

The voice of persons with intellectual disability: Why does autonomy support make them feel better?

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Abstract

Our study focused on the role of inclusive environments characterized by the support that supervisors provide to individuals with intellectual disability working in sheltered workshops. We propose that autonomy support is positively related to the satisfaction of individuals with intellectual disability with their autonomy in this organizational context. Satisfaction, in turn, is expected to be positively related to well-being. A total of 394 individuals with intellectual disability working in 59 sheltered workshops located in Spain participated in the study. The research team used a pictorial questionnaire designed in cooperation with experts on measures for individuals with intellectual disability and tested in a pilot study. Using a cross-lagged design, participants answered the questionnaire by reporting how much support they received from non-disabled supervisors, their satisfaction with their level of autonomy, and their general well-being (T1). Four weeks after T1, they reported their satisfaction (T2), and 8 weeks after T1, they reported their well-being (T3). Using structural equation modeling methods with robust maximum likelihood estimation via Mplus, our results confirmed

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the mediation of satisfaction, not only in T1 but also over time. This study contributes to the knowledge about how supportive organizational environments help individuals with intellectual disability.

KEYWORDS

autonomy, intellectual disability, satisfaction, support, well-being

INTRODUCTION

Meta-analyses (Maulik et al., 2011; McKenzie et al., 2016) reported that 1% of the world population has an intellectual disability (about 78 million people). The intellectual disability originates during the developmental period (before the age of 22) and “is characterized by significant limitations in intellectual functioning and adaptive behavior as expressed in conceptual, social, and practical adaptive skills” (Schalock et al., 2021, p. 439). Under the umbrella of intellectual disability, there are different types of limitations and groups (e.g., Down’s syndrome) that vary according to their greater or lesser need for support. Understanding and responding to the hopes and concerns of persons with intellectual disability has become a challenge for policy makers, practitioners, and scholars. The Convention on the Rights of Persons with Disabilities (United Nations, 2006) is an illustrative example. This initiative defends dignity as something inherent to persons with disabilities (including those with intellectual disability), and it emphasizes their inalienable rights as human beings. According to this convention, one of the crucial areas where these rights are fulfilled is in their independence, autonomy, and freedom to make decisions. Therefore, autonomy—defined as the degree to which persons with intellectual disability govern their own lives (Björnsdóttir et al., 2015)—is a key element, describing a universal human need. Although there may be individuals and groups that do not think it is necessary for people with intellectual disabilities to have autonomy in their lives, empirical findings indicate that it is possible to facilitate autonomy and produce important benefits. In fact, previous research showed that the facilitation of autonomous and self-determined behaviors in persons with intellectual disability is positively related to their quality of life (Lachapelle et al., 2005), employability (Shogren et al., 2015), independent living (Palmer & Wehmeyer, 2003), and academic progress (Webster et al., 2017).

Most of these investigations were related to experiences in academic contexts. However, the interest in supportive environments for persons with disability goes further and includes other relevant contexts such as the workplace. Organizational psychologists are increasingly interested in the investigation (and practice) of relevant factors and mechanisms that facilitate or hinder the adequate participation of persons with disability in the labor market, as well as how to enhance their contributions in the workplace. Examples are the barriers and enablers of employment (Vornholt et al., 2018), inclusive climate and behavior (Nelissen et al., 2017), labor integration (Medina & Gamero, 2017; Munduate et al., 2014), redesigning work for inclusive organizations (Zijlstra et al., 2017), selection and accommodation (Colella & Bruyère, 2011), and work teams oriented toward social inclusion (Bruyère & Martínez-Tur, 2019), among others.

Despite these efforts and their meaningful contributions to knowledge and practice, there is still a lack of empirical research that examines the workplace autonomy—defined as the degree

