**Providing accessible services for**

**students with disabilities in higher education: The role of self-efficacy among administrative staff**

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**Abstract**

**Purpose**: Higher education plays a key role in social inclusion and employability. Administrative staff, as part of the academic setting, can facilitate a supportive academic environment for students with disabilities (SWDs). Nonetheless, most administrative staff have little training regarding service accessibility. The purpose of this study was to examine the factors that are related to the self-efficacy to provide accessible services among administrative workers. We based our perspective on *role breadth self-efficacy*, which examines self-efficacy in the performance of new work-related tasks and, in this case, proving services to SWDs.

**Methods**: The study included 200 administrative workers from eight higher education institutions that completed the Multidimensional Attitudes Scale Toward Persons With Disabilities (MAS) and a self-efficacy in-service provision for SWDs questionnaire designed for this study.

**Results**: These analyses revealed significant relationships between self-efficacy to provide accessible service and internal (personal) factors that were related to attitudes towards people with disabilities as well as external (organizational) factors that were related to frequent encounters with SWDs, familiarity with the support services, and participation in accessibility training.

**Conclusions:**

Direct experience, structured training, and consultancy with support services can strongly contribute to the improvement of self-efficacy to provide accessible services. Administrative workers may benefit from accessibility training that includes a focus on changing attitudes towards SWDs, together with meetings and discussions with SWDs and the support center staff.

**Keywords:** Role breadth, people with disabilities, attitudes, support, training

**Introduction**

Higher education is considered to be a key factor in employability, both in successful entry to the workforce (Donald, Ashleigh & Baruch, 2018) and sustaining such participation (Etuknwa, Daniels & Eib, 2019). For people with disabilities (PWDs), acquiring an academic degree has the added value of the achievement of social status (Vlachou & Papananou, 2018).

Article 24 of the United Nations Convention on the Rights of Persons with Disabilities (CRPD, 2006) acknowledges the importance of access to higher education for the social inclusion of PWDs. Article 24 affirms PWDs of the right to “an inclusive education system at all levels and lifelong learning” (CRPD, 2006) as an integral part of other disability-related human rights (Lord & Stein, 2018). Accessibility, as stated in article 9 of the CRPD, is the practice of ensuring the rights of PWDs (Broderick, 2020) by removing barriers and increasing the usability of programs and services in the public sphere (Mor, 2017).

 Despite the understanding that accessible higher education is needed for the success of students with disabilities (SWDs), studies have indicated that they still encounter major barriers in higher education, such as architectural, bureaucratic, technological, learning material- or method-related, and personal or social barriers (García-González et al., 2020). Administrative staff play an important role in making the academic environment accessible for SWDs: They can remove barriers and assist in integrating SWDs by creating an assistive, safe, and supportive environment (Hadley, 2011). They can also provide SWDs with information regarding support services on campus, assist them in their orientation to the campus, and provide relevant information about their schedule and syllabus (Sachs & Schreuer, 2011).

The creation of an inclusive administrative service that addresses the needs of SWDs requires the administrative staff to redefine their *role breadth*. Role breadth, as defined by Parker (2000), is a term reflecting the perceptions of employees in different organizations regarding domains that are included, by definition, in their role. Leak and Stodden (2014) showed that employees with a narrow professional identity avoided providing accessible services for PWDs and will refer them to support centers for SWDs, which are considered to be the professional unit that oversees the inclusion of these students (Cory, 2011; Hong, 2015; Troiano et al., 2010; Walker, 2016).

According to Parker (2000), changes in role breadth require two conditions. One is the willingness to expand role definitions and, in the case of the present study, to provide accessible services for SWDs. The second condition is self-efficacy in the performance of new tasks, or *role breadth* *self-efficacy* (Parker, 2000). In the context of the present study, this refers to the self-efficacy of administrative staff to take relevant actions required to provide service for SWDs.

