

Al-Krenawi, A., J. Graham, and F. Al Gharaibeh. 2011. "The Impact of Intellectual Disability, Caregiver Burden, Family Functioning, Marital Quality, and Sense of Coherence." *Disability & Society* 26, no. 2: 139–150. https://doi.org/10.1080/09687599.2011.543861.

Álvarez-Aguado, I., V. V. Córdova, M. Roselló-Peñaloza, et al. 2024. "Self-Determination Skills in Ageing Women With Intellectual Disabilities." *British Journal of Learning Disabilities* 53: 248–258. https://doi.org/10.1111/bld.12630.

Ann Sullivan Center of Peru. 2026. "Programs for Students and Families." https://www.en.annsullivanperu.org/.

Arellano, A., and F. Peralta. 2013. "Calidad de Vida y Autodeterminación en Personas Con Discapacidad. Valoraciones de Los Padres [Quality of Life and Self-Determination in People With Disabilities. Parents' Assessments]." *Revista Iberoamericana de Educación* 63: 145–160.

Athamanah, L. S., C. K. Posol, D. Ayeh, M. H. Fisher, and C. Sung. 2019. "Understanding Friendships and Promoting Friendship Development Through Peer Mentoring for Individuals With and Without Intellectual and Developmental Disabilities." In *International Review of Research in Developmental Disabilities*, edited by R. M. Hodapp and D. J. Fidler, vol. 57, 1–48. Academic Press. https://doi.org/10.1016/bs.irrdd.2019.06.009.

Aydos, V., D. Navarini, and B. Oliveira. 2021. "The Paradox of 'Remote Working' in Covid-19 Pandemic Times: Disability, Inclusion, and Accessibility in Brazil." *Disability Studies Quarterly* 41, no. 3: 777. https://doi.org/10.18061/dsq.v41i3.8359.

Azzopardi, C., M. Wade, R. Salter, et al. 2014. "Medical Nonadherence in Pediatric HIV: Psychosocial Risks and Intersection With the Child Protection System for Medical Neglect." *Child Abuse & Neglect* 38, no. 11: 1766–1777. https://doi.org/10.1016/j.chiabu.2014.08.013.

Babikian, V., and Y. Hamdani. 2023. "Social Enterprises and Transition to Employment for People Labeled With Intellectual and Developmental Disabilities." *Current Developmental Disorders Reports* 10: 40–46. https://doi.org/10.1007/s40474-023-00267-7.

Barratt, M., P. Lewis, N. Duckworth, et al. 2025. "Parental Experiences of Quality of Life When Caring for Their Children With Intellectual Disability: A Meta-Aggregation Systematic Review." *Journal of Applied Research in Intellectual Disabilities* 38, no. 1: e70005. https://doi.org/10.1111/jar.70005.

Becerra, M., and P. Gutiérrez. 2020. "Intervención Verbal Entre el Apoyo Natural y la Persona Con Discapacidad Intelectual en Un Contexto Formativo Laboral Desde Un Enfoque de Género [Verbal Intervention Between Natural Support and the Person With Intellectual Disability in a Vocational Training Context From a Gender Perspective]." *Revista de Educación Inclusiva* 13, no. 1: 258–270.

Becerra, M. T., M. Lucero, and M. Montanero. 2017. "¿Cómo Ayudan Los Compañeros de Trabajo a Los Empleados Con Discapacidad Intelectual? Una Experiencia de Coaching Laboral en Empleo Con Apoyo [How Do Coworkers Help Employees With Intellectual Disabilities? A Job Coaching Experience in Supported Employment]." *Revista Española de Orientación y Psicopedagogía* 28, no. 1: 51–71.

Bialik, K., and M. Mhiri. 2022. "Barriers to Employment for People With Intellectual Disabilities in Low- and Middle-Income Countries: Self-Advocate and Family Perspectives." *Journal of International Development* 34, no. 5: 988–1001. https://doi.org/10.1002/jid.3659.

Bietti, M. F. 2023. "Personas Con Discapacidad e Inclusión Laboral en América Latina y el Caribe: Principales Desafíos de Los Sistemas de Protección Social [People With Disabilities and Labor Inclusion in Latin America and the Caribbean: Main Challenges of Social Protection Systems]." *CEPAL*: 1–59.

Blázquez, L., M. I. Calvo, and M. B. Orgaz. 2021. "Factores Personales y Escolares Subyacentes a la Conducta Autodeterminada de niños y Adolescentes Con Discapacidad Intelectual: revisión de la Literatura [Personal and School Factors Underlying Self-Determined Behavior of Children and Adolescents With Intellectual Disabilities: Literature Review]." *Siglo Cero: Revista Española Sobre Discapacidad Intelectual* 52, no. 4: 109–130. https://doi.org/10.14201/scero2021524109130.

Bliese, P. D., M. A. Maltarich, and J. L. Hendricks. 2017. "Vuelta a Lo básico Con Modelos de Efectos Mixtos: Nueve Puntos Para Llevar [Back to Basics With Mixed-Effects Models: Nine Points to Consider]." *Revista de Negocios y Psicología* 33, no. 1: 1–23. https://doi.org/10.1007/s10869-017-9491-z.