to which workers can structure and control how and when they do their job tasks (Hackman & Oldham, 1976; Spector, 1986)—of persons with intellectual disability. With this in mind, the objective of this study is to analyze the extent to which autonomy support from non-intellectually disabled supervisors promotes the well-being at work of workers with intellectual disabilities through the satisfaction of their autonomy needs. These relationships were tested by measuring the constructs with a time lag of 4 weeks (T1, autonomy support; T2, autonomy satisfaction; and T3, well-being), given that we expect the magnitude of the associations to be meaningful and maintain their statistical significance despite the temporal distance. This cross-lagged design also provides an indication of causality (Lang et al., 2011; Zablach et al., 2016). We focused on the support from supervisors, perceived by persons with intellectual disability, because it is a resource that has great importance for the well-being of the workers (e.g., McIlroy et al., 2021). Drawing on self-determination theory (Deci & Ryan, 1985), we propose and test a model where satisfaction of persons with intellectual disability with their autonomy in the workplace mediates the relationship between autonomy support from non-disabled supervisors and well-being. Self-determination theory is meaningful in our study because it establishes autonomy as a universal basic human need. Support professionals and policy makers often face the dilemma of promoting autonomy, on the one hand, and dealing with the risks that this entails for persons with intellectual disabilities (e.g., accidents), on the other (Wilson et al., 2008). Providing evidence about autonomy and its positive effects would allow a better approach to this dilemma. Previous research efforts, also based on self-determination theory, demonstrated that autonomy at work produces positive effects in workers without disabilities (Battaglio et al., 2022) and confirmed that satisfaction with autonomy is a mediator that leads to these positive results at work (Vansteenkiste et al., 2007). In addition, it is also assumed that persons with disabilities have the same needs in the workplace as their co-workers without disabilities (Akkerman et al., 2018; Melchiori & Church, 1997). However, the investigation of autonomy in the workplace in persons with intellectual disability is still limited (see Akkerman et al., 2018).

Our study was carried out in sheltered workshops where persons with intellectual disability work alongside non-disabled supervisors. It contributes to the existing knowledge in three main ways. First, this study puts into practice, in the relevant context of the workplace, aspects that have been recommended from a normative or ethical perspective but require confirmation from empirical data (see Scerri, 2006). This normative perspective is represented by initiatives such as the Convention on the Rights of Persons with Disabilities (United Nations, 2006). This document establishes the criteria that should be considered in defense of the rights of people with disabilities, including the necessary support to enhance their autonomy in any relevant context. Our study examines, from an empirical perspective, the degree to which a supportive environment in the workplace helps to satisfy autonomy as a basic need, thus leading to well-being. Second, we address calls for research on the role of co-workers in a relevant interpersonal context for persons with disability who work (Vornholt et al., 2018). Vornholt et al. (2018) argued that the definition of disability should go beyond its consideration as a human trait to incorporate the environment as an enabler or a barrier to proper employment. Accommodations in organizations are a relevant part of the environment for individuals with disability (Villotti et al., 2012), but there is a need to examine the specific role of other workers in the social context (Vornholt et al., 2018). Our study concentrates on the degree to which persons with intellectual disability perceive the non-disabled supervisor as a proximal source of interpersonal support that can enhance their autonomy satisfaction. In fact, as mentioned above, supervisor support is a highly relevant resource for workers. Finally, we consider the voice of persons with

intellectual disability. Research has paid more attention to the view of other actors, especially family members (e.g., Maniezki et al., 2021). However, an increasing number of scholars have suggested that the perspective of persons with intellectual disability is also needed. They argue that persons with intellectual disability are in a good position to provide their own perceptions, attitudes, and experiences (Alveirinho et al., 2017; Irvine, 2010). In addition, there might still be attitudes in our societies and organizations that deny that certain working conditions and experiences, such as those related to autonomy, are also positive or even possible for people with intellectual disabilities, and including their views in empirical studies that could contribute to changing these attitudes. In sum, our main contribution is to place the person with intellectual disabilities at the center of the study, collecting data on their perceptions and experiences, rather than using third parties (non-disabled workers, family members, etc.), and examining whether their autonomy satisfaction explains why autonomy support translates into greater well-being.

AUTONOMY SATISFACTION AS UNDERLYING MECHANISM

Self-determination theory (Deci & Ryan, 1985) helps to describe the mechanism that links autonomy support—defined as workers' initiative promoted by others (i.e., non-disabled supervisors)—to well-being. According to this theory, autonomy is an innate psychological need that should be satisfied in order to achieve optimal functioning and well-being (Deci & Ryan, 2000; Nelson et al., 2015). To do so, the existence of an interpersonal context characterized by autonomy support is especially relevant (Ratelle et al., 2013). In general, individuals are sensitive to interpersonal contexts. That is, people navigate in environments where significant others can provide autonomy support or inhibit it (Deci & Ryan, 1985). In sheltered workshops, non-disabled supervisors (as part of the interpersonal context) are very significant for the worker with intellectual disability, because one of their most important functions is to facilitate learning and autonomy. Support from non-disabled supervisors in sheltered workshops increases the possibility that persons with disability will be satisfied with their autonomy and will feel good. Although one of the main objectives of non-disabled supervisors in sheltered workshops is to facilitate the autonomy and competence of persons with intellectual disability in their workplaces, it is reasonable to expect differences in the degree to which this service and support are provided. Some non-disabled supervisors may be more supportive than others. It is reasonable to argue that when workers with intellectual disabilities perceive autonomy support from their supervisors, they feel satisfied with their autonomy at work. Conversely, when they do not perceive this support, their satisfaction with autonomy is likely to suffer.