Self-efficacy was first introduced through the social-cognitive learning theory of Bandura (1977) and is defined as the “conviction that one can successfully execute the behaviour required to produce the outcomes” (Bandura, 1977, p. 193). Bandura (1982) identified prior experiences as a major source of self-efficacy beliefs in the foundation of self-efficacy, together with watching others and receiving feedback and encouragement. Occupational self-efficacy refers to the confidence of the worker in successfully performing different job tasks (Khalil & Siddiqui, 2019). Research on occupation-related self-efficacy is well-established and indicates that self-efficacy is associated with work-related outcomes (Raub & Liao, 2012; Tims, Bakker, & Derks, 2014; Ozyilmaz et al., 2018). In addition, high self-efficacy in service-based organizations influences the ability of service providers to adapt their service to the changing needs of customers (Pimpakorn & Patterson, 2010; Shukla et al., 2018). However, to date, no study has explored this issue in relation to providing accessible services for SWDs from the perspective of the administrative staff. This study addresses this issue by examining the factors that shape their *self-efficacy to provide accessible services* (SE-AS) for SWDs.

The factors that may affect the provision of accessible services can be divided into two categories: internal and external. Internal factors that affect the provision of accessible services are related to personal attitudes towards PWDs. Culp et al. (2017) found that negative attitudes towards PWDs can lead to low self-efficacy while performing disability-related tasks. Emmers et al. (2020) found the same results when examining lecturers in higher education and their attitudes towards the inclusion of SWDs. Research that examined healthcare workers also found that negative attitudes towards PWDs were manifested in the avoidance of interactions with them (Akhavan & Tillgren, 2015; Velonaki et al., 2015). In this sense, frequent contact and previous acquaintance with a PWD were found to be associated with positive attitudes towards PWDs among family members (Friedman, 2019), teachers (Kunz et al., 2021), and healthcare workers (Van Puymbrouck et al., 2020). The external factors that may contribute to the SE-AS of administrative staff are related to the existence and function of on-campus support services for SWDs (Kutscher & Tuckwiller, 2019; Newman et al., 2020; Shpigelman et al., 2021) and participation in a training accessibility program (Martins et al., 2021; Murray, Lombardi, & Wren, 2011, Lombardi et al., 2021, Roth et al., 2018). It should be noted that the internal and external factors discussed above have not been explored in the context of the SE-AS of administrative staff.

To date, research on SE-AS in higher education has focused mainly on faculty (Hauerwas & Mahon, 2018, Shinohara et al., 2018), and has been conducted in K-12 educational settings (Peebles & Mendaglio, 2014) and service-based organizations (Alhejji et al., 2015). Most of the research examining administrative services for SWDs has mainly focused on general attitudes toward PWDs and not on SE-AS (Polo Sánchez et al., 2018).

To address this research gap, the present study aims to examine the factors that explain the SE-AS of administrative staff. Our research questions were: (1) Are attitudes toward PWDs (internal factors) positively associated with SE-AS? (2) Are frequent encounters with SWDs, familiarity with the support services, and participation in accessibility training (external factors) positively associated with SE-AS?

**Methods**

**Participants**

The population for this study comprised the client-facing administrative workers in eight academic institutions. The eight chosen institutions were diverse and included a regional college, a private college, a college for teachers’ training, a technological college, and a research university. Inclusion criteria for the study were: (1) Women, due to the high proportion of women among administrative staff involved in client-facing work (Pritchard & McChesney, 2018); (2) At least one year of seniority at the academic institution, including the provision of service throughout the entirety of the academic year, including the exam period. This criterion was selected based on numerous studies in organizational behavior that found that the first year of employment is unique, in which employees go through a process of adjustment to the organization and internalize its culture (DeBode et al., 2017). Employees who provide designated services to SWDs, such as consulting in support centers for SWDs, were not included in the research.

Of 218 administrative staff members who were approached, 14 did not complete the questionnaire and 4 did not meet the participation criteria. Therefore, the study included 200 administrative workers overall. The 200 participants who filled out the questionnaires were involved with direct face-to-face service provision to SWDs and worked in a variety of administrative roles: department secretariats, consulting and registration centers, and other administrative units.