Boluarte, A., J. Méndez, and R. Martell. 2006. "Programa de Entrenamiento en Habilidades Sociales Para jóvenes Con Retraso Mental Leve y Moderado [Social Skills Training Program for Young People With Mild and Moderate Intellectual Disabilities]." *Mosaico Científico* 3, no. 1: 34–42.

Boluarte, A., and K. Tamari. 2017. "Validez de Contenido y Confiabilidad Entre Observadores de Escala Integral Calidad de Vida [Content Validity and Inter-Observer Reliability of the Integral Quality of Life Scale]." *Revista de Psicología (PUCP)* 35, no. 2: 641–666. https://doi.org/10.18800/psico.201702.009.

Boluarte-Carbajal, A., G. Chávez-Ventura, J. Cueva-Vargas, and A. Zegarra-López. 2024. "Assessment of Adaptive Behavior in People With Intellectual Disabilities: Design and Development of a New Test Battery." *Heliyon* 10, no. 10: e31048. https://doi.org/10.1016/j.heliyon.2024.e31048.

Boluarte-Carbajal, A., R. Paredes-Angeles, and A. A. Tafur-Mendoza. 2022. "Psychometric Properties of the Zarit Burden Interview in Informal Caregivers of People With Intellectual Disabilities." *Frontiers in Psychology* 13: 792805. https://doi.org/10.3389/fpsyg.2022.792805.

Bono, R., R. Alarcón, and M. J. Blanca. 2021. "Report Quality of Generalized Linear Mixed Models in Psychology: A Systematic Review." *Frontiers in Psychology* 12: 666182. https://doi.org/10.3389/fpsyg.2021.666182.

Brand, F., K. Scior, and A. Loewenberger. 2024. "Psychological and Social Outcomes of Befriending Interventions for Adults With Intellectual Disabilities: A Systematic Review." *Journal of Applied Research in Intellectual Disabilities* 37, no. 1: e13168. https://doi.org/10.1111/jar.13168.

Buljevac, M., M. Milić Babić, and Z. Leutar. 2022. "'You Don't Have to Tell Me in Person I'm Not to Your Liking': Experiences of Discrimination of People With Intellectual Disabilities." *International Journal of Disability, Development and Education* 69, no. 3: 837–852. https://doi.org/10.1080/1034912X.2020.1736522.

Bystrova, Y. A. 2022. "Opportunities for Psychological Support and Accompaniment of Young People With Intellectual Disabilities in Employment." *Counseling Psychology and Psychotherapy* 30, no. 4: 143–162. https://doi.org/10.17759/cpp.2022300408.

Carey, E., R. Ryan, A. Sheiki, and L. Dore. 2023. "Exercising Autonomy—The Effectiveness and Meaningfulness of Autonomy Support Interventions Engaged by Adults With Intellectual Disability. A Mixed-Methods Review." *British Journal of Learning Disabilities* 51, no. 3: 307–323. https://doi.org/10.1111/bld.12464.

Casey, H., D. Desmond, and L. Coffey. 2023. "Irish Mothers' Experiences of Providing Support in Decision-Making to Adults With Intellectual Disabilities: A Qualitative Study." *British Journal of Learning Disabilities* 52, no. 1: 110–120. https://doi.org/10.1111/bld.12553.

Cohen, J. 1988. *Statistical Power Analysis for the Behavioral Sciences*. 2nd ed. Lawrence Erlbaum Associates.

14683148, 2026, 1, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/jar.70198 by Cochrane Peru, Wiley Online Library on [05/11/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Congress of the Republic of Peru. 2012. "Ley N.º 29,973, Ley General de la Persona Con Discapacidad. Diario Oficial El Peruano Del 24 de diciembre de 2012. [Law No. 29973, General Law on People with Disabilities. Official Journal El Peruano, December 24, 2012]." https://www.leyes.congreso.gob.pe/Documentos/Leyes/29973.pdf.

Cornejo, C., R. Bazante, S. Vasquez, and M. Tarqui. 2024. "Análisis de las políticas públicas de discapacidad en Latinoamérica [Analysis of Disability Public Policies in Latin America]." *Revista InveCom* 5, no. 1: 1–12.

Curtis, V., A. Biran, K. Deverell, C. Hughes, K. Bellamy, and B. Drasar. 2003. "Hygiene in the Home: Relating Bugs and Behaviour." *Social Science & Medicine* 57, no. 4: 657–672. https://doi.org/10.1016/S0277-9536(02)00409-4.

Daly, S., K. J. Phillips, O. C. Mudford, and R. A. Sharp. 2024. "Independent and Interdependent Group Contingencies to Increase On-Task Work Behavior Among Adults With Intellectual Disabilities." *Behavioral Interventions* 39, no. 4: e2049. https://doi.org/10.1002/bin.2049.