Previous studies have reported positive direct links from autonomy support to well-being (e.g., Slemp et al., 2015) and health (e.g., Moreau & Mageau, 2012). These studies guided our proposal in two ways. First, they proposed and found that a contextual factor (autonomy support) is a precursor of well-being and health in the workplace. Second, autonomy support, as a facet of the work context, has an independent and direct relationship with well-being, beyond individual factors. However, despite the importance of autonomy support, several scholars have proposed autonomy satisfaction as an underlying mechanism that plays a mediator role (Deci et al., 2001; Nelson et al., 2015). Receiving support is different from fulfilling a basic need. Autonomy support refers to the external context, whereas satisfying a basic need “involves acquiring a psychological nutriment that promotes an overall sense of well-being” (Nelson et al., 2015). This rationale also applies to the experiences of persons with intellectual disability

working in sheltered workshops. They perceive the existence (or lack) of support provided by non-disabled supervisors, which increases (or decreases) autonomy satisfaction (degree to which this need is fulfilled). The referent/object is different for these two constructs: support versus satisfaction. Autonomy support refers to a facet of the external environment that is perceived by the person with intellectual disability. By contrast, autonomy satisfaction refers to an internal experience of the person. The perception of the external environment (support) is translated into an experience (satisfaction). Autonomy satisfaction, in turn, is positively related to their overall well-being. In sum, we propose that autonomy support by non-disabled supervisors makes persons with intellectual disability feel good through the satisfaction of their autonomy needs.

Based on the aforementioned arguments, and considering an analytical approach, we propose the following hypotheses:

Hypothesis 1. Autonomy support (T1) is positively related to autonomy satisfaction (T2) 4 weeks after T1.

Hypothesis 2. Autonomy satisfaction (T2) is positively related to well-being (T3) 4 weeks after T2.

In addition, from a more holistic view, a mediation is also proposed:

Hypothesis 3. Autonomy satisfaction (T2) mediates the link from autonomy support (T1) to well-being (T3).

METHOD

Research context

As mentioned above, our study was carried out in sheltered workshops. Specifically, these workshops are small centers located in Spain where workers with intellectual disability participate in the design, production, packaging, and sometimes sale and distribution, of different types of products. In Spain, persons with disabilities are assigned a place in a sheltered workshop through a process involving the public administration. These centers are becoming increasingly open to their environment, dedicating themselves to the production and direct sale of various products and/or acting as suppliers to other companies. Persons with intellectual disabilities have work schedule established through center regulations, and they receive financial compensation for their work. These center regulations also establish the obligations and rights of the parties (including people with disabilities), similarly to a labor agreement. These organizations are “protected” contexts where non-disabled supervisors train and support workers with intellectual disability. In fact, an important facet of the role of non-disabled supervisors consists of delivering a support service oriented toward enhancing the autonomy and learning of persons with intellectual disability. Persons with disabilities can remain in the sheltered workshop indefinitely, or they can change to a workplace in an ordinary (“non-protected”) organization. Sheltered workshops were adequate research contexts for the current study because they allowed us to examine the link from autonomy support to autonomy satisfaction and well-being of persons with intellectual disability in real organizations.