*Demographic characteristics*. The average age of the participants was approximately 40 years (*M* = 39.8, *SD* = 9.7), with an average seniority of 10 years in their work at an academic institution (*M* = 9.7, *SD* = 8.1) (See Table 1). Most participants had an academic education (83.5%), but most of them did not have prior experience in a role that entailed customer service (76.5%) (Table 2).

**Table 1**

*Background Variables (Continuous Variables)*

| *SD* | *M* | Range | Characteristic [in years]  |
| --- | --- | --- | --- |
| 9.73 | 39.76  | 23**–**67 | Age |
| 8.06 |  9.71 | 1–44 | Seniority at work |
| 2.69 |  3.96 | 1**–**44 | Seniority at role |

Table 2

*Background Variables (Discrete Variables)*

|  |  |  |
| --- | --- | --- |
| *%* | *N* | Characteristic |
|  |  | Education |
| 16.5 | 33 | Academic |
| 83.5 | 167 | Nonacademic |
|  |  | Prior experience in service–providing |
| 23.5 | 47 | Yes |
| 76.5 | 153 | No |

**Measures**

The participants were asked to complete a set of questionnaires that included:

*Multidimensional Attitudes Scale Toward Persons with Disabilities (MAS)*. This questionnaire (Findler et al., 2007) was developed to examine attitudes towards PWDs. The questionnaire presents a short vignette describing an unplanned encounter with a PWD in a wheelchair. After describing the case the subject needs to report on a five-level Likert scale the probability that a certain feeling, thought, or conduct may arise following the encounter with the PWD (1, strongly disagree; 5, strongly agree). High scores indicate negative attitudes towards PWDs whereas lower scores indicated more positive attitudes. The questionnaire is composed of 34 items divided into three dimensions: (1) Affect: Feelings that may rise while encountering a PWD are described by 16 items that form three measures: positive feelings such as peace and serenity, negative feelings such as fear and helplessness, and feelings related to interpersonal tension such as stress or shyness; (2) Cognition: The thoughts that may arise in such a situation are described by 10 items that form 2 measures: (a) Positive thoughts towards the person with a disability; for example: “he seems friendly”, and (b) Thoughts related to a desire for proximity; for example: “he will appreciate it if I start talking with him.” (3) Behavior= .891), and behavior (α = .750): Conduct that can be present in this situation is described by 8 items, including starting a conversation or avoiding interaction by reading a newspaper. In this study, the average of all 3 main measures of the questionnaire was used: affect, cognition, and behavior. Cronbach’s alpha measures were high in affect (α = .887) cognition (α

1. *Self-efficacy in the provision of accessible service for students with disabilities*. This questionnaire was designed specifically for this study, based on the guidelines for constructing questionnaires about specific self-efficacy (Bandura, 2006). Furthermore, the questionnaire is based on recommendations regarding service provision for PWDs (Retail Council of Canada, 2019) and on information brochures for administrative staff such as the information and recommendations brochure developed by BestColleges (2020). The preparation of the questionnaire was based on an activity analysis that served as a tool to identify the components that are part of the activity (Dancza et al., 2018), in this case, service provision for SWDs. In addition, the guidelines for the formation of questionnaires regarding self-efficacy emphasize the importance of using the present tense in statements. In total, nine items were built in, and each subject was requested to rate how much they agreed with a given item on a five-level Likert scale (1–5; 1, strongly disagree; 5, strongly agree). For example: “I know how to inform a student with a disability about his rights on campus.”

Content validity was established by 12 administrative staff employees, 2 managers of support centers for SWDs, and an accessibility coordinator. After sending the questionnaires to all participants, the internal reliability was measured with Cronbach’s alpha test to identify any links between items with similar content. The internal reliability was found to be high (α = .842).

1. *Personal and professional background*. The information was gathered by 16 questions that included information about the participant (for example, age and education), information about the administrative role (for example, appointment percentage), information about previous familiarity with PWDs, and information on accessibility training and familiarity with the support services on campus.

**Procedure**

The research was approved by the University of [removed for blind review] ethics committee coordinator (approval number 066/15). To encourage participation, a representative of the research team scheduled visits to these institutions. The representative walked through the academic units on campus, gave the employees who agreed to participate in the research their informed consent forms and the questionnaires, and provided them with a verbal explanation about the research.