Dean, E. E., K. M. Burke, K. A. Shogren, and M. Wehmeyer. 2017. "Promoting Self-Determination and Integrated Employment Through the Self-Determined Career Development Model." *Advances in Neurodevelopmental Disorders* 1: 55–62. https://doi.org/10.1007/s41252-017-0011-y.

Devlieger, I., and Y. Rosseel. 2017. "Factor Score Path Analysis: An Alternative for SEM?" *Methodology European Journal of Research Methods for the Behavioral and Social Sciences* 13, no. 1: 31–38. https://doi.org/10.1027/1614-2241/a000130.

Devlieger, I., W. Talloen, and Y. Rosseel. 2019. "New Developments in Factor Score Regression: Fit Indices and a Model Comparison Test." *Educational and Psychological Measurement* 79, no. 6: 1017–1037. https://doi.org/10.1177/0013164419844552.

DiStefano, C., H. L. McDaniel, L. Zhang, D. Shi, and Z. Jiang. 2019. "Fitting Large Factor Analysis Models With Ordinal Data." *Educational and Psychological Measurement* 79, no. 3: 417–436. https://doi.org/10.1177/0013164418818242.

DiStefano, C., M. Zhu, and D. Mindrila. 2009. "Understanding and Using Factor Scores: Considerations for the Applied Researcher." *Practical Assessment, Research and Evaluation* 14: 20.

Ferguson, C. J. 2009. "An Effect Size Primer: A Guide for Clinicians and Researchers." *Professional Psychology: Research and Practice* 40, no. 5: 532–538. https://doi.org/10.1037/a0015808.

Flores, N., C. Moret-Tatay, B. Gutiérrez-Bermejo, A. Vázquez, and C. Jenaro. 2021. "Assessment of Occupational Health and Job Satisfaction in Workers With Intellectual Disability: A Job Demands–Resources Perspective." *International Journal of Environmental Research and Public Health* 18, no. 4: 2072. https://doi.org/10.3390/ijerph18042072.

Garay, F., and I. Carhuancho. 2019. "Modelo social como alternativa para el desarrollo de la persona con discapacidad, Callao. Perú." *Telos: Revista de Estudios Interdisciplinarios en Ciencias Sociales* 21, no. 3: 681–709. https://doi.org/10.36390/telos213.10.

García-Ortiz, K. D., S. M. Q. Acosta, S. K. T. Andrade, and M.-K. Fernández-Delgado. 2021. "Overload and Quality of Life in Family Caregivers of People With Intellectual Disabilities." *Gaceta Médica de Caracas* 129, no. 1: 65–73. https://doi.org/10.47307/GMC.2021.129.1.9.

Garrels, V., and H. M. H. Sigstad. 2019. "Motivation for Employment in Norwegian Adults With Mild Intellectual Disability: The Role of Competence, Autonomy, and Relatedness." *Scandinavian Journal of Disability Research* 21, no. 1: 250–261. https://doi.org/10.16993/sjdr.639.

Garrels, V., and H. M. H. Sigstad. 2021. "Employment for People With Intellectual Disability in the Nordic Countries: A Scoping Review." *Journal of Applied Research in Intellectual Disabilities* 34, no. 4: 993–1007. https://doi.org/10.1111/jar.12880.

Gastelo, P. 2017. "La Cuota de Empleo y la Efectiva Inserción Laboral de Las Personas Con Discapacidad: el Impacto en el Mercado Laboral Peruano [Employment Quota and Effective Labor Insertion of People With Disabilities: The Impact on the Peruvian Labor Market]." *Derecho & Sociedad* 49: 39–49.

Giummarra, M. J., I. Randjelovic, and L. O'Brien. 2022. "Interventions for Social and Community Participation for Adults With Intellectual Disability, Psychosocial Disability or on the Autism Spectrum: An Umbrella Systematic Review." *Frontiers in Rehabilitation Sciences* 3: 935,473. https://doi.org/10.3389/fresc.2022.935473.

Gormley, M. E. 2015. "Workplace Stigma Toward Employees With Intellectual Disability: A Descriptive Study." *Journal of Vocational Rehabilitation* 43, no. 3: 249–258.

Guerrini, R., E. Parrini, C. Marini, and D. Mei. 2019. "What Is the Role of Next Generation Sequencing in Status Epilepticus?" *Epilepsy & Behavior* 101: 106,373. https://doi.org/10.1016/j.yebeh.2019.06.017.

Hayes, T., and S. Usami. 2020a. "Factor Score Regression in the Presence of Correlated Unique Factors." *Educational and Psychological Measurement* 80, no. 1: 5–40. https://doi.org/10.1177/0013164419854492.

Hayes, T., and S. Usami. 2020b. "Factor Score Regression in Connected Measurement Models Containing Cross-Loadings." *Structural Equation Modeling: A Multidisciplinary Journal* 27, no. 6: 942–951. https://doi.org/10.1080/10705511.2020.1729160.

Hosseini, S. J., M. Ramezani, F. Ashrafzadeh, and J. Jamali. 2024. "Motivation in Caregiving Among Mothers of Children With Intellectual and Developmental Disabilities in Iran: A Qualitative Study." *BMC Pediatrics* 24, no. 1: 472. https://doi.org/10.1186/s12887-024-04957-y.