Procedure and participants

We contacted 59 small, sheltered workshops located in Spain with the support of “Plena Inclusion,” a non-governmental organization dedicated to improving the quality of life and defending the rights of persons with intellectual disability. The data collection was carried out in 2016–2017. All the centers were affiliated with this NGO, and they participated voluntarily in the research study. The research team contacted the director of each sheltered workshop, and a person in each center was assigned to coordinate the data collection process. This coordinator received instructions from the research team to ensure a systematic and standardized process. Persons with intellectual disability who had the capacity (with support) to understand and answer pictorial questionnaires were invited to participate. A total of 555 persons with intellectual disability participated in the first time measurement (T1) (response rate above 90%). Their average age was approximately 34 years, and 43% were women. Before answering the questionnaire, they received an explanation of the meaning of informed consent (ensuring voluntary participation, confidentiality, and the possibility of leaving the study at any time) and the general objectives of the study. Subsequently, they gave their informed consent. Next, the coordinator explained the meaning of the items on the questionnaire, informed participants about the response instructions, and clarified any doubts. Finally, participants responded to the questionnaire by reporting how much support they received from non-disabled supervisors, their satisfaction with their level of autonomy in the tasks carried out in the sheltered workshop, and their general well-being in the center (T1). Four weeks after T1, they reported their autonomy satisfaction again (T2), and 8 weeks after T1, they reported their overall well-being in the center (T3). The research team contacted all the coordinators by phone (at T2 and T3) to remind them to provide support to the persons with intellectual disability who were completing the required questions at that time. The coordinator of each center is a professional who is familiar with the process of supporting people with intellectual disabilities when filling out various types of documents, including questionnaires. This is something that is done regularly in the sector. These professionals know that they must explain the meaning of the questions and ensure that they have been adequately understood. In addition, they make sure that the persons with intellectual disability answer according to their own opinions or personal experiences. However, the research team explicitly indicates that these requirements must be met when supporting the completion of the questionnaires. The professionals are also reminded that they must not influence the responses of the person with intellectual disabilities and that they cannot record or disclose the questionnaire responses. This procedure received the approval of the Ethical Committee of the University of the corresponding author.

Although the baseline sample at T1 included 555 participants, 161 (29%) declined to participate in T2 or T3, whereas 394 (71%) responded at the three measurement times. Those who declined in T2 and/or T3 were distributed across a wide variety of participating centers. We compared these two samples ($N = 394$ vs. $N = 161$) with regard to the distribution of women versus men and the age of the participants. The distribution of men versus women was not statistically different ($\chi^2_{[1]} = .16, p > .05$), and the two samples did not differ on their average age ($t = 0.96, p > .05$). These results indicate that the two samples of participants were not statistically different in terms of gender distribution or age.

MEASURES

Design process

One of the main challenges in this study was to design a questionnaire that would be accessible and friendly to participants. The design process had two stages. First, the research team organized a meeting with intellectual disability experts from “Plena inclusion,” the NGO that supported the data collection. Different options were analyzed. Finally, the decision was made to use a pictorial questionnaire where each item would contain a simple sentence accompanied by four colored faces that ranged from a more negative expression (1) to a more positive expression (4). Pictorial scales are used in research, and one of their important advantages is their lower cognitive demand (e.g., Desmet et al., 2016). Second, we examined the measures through a pilot study, with the participation of two persons with intellectual disability who worked in a sheltered workshop. The pilot study was carried out by two non-disabled supervisors and a member of the research team. The researcher provided instructions and explained the meaning of the items to the two persons with intellectual disabilities. Subsequently, the two supervisors and the research team member asked the individuals with disabilities questions to explore to what extent they had understood the questions. We confirmed that the questionnaire could be understood, if accompanied by a previous instruction with an explanation of the meaning of the items. Instructions for each measure were incorporated.

Autonomy support

To assess autonomy support from the perspective of persons with intellectual disability and facilitate its understanding, we operationalized the contribution of non-disabled supervisors as providers of a support service that enhances learning in sheltered workshops. This learning process is the specific way to contribute to the autonomy of persons with intellectual disability because it helps them to become more autonomous in the centers. Before answering the questions, the persons with intellectual disability received the following instruction: “In this center, you learn to perform some tasks. There are workers who help you. Now you are going to tell me what you think of them. I will read seven sentences that describe their behaviors. After each sentence, I will show you four faces. You must mark with an X the face that best reflects the extent to which these workers support you. If you receive very little support, you should mark the face that is on the far left and labelled number one. If you receive a lot of support, you should mark the face that is on the far right and labelled number four. If you are not sure how much support you receive, you can mark Face two or Face three. In sum, look at the faces and mark the one that best describes how much support you receive from these workers when you learn to do your tasks in this center.” The seven items on the service delivery scale used by Molina et al. (2015) and Martínez-Tur et al. (2020) in organizations for persons with intellectual disability were adapted. The seven sentences were shown to participants after the instruction that emphasizes support in learning tasks: “They assist me”; “They make it possible for everything to be fine here”; “They satisfy my needs”; “They are able to do their work well”; “They have done things to make me feel important”; “They offer me sincere treatment”; and “They are able to put themselves in my place.” After each sentence, the person with intellectual disability selected one of the four faces. All the items ranged from 1 (low autonomy support) to 4 (high autonomy support). The alpha coefficient was satisfactory, with a score of .82.