**Statistical analysis**

The data were analyzed with SPSS (Version 21.0, IBM). Initially, Pearson correlations were used to examine the correlations between demographic variables, attitudes towards PWDs, and SE-AS scores. Moreover, one-way analyses of variance (ANOVAs) were used to examine the differences between groups regarding their attitude towards PWDs and SE-AS scores. Finally, a two-stage linear regression analysis was conducted in which the dependent variable was SE-AS and the two-stage predictors were: frequency of encounters with SWDs, familiarity with the support center for SWDs at the academic institution, and participation in accessibility training. For all tests, the significance level was set at *p* < .05.

**Results**

To examine the factors related to SE-AS, we used descriptive information regarding internal factors, external factors, and SE-AS, followed by inferential statistical analyses.

**Descriptive findings**

Most participants had personal acquaintances with a PWD and slightly more than half of the participants (59%) met with SWDs at least once a week. Most of the participants (65.5%) were familiar with the support centers for SWDs operating at their academic institution; however, only 22.5% had participated in accessibility training.

*Attitude towards people with disabilities*. On a scale of 1 to 5, where 5 is the highest score, the overall attitude of participants towards PWDs was positive (*M* = 4.03, *SD =* .38). The behavioral aspect was strongly positive (*M* = 4.43, *SD =* .40), followed by the affective aspect (*M* = 4.12, *SD =* .57) and the cognitive aspect, which was found to be the lowest aspect (*M* = 3.60, *SD =* .61).

*SE-AS*. Although attitudes towards PWDs were positive, SE-AS was moderately low (*M* = 2.98, *SD = .77*).

**Internal factors related to SE-AS**

Pearson correlations revealed a significant positive correlation between the overall score of attitudes towards PWDs and SE-AS (*r* = .213, *p* = .009). Correlation analyses between the three dimensions showed a significant positive correlation between the cognitive aspect of attitudes towards PWDs and SE-AS (*r* = .146, *p* = .039). No correlations were found between the affective aspect, behavioral aspect, and SE-AS. For additional processing, we decided to use the overall score of the attitude scale, as it reflects a stronger correlation than the individual aspects.

No significant correlations were found between age, seniority, years of education, and attitudes toward PWDs or SE-AS.

**External factors related to SE-AS**

Three one-way ANOVA tests were conducted to examine the external factors (frequent encounters with SWDs, familiarity with the support services, and participation in accessibility training) related to SE-AS.

The first analysis examined the differences in research variables based on the frequency of encounters with SWDs (low vs. high: low, less than once a week; high, at least once a week). The analysis revealed a significant difference between both groups regarding SE-AS (*F*(1, 198) = 13.361, *p* = .000, *ηp2* = .06). Participants who meet with SWDs frequently (more than once a week) reported higher SE-AS compared to participants who do not meet with SWDs frequently (*F*(1, 198) = *2.44*, *p* = .*120*). No significant differences were found between groups with respect to attitudes toward PWDs (*F*(1, 198) = .46, *p* = .497).

The second analysis examined the differences between participants who were familiar with the support center for SWDs at the academic institution and participants who were not familiar with it. According to this analysis, there was a significant difference between both groups in SE-AS (*F*(1, 198) = 44.58, *p* = .000, *ηp2* = .18). Participants who were familiar with the support center had higher SE-AS than participants who were not familiar with the support center services. No significant differences were found between groups regarding attitudes toward PWDs (*F*(1, 198) = 1.12, *p* = .292).

The third analysis examined the differences between participants who participated in accessibility training and participants who had not participated in such training. According to the analysis, there was a significant difference between both groups in SE-AS (*F*(1, 198) = 7.29, *p* = .008, *ηp2* = .03). SE-AS scores among participants who participated in accessibility training were higher than SE-AS among participants who have not participated in such training. No significant differences were found between groups regarding attitudes toward PWDs (*F*(1, 198) = 3.85, *p* = .052)

Additional one-way ANOVA analyses revealed no significant differences between participants who had a personal acquaintance with a PWD and those who did not with respect to SE-AS (*F*(1, 19*8*) = 1.80, *p* = .181) or attitudes towards PWDs (*F*(1, 19*8*) = 1.47, *p* = .228).