Jacoby, P., K. Williams, D. Reddihough, H. Leonard, A. Whitehouse, and J. Downs. 2022. "Modelling Quality of Life in Children With Intellectual Disability Using Regression Trees." *Developmental Medicine and Child Neurology* 64, no. 9: 1145–1155. https://doi.org/10.1111/dmcn.15206.

Jariot, M., C. Laborda, and H. González. 2020. "El Perfil Competencial Laboral de Personas Con Discapacidad Intelectual en Centros Ocupacionales [the Occupational Competency Profile of People With Intellectual Disabilities in Occupational Centers]." *Revista de Investigación Educativa* 38, no. 2: 475–493. https://doi.org/10.6018/rie.312241.

Jiang, J., and T. Nguyen. 2021. *Linear and Generalized Linear Mixed Models and Their Applications*. 2nd ed. Springer.

Keith, T. 2019. *Multiple Regression and Beyond: An Introduction to Multiple Regression and Structural Equation Modeling*. 3rd ed. Routledge.

Kline, R. 2016. *Principles and Practice of Structural Equation Modeling*. 4th ed. The Guilford Press.

Koller, D., and K. Stoddart. 2021. "Approaches That Address Social Inclusion for Children With Disabilities: A Critical Review." *Child & Youth Care Forum* 50, no. 4: 679–699. https://doi.org/10.1007/s10566-020-09589-8.

Kúld, P. B., N. Frielink, C. Schuengel, and P. J. C. M. Embregts. 2024. "Supporting Self-Determination of Individuals With Severe or Profound Intellectual and Multiple Disabilities According to Relatives and Healthcare Professionals: A Concept Mapping Study." *Journal of Applied Research in Intellectual Disabilities* 37, no. 4: 1–15. https://doi.org/10.1111/jar.13267.

Laborda, C., M. Jariot, and H. González. 2021. "Quality of Life and Employability Skills in Workers in Special Employment Centers." *Educación XX1* 24, no. 1: 117–139. https://doi.org/10.5944/educXX1.26570.

Lemaire, G. S., and K. Mallik. 2008. "Barriers to Supported Employment for People With Developmental Disabilities." *Archives of*

14683148, 2026, 1, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/jar.70198 by Cochrane Peru, Wiley Online Library on [05/11/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Psychiatric Nursing 22, no. 3: 147–155. https://doi.org/10.1016/j.apnu.2007.06.014.

Li, C. H. 2016. "Confirmatory Factor Analysis With Ordinal Data: Comparing Robust Maximum Likelihood and Diagonally Weighted Least Squares." *Behavior Research Methods* 48, no. 3: 936–949. https://doi.org/10.3758/s13428-015-0619-7.

Loncke, J., V. I. Eichelsheim, S. J. T. Branje, A. Buysse, W. H. J. Meeus, and T. Loeys. 2018. "Factor Score Regression With Social Relations Model Components: A Case Study Exploring Antecedents and Consequences of Perceived Support in Families." *Frontiers in Psychology* 9: 1699. https://doi.org/10.3389/fpsyg.2018.01699.

Louw, J. S., B. Kirkpatrick, and G. Leader. 2020. "Enhancing Social Inclusion of Young Adults With Intellectual Disabilities: A Systematic Review of Original Empirical Studies." *Journal of Applied Research in Intellectual Disabilities* 33, no. 5: 793–807. https://doi.org/10.1111/jar.12678.

Mamley Hervie, V. 2023. "Social Inclusion of Children With Intellectual Disabilities in Accra, Ghana: Views of Parents/Guardians and Teachers." *Children and Youth Services Review* 147: 106845. https://doi.org/10.1016/j.childyouth.2023.106845.

Mangino, A. A., and W. H. Finch. 2021. "Prediction With Mixed Effects Models: A Monte Carlo Simulation Study." *Educational and Psychological Measurement* 81, no. 6: 1118–1142. https://doi.org/10.1177/0013164421992818.

Marín-González, F., J. Pérez-González, A. Senior-Naveda, and J. García-Guliany. 2021. "Validación del Diseño de Una Red de Cooperación Científico-Tecnológica Utilizando el Coeficiente K Para la Selección de Expertos [Validation of the Design of a Scientific-Technological Cooperation Network Using the K Coefficient for Expert Selection]." *Información Tecnológica* 32, no. 2: 79–88. https://doi.org/10.4067/S0718-07642021000200079.

Martínez-Rico, G., J. Argente-Tormo, J. Calero-Plaza, and R. J. González-García. 2024. "The Role of Women in the Field of Early Intervention." *Heliyon* 10, no. 10: e31571. https://doi.org/10.1016/j.heliyon.2024.e31571.

Matson, J. L., and M. Shoemaker. 2009. "Intellectual Disability and Its Relationship to Autism Spectrum Disorders." *Research in Developmental Disabilities* 30, no. 6: 1107–1114. https://doi.org/10.1016/j.ridd.2009.06.003.