Autonomy satisfaction

We measured autonomy satisfaction with a single item, ranging from 1 (low autonomy satisfaction) to 4 (high autonomy satisfaction). Previous research has shown that single items measuring satisfaction in the workplace have good validity (e.g., Nagy, 2002; Wanous et al., 1997). In addition, this type of measure facilitates answers from individuals with intellectual disability. Again, before answering the question, they received one instruction. To aid understanding, we used the words “freedom” and “autonomy” as synonyms. Specifically, the following instruction was provided: “At the workplace, people may have freedom or autonomy. That is, they can decide what tasks to carry out and how to do them. Tell us how satisfied you are with the freedom or autonomy you have at this center. I will show you four faces. You must mark with an X the face that best reflects your satisfaction with your freedom or autonomy when performing your tasks at this center. If you are very unsatisfied with your freedom or autonomy, you should mark the face that is on the far left and labelled number one. If you are very satisfied, you should mark the face that is on the far right and labelled number four. If you are not so sure about your satisfaction, you can mark Face two or Face three. In sum, look at the faces and mark the one that best describes how satisfied you are with your freedom or autonomy in performing your tasks at this center.”

Overall well-being

To facilitate the answers, we also measured overall well-being with a single item, ranging from 1 (low well-being) to 4 (high autonomy support). Previous research has confirmed that single-item measures of well-being at work are valid (Williams, 2012; Williams & Smith, 2016). The instruction we provided for this measure was as follows: “At the workplace, people may feel bad or good. I will show you four faces. You must mark with an X the face that best reflects how you feel in the center. If you feel very bad, you should mark the face that is on the far left and labelled number one. If you feel very good, you should mark the face that is on the far right and labelled number four. If you are not so sure about how you feel, you should mark Face two or Face three. In sum, look at the faces and mark the one that best describes how you feel in the center.”

STATISTICAL PLAN

We tested the mediation model twice. First, we examined it through a cross-sectional approach using the full sample ($N = 555$) at T1. Second, we also considered a cross-lagged design ($N = 394$) where autonomy satisfaction was measured at T2 (controlling for autonomy satisfaction at T1) and overall well-being was assessed at T3 (controlling for overall well-being at T1). This second approach allowed us to confirm the mediation model while avoiding possible inflated relationships due to common method variance. In both approaches, we computed structural equation modelling (SEM) methods with robust maximum likelihood (RML) estimation via Mplus (Muthén & Muthén, 1998-2010).

RESULTS

Preliminary results

We compared the sample of participants who answered at the three times ($N = 394$) with the sample of participants who declined to participate at T2 and/or T3 ($N = 161$). The results showed that there were no significant differences in any of the three variables: autonomy support ($t = 1.94, p > .05$), autonomy satisfaction ($t = 1.42, p > .05$), and overall well-being ($t = 0.03, p > .05$). Our results indicated that the two samples of participants do not differ on the three study variables.

Descriptive results and correlations are shown in Table 1. Pearson's correlation coefficients were calculated, with the exception of gender. In the case of gender, given that it is a dummy variable without an order in the categories, we decided to calculate the Spearman rank correlation (Warner, 2013). There were significant positive correlations among the variables, as expected. Correlations tended to be higher at T1 (cross-sectional) than at Times 2 and 3, although they were still statistically significant.

The cross-sectional mediation model

The cross-sectional mediation model ($N = 555$) showed a good fit to the data ($\chi^2 = 42.445, df = 42, RMSEA = 0.004, CFI = 1.000, TLI = 0.999$). The path coefficient from autonomy support at Time 1 to autonomy satisfaction at Time 1 was significant ($\beta = .56, p < .01$), supporting H1. Persons with intellectual disabilities who received support from their supervisors were more satisfied with their autonomy at work. Furthermore, the path coefficient from autonomy satisfaction at Time 1 to overall well-being at Time 1 was significant ($\beta = .17, p < .01$), supporting H2. When persons with intellectual disabilities had their need for autonomy satisfied, they tended to experience greater well-being at work. The direct path from autonomy support at Time 1 to overall well-being at Time 1 was also statistically significant ($\beta = .38, p < .01$) (see Figure 1). Age and gender were controlled. The BC bootstrap confidence interval (CI) for the mediated effect (estimate = 0.147, CI 95% = [0.035, 0.259]) did not include zero. Hence, we concluded that autonomy satisfaction at Time 1 mediated the relationship between autonomy

TABLE 1 Descriptive statistics and correlations ($N = 394$).