**Predictors of SE-AS**

A regression analysis was conducted to predict SE-AS based on internal and external factors including attitudes towards PWDs, the frequency of encounters with SWDs, familiarity with the support center for SWDs, and participation in accessibility training (see Table 4). The regression equation was found to be significant (*F*(4, 195) = 12.99, *p* = .000) and explained 26% of the variance in SE-AS.

Table 4

*Regression model to explain SE-AS*

| *β* | *S.E.* | *B* | **Variables** |
| --- | --- | --- | --- |
| .153\*  | (.115) | .237 | Frequency of encounters with SWDs |
| .384.\*\*\*  | (.176) | .910 | Familiarity with the support center for SWDs |
| .080  | (.128) | .140 | Participation in accessibility training  |
| .186\*  | (.142) | .363 | Attitudes towards PWDs |

|  |  |
| --- | --- |
| .264  | ***R2*** |
| 200 | ***N*** |

\**p* < .05, \*\*\**p* < .001

Based on this analysis, three variables were identified that can explain SE-AS: frequency of encounters with SWDs (β = .153), familiarity with the support center for SWDs (β = .384), and attitudes toward PWDs (β = .186). Participation in accessibility training did not explain SE-AS.

**Discussion**

Administrative services are an important factor in students’ success and well-being, as they provide mediation between them and faculty members and academic and administrative demands. Whereas most studies have examined the relationship between role breadth self-efficacy and attitudes toward the job in general, less is known about the factors that may contribute to administrative workers’ self-efficacy specifically in providing accessible services for SWDs. Identifying these factors is important for the promotion of inclusive higher education (Ozyilmaz et al., 2018; Shukla et al., 2018). The present study addressed this need by examining the factors that predict self-efficacy in the provision of accessible service to SWDs in higher education institutions by administrative staff.

The main research findings here highlight the important role of both internal and external resources in establishing SE-AS among administrative staff. In general, the regression analysis revealed that both the internal factor of attitudes toward PWDs and the external factors of frequency of encounters with SWDs and familiarity with the support center for SWDs, contribute to SE-AS, as elaborated below.

***Internal factors related to SE-AS***

Analysis of the internal resources revealed that positive attitudes towards PWDs had a greater influence on SE-AS than factors that were more distant from the context of disability, such as personal characteristics (e.g., gender, age). The relation between attitudes toward PWDs and SE-AS is mostly related to the cognitive aspects of workers’ attitudes towards PWDs. Apparently, knowledge about the barriers they face and the options they have in academia contributed to the higher SE-AS. Similarly, Emmers et al. (2020) found a relationship between the attitudes of teachers in higher education towards disability and self-efficacy in the inclusion of SWDs. It is possible that the relationship between attitudes towards PWDs and SE-AS is related to the level of experience providing service to this population. Earlier studies regarding health care workers found that negative attitudes towards PWDs led to clinical decisions that resulted in avoiding treating PWDs (Akhavan & Tillgren, 2015; Velonaki et al., 2015). Such avoidance can reduce the opportunities to improve SE-AS.

***External factors related to SE-AS***

The current study examined the external factors that may be related to SE-AS, including exposure to SWDs, familiarity with the institutional support center, and participation in accessibility training. Personal acquaintance with PWDs was also examined, but no relation was found between it and SE-AS. When it comes to the external factors that are related to the institution and their relation to SE-AS, exposure to SWDs found to be a key factor. Social cognitive learning theory emphasizes the importance of previous experiences in the foundation of self-efficacy, as they enable an authentic experience of success in daily life (Bandura, 1982). The importance of exposure and direct experience to the development of occupational self-efficacy has been demonstrated empirically in similar studies that were performed in work-related settings (e.g., Emmers et al., 2020; Kunz et al., 2021). Therefore, the direct experience of administrative staff employees in the provision of services to SWDs can deepen their knowledge regarding these students’ needs and contribute to the identification of possible solutions and reasonable accommodations for them. Moreover, these experiences can boost the development of communication skills needed when providing services to SWDs.