McCausland, D., P. McCallion, D. Brennan, and M. McCarron. 2020. "In Pursuit of Meaningful Occupation: Employment and Occupational Outcomes for Older Irish Adults With an Intellectual Disability." *Journal of Applied Research in Intellectual Disabilities* 33, no. 3: 386–397. https://doi.org/10.1111/jar.12681.

McCausland, D., P. McCallion, R. Carroll, and M. McCarron. 2021. "The Nature and Quality of Friendship for Older Adults With an Intellectual Disability in Ireland." *Journal of Applied Research in Intellectual Disabilities: JARID* 34, no. 3: 763–776. https://doi.org/10.1111/jar.12851.

McCausland, D., P. McCallion, R. Carroll, and M. McCarron. 2023. "Barriers to Community Participation for Adults Aging With an Intellectual Disability in Ireland: A Longitudinal Study." *Inc* 11, no. 3: 204–217. https://doi.org/10.1352/2326-6988-11.3.204.

McMahon, M. J. 2022. "Health Inequalities in People With Intellectual Disability." [Doctoral thesis]. Lancaster University.

Meral, B., M. Wehmeyer, S. B. Palmer, A. Ruh, and E. Yilmaz. 2023. "Parenting Styles and Practices in Enhancing Self-Determination of Children With Intellectual and Developmental Disabilities." *American Journal on Intellectual and Developmental Disabilities* 128, no. 4: 282–3011. https://doi.org/10.1352/1944-7558-128.4.282.

Mera-Mamián, A. Y., J. Moreno-Montoya, L. A. Rodríguez-Villamizar, D. I. Muñoz, Á. M. Segura, and H. I. García. 2023. "Fundamento y Generalidades de la construcción de Modelos estadísticos Multinivel en el ámbito de la investigación en Salud [Foundation and Generalities of the Construction of Multilevel Statistical Models in the Field of Health Research]." *Biomédica* 43, no. 4: 520–533. https://doi.org/10.7705/biomedica.6946.

Merrells, J., A. Buchanan, and R. Waters. 2019. "'We Feel Left Out': Experiences of Social Inclusion From the Perspective of Young Adults With Intellectual Disability." *Journal of Intellectual & Developmental Disability* 44, no. 1: 13–22. https://doi.org/10.3109/13668250.2017.1310822.

Ministry of Labor and Employment Promotion. 2022. "Reporte Del mercado laboral de las personas con discapacidad en el Perú 2020–2022 [Labor Market Report of People with Disabilities in Peru 2020–2022]." https://cdn.www.gob.pe/uploads/document/file/3753029/Reporte%20PCD.pdf?v=1,665,670,598.

Mishra, T. A., K. Pandey, B. Bhujel, and S. Adhikari. 2023. "Burden of Care Among Mothers Having Children With Down Syndrome." *Journal of Nepal Health Research Council* 20, no. 4: 977–982. https://doi.org/10.33314/jnhrc.v20i4.4415.

Murphi, N. A., B. Christian, D. A. Capli, and P. C. Young. 2006. "The Health of Caregivers for Children With Disabilities: Caregiver Perspectives." *Child: Care, Health and Development* 33, no. 2: 180–187. https://doi.org/10.1111/j.1365-2214.2006.00644.x.

Nakagawa, S., P. C. D. Johnson, and H. Schielzeth. 2017. "The Coefficient of Determination R2 and Intra-Class Correlation Coefficient From Generalized Linear Mixed-Effects Models Revisited and Expanded." *Journal of the Royal Society, Interface* 14, no. 134: 20170213. https://doi.org/10.1098/rsif.2017.0213.

Nakagawa, S., and H. Schielzeth. 2012. "A General and Simple Method for Obtaining R2 From Generalized Linear Mixed-Effects Models." *Methods in Ecology and Evolution* 4, no. 2: 133–142. https://doi.org/10.1111/j.2041-210x.2012.00261.x.

National Council for the Integration of People with Disabilities. 2020. "Ley General de la Persona Con Discapacidad y su Reglamento [General Law of People with Disabilities and its Regulations]." https://www.gob.pe/institucion/conadis/informes-publicaciones/223512-ley-general-de-la-persona-con-discapacidad-y-su-reglamento.

National Council for the Integration of People with Disabilities. 2021. "Dinámicas de Inserción Laboral de Las Personas Con Discapacidad en Los Programas del Ministerio de Trabajo y Promoción del Empleo durante el Periodo 2018–2020 [Dynamics of Labor Insertion of People with Disabilities in the Programs of the Ministry of Labor and Employment Promotion during the 2018–2020 Period]." https://www.mimp.gob.pe/omep/pdf/evidencias/CONADIS2021d.pdf.

National Council for the Integration of People with Disabilities. 2024. "CETPRO Alcides Salomón Zorilla: Inicia Tu Matrícula Aquí [CETPRO Alcides Salomón Zorilla: Start Your Enrollment Here]." https://www.gob.pe/institucion/conadis/campa%C3%B1as/1166-cetpro-alcides-salomon-zorilla-inicia-tu-matricula-aqui.