	Range	Mean	SD	1	2	3	4	5	6	7
1. Support T1	1–4	3.47	.49	.81						
2. Satisfaction T1	1–4	3.41	.81	.51**	.81					
3. Well-being T1	1–4	3.54	.70	.42**	.38**	.81				
4. Age	17–68	34.95	10.13	-.06	-.06	-.09	.81			
5. Gender	Dummy	--	--	.05	-.01	.04	-.03	.81		
6. Satisfaction T2	1–4	3.55	.76	.30**	.27**	.21**	.06	.09	.81	
7. Well-being T3	1–4	3.57	.70	.30**	.14**	.37**	-.09	.09	.41**	.81

Note: T1 = Time 1; T2 = Time 2; T3 = Time 3. Spearman rank correlation was used when the data were dummy. Pearson's correlation coefficient was computed for interval data. Reliability coefficients appear on the diagonal in brackets.

** $p < .01$.

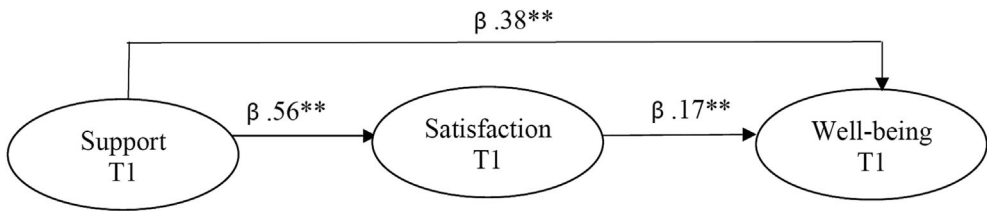


FIGURE 1 Results for the mediation structural equation modelling (SEM) cross-sectional model.

support at Time 1 and overall well-being at Time 1, supporting H3. These results supported a process. Persons with intellectual disabilities who received support from their supervisors felt more satisfied with their degree of autonomy. This satisfaction, in turn, led to higher well-being in the workplace (although the direct link from autonomy support to well-being persisted).

The cross-lagged mediation model

The cross-lagged model showed a good fit to the data ($\chi^2 = 59.597$, $df = 60$, $RMSEA = 0.000$, $CFI = 1.000$, $TLI = 1.001$). According to H1, the path coefficient from autonomy support at Time 1 to autonomy satisfaction at Time 2 was significant ($\beta = .28$, $p < .01$), controlling for age, gender, and autonomy satisfaction at T1. Again, persons with intellectual disabilities who received support from their supervisors were more satisfied with their autonomy at work. Furthermore, the path coefficient from autonomy satisfaction at Time 2 to overall well-being at Time 3 was significant ($\beta = .24$, $p < .01$), after controlling for age, gender, and overall well-being at T1, supporting H2. Persons with intellectual disabilities whose autonomy needs were satisfied experienced greater well-being. The direct path from autonomy support at Time 1 to overall well-being at Time 3 was not statistically significant ($\beta = .13$, $p > .05$) (see Figure 2). Moreover, the BC bootstrap confidence interval (CI) for the mediated effect (estimate = 0.110, CI 95% = [0.004, 0.216]) did not include zero. Hence, we concluded that autonomy satisfaction at Time 2 fully mediated the relationship between autonomy support at Time 1 and overall well-being at Time 3, supporting H3. This supported a full mediation process. That is, persons with intellectual disabilities who received support from their supervisors felt more satisfied with their autonomy. This satisfaction, in turn, led to higher well-being.

DISCUSSION

Drawing on the self-determination theory, this research study tested a model based on the mediation of autonomy satisfaction in the workplace, with the participation of persons with intellectual disability working in sheltered workshops. Hypotheses were supported with a time lag of 4 weeks in the measurement of the variables (T1, autonomy support; T2, autonomy satisfaction; and T3, well-being). First (H1), autonomy support from non-disabled supervisors (T1), perceived by workers with intellectual disability, was positively related to autonomy satisfaction 4 weeks later (T2). Second (H2), autonomy satisfaction (T2) was positively associated with well-being 4 weeks later (T3). Finally (H3), autonomy satisfaction (T2) fully mediated the link from autonomy support (T1) to well-being (T3). Implications of the results are discussed below.