The findings of this study highlight the extensive contribution of support centers for SWDs to the administrative staff’s SE-AS. There are a handful of studies concerned with the contribution of support centers for SWDs to the students themselves (e.g., Kutscher & Tuckwiller, 2019; Newman et al., 2020). However, the contribution of support centers to administrative and academic staff, as part of the development of an inclusive culture on campus, has been insufficiently studied, although it has been mentioned as an important factor in this context (Shpigelman et al., 2021). According to the present research findings, support centers can assist administrative workers in gaining knowledge about existing barriers facing SWDs on campus. Furthermore, they can consult and support administrative workers who face questions about the service for SWDs.

Participation in accessibility training is another organizational resource that can help administrative staff employees to expand their awareness, knowledge, and tools, thus improving their SE-AS. This finding is supported by the professional literature referring to both academic and administrative staff in higher education. Various researchers (Lombardi et al., 2021; Murray, Lombardi & Wren, 2011; Roth et al., 2018) have found that general inclusive instruction and disability instruction can raise awareness of the needs of SWDs. Moreover, Alhejji et al. (2015) stated that institutional training programs, and especially programs supported by senior management, affect the organizational inclusive climate and promote an atmosphere of tolerance for diversity.

 The administrative workers in the current study who participated in training scored higher on SE-AS than those who did not participate. However, this factor did not contribute significantly to explaining the present SE-AS results. We assume that this result was caused by the wide variety of training conducted in the different institutions that differed from each other in their objectives, contents, and length. These findings emphasized the importance of establishing a quality benchmark for accessibility training in higher education settings. Likewise, the findings published by Shinohara et al. (2018) regarding faculty training reported the lack of relevant training. Our findings call for the further examination of the training provided to administrative staff.

Surprisingly, personal acquaintance with PWDs has not been found to be related to SE-AS. This finding seems to be incongruous with previous studies claiming that personal acquaintance with PWDs is related to positive attitudes towards these individuals (Friedman, 2019; Van Puymbrouck et al., 2020). This inconsistency can be explained by the focus of the present study on occupational settings rather than being conducted in the context of family life. Acquaintance with PWDs in informal daily encounters has different dynamics than in an occupational context, and has a more formal structure. In addition, PWDs are a group of people with a large variety of types and severity of disabilities, and a personal acquaintance might be perceived as a person with more severe cognitive disabilities. SWDs in higher education can be perceived as a special group among PWDs in that they share a common ground of high intellectual and cognitive capabilities.

The study’s framework of role breadth (Parker, 2000) contributes theoretically to the understanding of the conditions needed to expand the role definitions of administrative staff to include providing accessible service. The first condition is the willingness to provide service for SWDs, which is affected by workers’ attitudes toward PWDs and accessible services. The second condition is self-efficacy, and particularly knowing how to perform the new expended tasks. Our research demonstrated that ongoing supervision by field professionals working in support centers and frequent encounters with SWDs can facilitate role breadth self-efficacy. Such understanding and the self-efficacy in-service provision for the SWDs questionnaire established herein may promote interventions to improve accessible service.

**Limitations and recommendations**

The sample population in this study included representation by a wide range of administrative staff from eight universities and colleges. However, alongside the contribution of this current study, some limitations that may impact the validity of these findings and the ability to generalize from them should be addressed. First, some of the standardized regression coefficient values were relatively low, and therefore they should be treated with caution. Moreover, there may be additional variables that could have influenced SE-AS, such as satisfaction from the workplace, problem-solving skills, creative thinking, and organizational climate of diversity. These variables should be taken into consideration in future research.

**Conclusions**

Our study emphasizes the significant contributions of direct experience, structured training, and consultancy with support services to the improvement of SE-AS. Strengthening cooperation between administrative workers and support centers for SWDs can strongly contribute to worker SE-AS. Moreover, accessibility training that includes meetings with SWDs and is focused on attitude change towards SWDs can better enable administrative workers to improve their SE-AS.

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