National Institute of Statistics and Informatics. 2019. "En El País Existen 3 Millones 209 Mil 261 Personas Con Discapacidad [There Are 3,209,261 People With Disabilities in the Country]." https://m.inei.gob.pe/media/MenuRecursivo/noticias/np_136_2019_inei.pdf.

National Rehabilitation Institute. 2026. "Información Institucional [Institutional Information]." https://www.gob.pe/institucion/inr/institucional.

OMAPED San Isidro. 2023. "Participar en el Programa de Integración Laboral Para Personas Con Discapacidad [Participate in the Labor Integration Program for People With Disabilities]." https://www.gob.pe/48619-participar-en-el-programa-de-integracion-laboral-para-personas-con-discapacidad.

Pallisera, M., J. Fullana, M. Vilà, et al. 2014. "Análisis de los Apoyos Que Reciben los jóvenes Con Discapacidad Intelectual en Su transición

14683148, 2026, 1, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/jar.70198 by Cochrane Peru, Wiley Online Library on [05/11/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

a la Vida Adulta en España: Una investigación a Partir de Experiencias de Profesionales y Personas Con Discapacidad [Analysis of the Support Received by Young People With Intellectual Disabilities in Their Transition to Adulthood in Spain: An Investigation Based on the Experiences of Professionals and People With Disabilities]." *Revista Española de Discapacidad* 2, no. 2: 27–43. https://doi.org/10.5569/2340-5104.

Patel, D. R., R. Apple, S. Kanungo, and A. Akkal. 2018. "Narrative Review of Intellectual Disability: Definitions, Evaluation and Principles of Treatment." *Pediatric Medicine* 1: 11. https://doi.org/10.21037/pm.2018.12.02.

Paz-Maldonado, E., and I. Silva-Peña. 2020. "Inserción Laboral de Personas en Situación de Discapacidad en América Latina [Labor Insertion of People with Disabilities in Latin America]." *Saúde e Sociedade* 29, no. 4: 1–12. https://doi.org/10.1590/S0104-12902020190724.

Pinilla-Roncancio, M., and M. Gallardo. 2023. "Inequality in Labour Market Opportunities for People With Disabilities: Evidence for Six Latin American Countries." *Global Social Policy* 23, no. 1: 67–91. https://doi.org/10.1177/14680181211070201.

Pleil, J. D., M. A. G. Wallace, M. A. Stiegel, and W. E. Funk. 2018. "Human Biomarker Interpretation: The Importance of Intra-Class Correlation Coefficients (ICC) and Their Calculations Based on Mixed Models, ANOVA, and Variance Estimates." *Journal of Toxicology and Environmental Health. Part B, Critical Reviews* 21, no. 3: 161–180. https://doi.org/10.1080/10937404.2018.1490128.

Raina, P., M. O'Donnell, P. Rosenbaum, et al. 2005. "The Health and Well-Being of Caregivers of Children With Cerebral Palsy." *Pediatrics* 115, no. 6: e626–e636. https://doi.org/10.1542/peds.2004-1689.

Raudenbush, S. W., and A. S. Bryk. 2002. *Hierarchical Linear Models: Applications and Data Analysis Methods*. Sage.

Ristevski, E., F. McCook, S. Thompson, Z. Duncan, B. Lawler, and C. Broxham. 2024. "Initiatives to Facilitate the Social Inclusion of People With Intellectual Disability in Physical Activities With Others in Community-Based Sporting, Recreation and Leisure Activities: A Scoping Review." *Journal of Applied Research in Intellectual Disabilities: JARID* 37, no. 3: e13238. https://doi.org/10.1111/jar.13238.

Rosseel, Y. 2012. "Lavaan: An R Package for Structural Equation Modeling." *Journal of Statistical Software* 48, no. 2: 1–36. https://doi.org/10.18637/jss.v048.i02.

Rydzewska, E., K. Dunn, S. A. Cooper, and D. Kinnear. 2021. "Mental Ill-Health in Mothers of People With Intellectual Disabilities Compared With Mothers of Typically Developing People: A Systematic Review and Meta-Analysis." *Journal of Intellectual Disability Research* 65, no. 6: 501–534. https://doi.org/10.1111/jir.12827.

Santander, P., M. J. Pedemonte, M. Troncoso, et al. 2021. "Estudio Genético de Acuerdo a Características Fenotípicas de Niños y Adolescentes Con Discapacidad Intelectual de etiología Indeterminada [Genetic Study According to Phenotypic Characteristics of Children and Adolescents With Intellectual Disability of Indeterminate Etiology]." *Andes Pediátrica* 92, no. 6: 879. https://doi.org/10.32641/andespediatr.v92i6.2866.

Saunders, B. S., J. M. Tilford, J. J. Fussell, E. G. Schulz, P. H. Casey, and D. Z. Kuo. 2015. "Financial and Employment Impact of Intellectual Disability on Families of Children With Autism." *Families, Systems & Health* 33, no. 1: 36–45. https://doi.org/10.1037/fsh0000102.