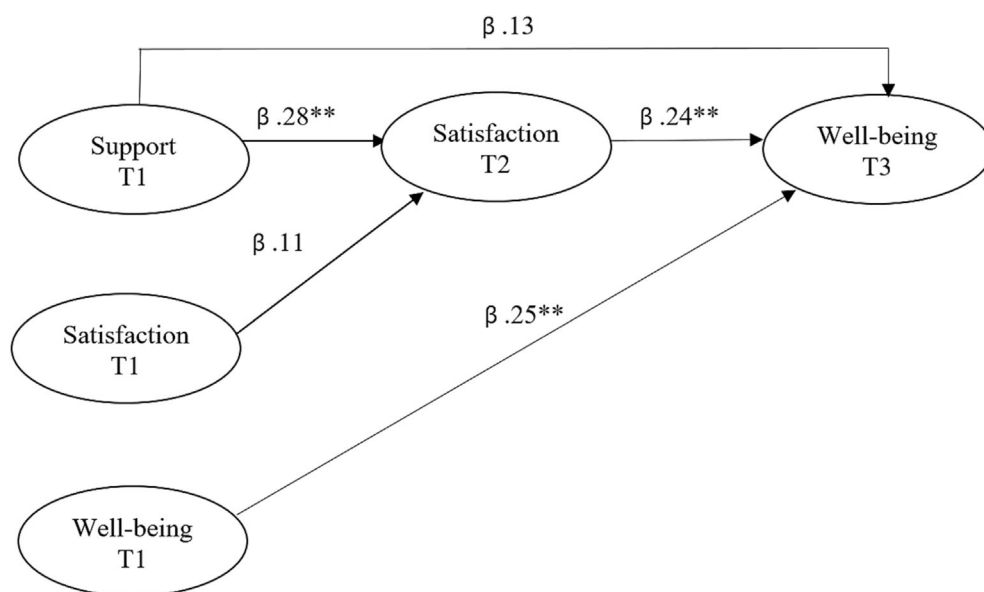


FIGURE 2 Results for the mediation structural equation modelling (SEM) cross-lagged model.

Theoretical implications

As mentioned above, we place persons with intellectual disability at the center of our research study. Based on their perceptions and experiences, our findings indicate that persons with intellectual disabilities who receive support from their supervisors in sheltered workshops have their needs for autonomy more satisfied. Their satisfaction, in turn, leads them to experience greater well-being at work.

Our study focused on a specific environment, the labor context, addressing calls for research on the role of co-workers (supervisors) as a relevant interpersonal context for workers with disability (Vornholt et al., 2018), based on two assumptions. First, experiences of workers (including persons with intellectual disability) are largely based on external environments in the workplace that can be designed and managed to enhance quality of life. Second, non-disabled supervisors are an essential part of the interpersonal context because they provide the support that persons with intellectual disabilities need. Without the involvement of non-disabled supervisors, it is very difficult to create truly supportive environments. Our data support these arguments.

Considering the “voice” of persons with intellectual disability has also extended the knowledge. As mentioned above, participation of other actors (family members, non-disabled workers) has been more frequent in previous research on intellectual disability. The previous research specifically examined the extent to which channels of participation and dialog between non-disabled workers and family members are related to self-determination and autonomy in persons with intellectual disabilities. The emphasis was mainly on generalizing the self-determination of persons with intellectual disabilities to other contexts (e.g., family context) beyond the organization (Blížkovská et al., 2022; Martínez-Tur et al., 2015) and achieving a shared vision (regarding the autonomy of persons with intellectual disabilities) between non-disabled workers and family members (Martínez-Tur et al., 2018). Overall, the results suggested that dialog and participation of family members in organizational life facilitate the generalization of self-determination of persons with intellectual disabilities to other contexts, as well as

attitudinal convergence between family members and non-disabled workers toward self-determination. Although this research has contributed significantly to the knowledge, accessing persons with intellectual disabilities has an added value because their experiences are expressed directly through them (e.g., in terms of satisfaction and well-being) and not through the mediation of third parties. In addition, this information can more clearly contribute to changing attitudes that are still present and seem to link intellectual disability to the impossibility of having positive experiences (such as autonomy) similar to those of non-disabled workers.

In a more concrete way, our study helped to clarify the mechanisms linking autonomy support to overall well-being. Although we found partial mediation using the cross-sectional approach, a more solid cross-lagged design supported full mediation. This reinforces autonomy satisfaction as a relevant underlying mechanism that makes it possible to link autonomy support to the overall well-being of persons with intellectual disability. Testing this type of mechanism makes a relevant contribution because it is an indicator of the maturity of science (Hayes, 2012), allowing processes to be established instead of merely examining the relationship between two variables. Our findings are congruent with the self-determination theory in two relevant aspects: content and process. First, we pay attention to the motivation content in terms of innate psychological needs, with autonomy being one of them (Deci & Ryan, 2000). According to the self-determination theory, psychological needs are innate and universal because they specify the necessary conditions for human health and well-being. If these psychological needs are not satisfied, optimal development suffers significantly. Therefore, autonomy (as a psychological need that describes the propensity of humans to self-regulate) is proposed as a necessary nutriment for well-being. We supported this argument in workers with intellectual disability, confirming the significant link from autonomy to well-being. Second, our results are also congruent with a process that places need satisfaction as a mediator between the supportive environment and well-being (Deci et al., 2001; Nelson et al., 2015). The process begins with the existence of a work context that promotes the satisfaction of an innate need in people: autonomy. Without a workplace environment that facilitates this autonomy, it is difficult for people to have their autonomy needs met. The process continues with the improvement of well-being because people satisfy an innate need that is a necessary condition for their well-being. Our research supports this process in people with intellectual disabilities. Unexpectedly, however, the relationship between autonomy satisfaction at T1 and T2 was not significant (Figure 2). A positive correlation would be expected because the same construct was measured with the same instrument. A tentative explanation could be related to the temporal instability of this construct. Unlike well-being, it is possible that satisfaction varies over time, making it difficult to find significant correlations between measures implemented at different times. In fact, autonomy satisfaction tends to vary more over time than well-being (which remains very stable) (see Table 1). Nevertheless, more research is needed in the future to confirm this possible cause.

Implications for practice

Workers with intellectual disabilities are not the quantitatively predominant workforce in organizations. They represent a minority who, despite difficulties, are joining the labor market. Making the non-disabled supervisor sensitive to the support that persons with disabilities need is relevant to their well-being in the workplace. Policy makers and managers should be aware of this and implement at least two types of actions. First, they could facilitate a set of practices that encourage non-disabled supervisors to provide autonomy support. These practices could include information and awareness, but also more specific actions such as training in social skills to

interact with persons with intellectual disabilities or designing performance evaluation criteria that include autonomy support. Second, it could be useful to implement practices that avoid categorizing persons with intellectual disability as an excluded exogroup within the organization, which reduces support from non-disabled supervisors and co-workers. To do so, it would be useful to design mixed teams (with non-disabled workers, supervisors, and persons with intellectual disability) where members have to support each other to achieve shared objectives.

Limitations

As is true for all studies, the current one has limitations that provide insights for future efforts. We would like to emphasize three limitations. First, our study was carried out in organizations that can be considered “protected” contexts: sheltered workshops. In this type of organization, an important part of the non-disabled supervisor's role is to provide a service oriented toward enhancing the autonomy and learning of persons with intellectual disability. Although our findings are congruent with solid research based on self-determination theory, it would be relevant to examine the model in ordinary organizations where this type of support service provided by non-disabled supervisors is not expected as much. Second, we focused on persons with intellectual disability who were able to respond to pictorial questionnaires. This required an important design effort, but we were able to use self-report measures. An important challenge for the future is to extend this investigation to persons with more severe disability who need intensive support and other measurement strategies, such as observation. Finally, and regarding this same issue of self-report, we are aware that giving people with intellectual disabilities the opportunity to answer questionnaires creates a dilemma. On the one hand, they need support when answering. On the other hand, this support could have influenced the answers. Through our procedure, we have tried to minimize this potential influence, given that the coordinators providing support had to insist that individuals with intellectual disabilities provide their own opinions and experiences. However, future studies should use other measures and instruments (observation of behavior, nonverbal communication) to corroborate their questionnaire responses.

Conclusion

Despite its limitations, the present study makes a meaningful contribution to the study of well-being in persons with intellectual disability in the workplace, based on their perceptions and experiences. The important role of non-disabled supervisors is supported. Persons with intellectual disability feel good in the workplace when they receive the support that satisfies their autonomy needs.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Data available upon request.

ETHICS STATEMENT

This study was approved by the Ethical Committee of the University of Valencia.

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