Scherer, N., I. Verhey, and H. Kuper. 2019. "Depression and Anxiety in Parents of Children With Intellectual and Developmental Disabilities: A Systematic Review and Meta-Analysis." *PLoS One* 14, no. 7: e0219888. https://doi.org/10.1371/journal.pone.0219888.

Scripps, E., D. Sutherland, P. E. Langdon, R. P. Hastings, and K. M. Gray. 2025. "Supporting Parents of Adolescents With Intellectual Disabilities: A Systematic Review of Interventions." *Journal of Applied Research in Intellectual Disabilities* 38, no. 1: e70004. https://doi.org/10.1111/jar.70004.

Serrano, C., and C. Astrid. 2024. "Desafíos Geográficos y Culturales En La Salud Mental Adolescente En El Perú: Un Llamado A La Acción Integral." *Lancet Regional Health - Americas* 31: 100,702. https://doi.org/10.1016/j.lana.2024.100702.

Shi, D., and A. Maydeu-Olivares. 2020. "The Effect of Estimation Methods on SEM Fit Indices." *Educational and Psychological Measurement* 80, no. 3: 421–445. https://doi.org/10.1177/0013164419885164.

Sigstad, H. M., and V. Garrels. 2023. "Which Success Factors Do Young Adults With Mild Intellectual Disability Highlight in Their School-Work Transition?" *European Journal of Special Needs Education* 38, no. 4: 573–587. https://doi.org/10.1080/08856257.2022.2148600.

Silván, C., and L. E. Quífez. 2020. "Los Efectos y Consecuencias de la Crisis de la COVID-19 Entre Las Personas Con Discapacidad [the Effects and Consequences of the COVID-19 Crisis Among People With Disabilities]." Fundación ONCE. https://biblioteca.fundaciononce.es/publicaciones/colecciones-propias/programa-operativo/efectos-y-consecuencias-de-la.

Siperstein, G. N., M. Heyman, and J. E. Stokes. 2014. "Caminos hacia el empleo: Una encuesta nacional de adultos con discapacidades intelectuales." *Revista de Rehabilitación Vocacional* 41, no. 3: 165–178. https://doi.org/10.3233/JVR-140711.

Skrondal, A., and S. Rabe-Hesketh. 2004. *Generalized Latent Variable Modeling: Multilevel, Longitudinal, and Structural Equation Models*. CRC PRess.

Smith, M., B. Manduchi, É. Burke, R. Carroll, P. McCallion, and M. McCarron. 2020. "Communication Difficulties in Adults With Intellectual Disability: Results From a National Cross-Sectional Study." *Research in Developmental Disabilities* 97: 103,557. https://doi.org/10.1016/j.ridd.2019.103557.

Son, S.-M., and B.-O. Ahn. 2023. "Effect of Oral Health and Toothbrushing Performance on Halitosis Among People With Intellectual Disabilities." *American Journal of Health Behavior* 47, no. 4: 706–713. https://doi.org/10.5993/AJHB.47.4.6.

Specialized Centers for Professional Rehabilitation. 2026. "Qué es la Rehabilitación Profesional Que ofrece EsSalud para las Personas con Discapacidad? [What is the Professional Rehabilitation Offered by EsSalud for People with Disabilities?]." https://www.essalud.gob.pe/cerp/.

Tétreault, S., S. Blais-Michaud, P. Marier Deschênes, et al. 2014. "How to Support Families of Children With Disabilities? An Exploratory Study of Social Support Services." *Child & Family Social Work* 19, no. 3: 272–281. https://doi.org/10.1111/j.1365-2206.2012.00898.x.

Tiego, J., S. R. Chamberlain, B. J. Harrison, et al. 2020. "Heritability of Overlapping Impulsivity and Compulsivity Dimensional Phenotypes." *Scientific Reports* 10, no. 1: 14378. https://doi.org/10.1038/s41598-020-71,013-x.

Traina, I., A. Mannion, and G. Leader. 2022. "Transition Program From School to Employment in Youths With Intellectual Disability: Evaluation of the Irish Pilot Study E-IDEAS." *Developmental Neurorehabilitation* 25, no. 2: 87–100. https://doi.org/10.1080/17518423.2021.1941373.

Trembath, D., S. Balandin, R. J. Stancliffe, and L. Togher. 2010. "Employment and Volunteering for Adults With Intellectual Disability." *Journal of Policy and Practice in Intellectual Disabilities* 7, no. 4: 235–238. https://doi.org/10.1111/j.1741-1130.2010.00271.x.

United Nations. 2006. "Convention on the Rights of People with Disabilities." https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-people-disabilities.

United Nations. 2017. "Convention on the Rights of People with Disabilities." Article 1. United Nations General Assembly Session 61 Resolution 106. 4–6.

14683148, 2026, 1, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/jar.70198 by Cochrane Peru, Wiley Online Library on [05/11/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Valentini, B., E. W. Carter, J. L. Bumble, and E. Hill. 2019. "Employer Views on School-Business Partnerships Involving Students With Severe Disabilities." *Journal of Vocational Rehabilitation* 50, no. 3: 365–377. https://doi.org/10.3233/JVR-191019.

Verdugo, M., L. Gómez, and B. Arias. 2007. "La Escala Integral de Calidad de Vida. Desarrollo y Estudio Preliminar de Sus Propiedades psicométricas [the Comprehensive Quality of Life Scale: Development and Preliminary Study of Its Psychometric Properties]." *Revista Española Sobre Discapacidad Intelectual* 38, no. 4: 37–56.

Vigna, E., A. Meek, and S. Beyer. 2024. "Supported Employment, Quality of Jobs and Employment Typicalness: The Experience of the Engage to Change Project." *Journal of Applied Research in Intellectual Disabilities* 37, no. 3: e13226. https://doi.org/10.1111/jar.13226.

Viñarás-Abad, M., T. Vázquez-Barrio, and M. Sánchez-Valle. 2021. "Situación De Las Personas Con Discapacidad En el Sector de la Comunicación En España: Aspectos Laborales, Profesionales y Académicos [Situation of People With Disabilities in the Communication Sector in Spain: Labor, Professional, and Academic Aspects]." *Profesional de La Información* 30, no. 2: 1–15. https://doi.org/10.3145/epi.2021.mar.02.

Wehman, P., W. G. Revell, and J. Kregel. 1998. "Supported Employment: A Decade of Rapid Growth and Impact." *American Rehabilitation* 24, no. 1: 31–43.

Wehman, P., J. Taylor, V. Brooke, et al. 2018. "Toward Competitive Integrated Employment: Findings From a Randomized Trial of Project SEARCH Plus ASD Supports." *Journal of Autism and Developmental Disorders* 48, no. 3: 922–931. https://doi.org/10.1007/s10803-017-3359-5.

Wehmeyer, M., and N. W. Garner. 2023. "The Impact of Personal Characteristics of People With Intellectual and Developmental Disability on Self-Determination and Autonomous Functioning." *Journal of Applied Research in Intellectual Disabilities* 16, no. 4: 255–265. https://doi.org/10.1046/j.1468-3148.2003.00161.x.

Wendelborg, C., V. Garrels, H. M. H. Sigstad, and E. E. Dean. 2022. "Recruitment and Work Arrangements for Employees With Intellectual Disability in Competitive Employment." *Journal of Policy and Practice in Intellectual Disabilities* 19, no. 4: 350–359.

Widaman, K. F., and W. Revelle. 2023. "Pensando tres veces en las puntuaciones totales, y luego un poco más en la medición y el análisis." *Behavior Research Methods* 55, no. 2: 788–806. https://doi.org/10.3758/s13428-022-01849-w.

Willow, S. A., I. Strnadová, and J. Danker. 2024. "Developing the Self-Determination of Children and Young People With Intellectual Disabilities in Schools: A Systematic Review of the Literature." *Journal of Applied Research in Intellectual Disabilities* 37, no. 4: e13247. https://doi.org/10.1111/jar.13247.

Zapata, E. 2023. "Avances en la inclusión Laboral de Personas Con Discapacidad en el Perú. ¿Nos Estamos Acercando a Cumplir los Compromisos de la Agenda 2030? [Advances in the Labor Inclusion of People With Disabilities in Peru: Are we Getting Closer to Fulfilling the Commitments of the 2030 Agenda?]." *Portal SOAR: Sapienza Open Access Repository* 1, no. 1: 2–12. https://doi.org/10.56183/soadlib.v1iEBOA1.2.

Zarit, S. H., K. E. Reever, and J. Bach-Peterson. 1980. "Relatives of the Impaired Elderly: Correlates of Feelings of Burden." *Gerontologist* 20, no. 6: 649–655. https://doi.org/10.1093/geront/20.6.649.

Zashchirinskaia, O. v. 2020. "Specificities of Communication in Children With Intellectual Disorders." *Journal of Intellectual Disability - Diagnosis and Treatment* 8, no. 4: 602–609. https://doi.org/10.6000/2292-2598.2020.08.04.2.

Zegarra-López, A. C., G. Luna-Victoria, D. Romero-Montenegro, B. Florentino-Santisteban, D. E. Prieto-Molinari, and M. Montoya-Cuadrao. 2022. "Prevalence and Predictors of Somatization in Peruvian Undergraduate Students During the COVID-19 Pandemic." *International Journal of Environmental Research and Public Health* 19, no. 23: 15,576. https://doi.org/10.3390/ijerph192315576.

Zulmi, M. M., S. P. Prabandari, and A. Sudiro. 2021. "Inclusive Human Resource Management (HRM) Practices for Employees With Disabilities as an Effort to Manage Diversity." *Studies of Applied Economics* 39, no. 12: 1–14. https://doi.org/10.25115/eea.v39i12.6002.

14683148, 2026, 1, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/jar.70198 by Cochrane Peru, Wiley Online Library on [05/11/2026]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License