**Providing accessible services for**

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

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**Abstract**

**Purpose**: Higher education higher educationplays a key role in social inclusion and especially in employability. Administrative staff, as part of the academic environment, can facilitate a supportive academic environment for students with disabilities (SWDs). Nonetheless, most administrative staff have little training on accessibility in services. The purpose of this study is to examine the factors that are related to self-efficacy to provide accessible service of 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 service to SWDs.

**Methods**: The study included 200 administrative workers from eight higher education institutions higher educationthat 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**: The findings reveal significant relationships between self-efficacy to provide accessible service to internal (personal) factors that were related to attitudes towards people with disabilities and 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 highly contribute to the improvement of self-efficacy to provide accessible service. Administrative workers may benefit from accessibility training that includes attitude change toward SWDs, together with meetings and discussions with SWDs and the support centers’ staff.

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

**Introduction**

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

Article 24 of the United Nations Convention on the Rights of Persons with Disabilities (CRPD, 2006 à FULL CITE higher educationRE) acknowledges the importance access to higher education for the social inclusion of PWDs. Article 24 reassured 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 to ensure the rights of PWDs (Broderick, 2020) by removing barriers and increasing the usability of programs and services in the public sphere (Mor, 2017).

 Although the understanding that accessible higher education is needed to the success of students with disabilities (SWDs), studies have indicated that they still encounter major barriers in higher education, such as architectural, bureaucratic, technological, and in learning materials and methods, as well as personal and social barriers (García-González, Gutiérrez Gómez-Calcerrada, Solera Hernández, & Ríos-Aguilar, 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 about support services on campus, assist them in orientation within 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 perception 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 service 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 service 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” (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 to successfully perform different job tasks (Khalil & Siddiqui, 2019). Research on occupation-related self-efficacy is well established and indicats that self-efficacy is associated with work-related outcomes (Raub & Liao, 2012; Tims, Bakker, & Derks, 2014; Ozyilmaz, et al., 2018). In addition, according to existing literature, 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. The present study addressed this issue by examining the factors that shape their ‘self-efficacy to provide Accessible Service (SE-AS)’ for SWDs.

The factors that may affect the provision of accessible service can be divided into two categories – internal and external. Internal factors that affect the provision of accessible service are related to personal attitudes towards people with disabilities. 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 inclusion of SWDs. Furthermore, a research that examined healthcare workers also found that negative attitudes towards PWDs were manifested in avoidance from interaction with them (Akhavan & Tillgren, 2015; Velonaki et al., 2015). In this sense, frequent contact and previous acquaintance with a person with a disability were found to be associated with positive attitudes towards PWDs among family members (Friedman, 2019), teachers (Kunz et al., 2021), and health care 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 support services on campus 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 above internal and external factors have not been explored in the context of SE-AS of the administrative staff.

To date, research on SE-AS in higher education have focused mainly on faculty (Hauerwas & Mahon, 2018, Shinohara, Kawas, Ko, & Ladner, 2018), and conducted in K-12 educational settings (Peebles & Mendaglio, 2014), and within service-based organizations (Alhejji, Garavan, Carbery, O’Brien, & McGuire, 2015). Most of the research done on administrative service to SWDs focuses mainly on general attitudes toward PWD 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: (a) Are attitudes toward PWDs (Internal factors) positively associated with SE-AS? (b) 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 of this current study was 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, Mossholder, & Walker, 2017). Employees who provide designated services to SWDs, such as consulting in support centers for SWDs, were not included in the research.

Out of 218 administrative staff members who were approached, 14 did not complete the questionnaire and four did not meet the participation criterion. Therefore, the study included 200 administrative workers overall. The 200 participants who filled the questionnaires were dealing with direct face-to-face service 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 academic education (83.5%), but most of them did not have prior experience in a role that contains customer service (76.5%) (see 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 |  Non-academic |
|  |  | 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, Vilchinsky, & Werner, 2007) was developed to examine attitudes towards PWDs. The questionnaire presents a short Vignette describing an unplanned encounter with a person with disability 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 person with disability (1 – Strongly disagree; 5 – Strongly agree). High scores indicate negative attitudes towards persons with disabilities whereas lower scores indicated more positive attitudes. The questionnaire is composed of 34 items divided into three dimensions: (a) **Affect** – Feelings that may rise while encountering a person with disability 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; (b) **Cognition** - The thoughts that may arise in such situation are described by 10 items, that form two measures: positive thoughts towards the person with a disability, for example: “He seems friendly”, and thoughts related to a desire for proximity, for example: “He will appreciate it if I start talking with him”; (c) **Behavior** - Conducts that can be present in this situation are described by 8 items, including starting a conversation or avoiding it by reading a newspaper. In this study, the average of all three main measures of the questionnaire was used: affect, cognition, and behavior. Cronbach’s Alpha measures were high in affect (α=.887) cognition (α=.891), and behavior (α=.750)

1. *Self-efficacy in provision of accessible service for students with disabilities*. This questionnaire was designed specifically for this study, based on the guidelines of questionnaires’ constructing 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, Head, & Mesa, 2018), in this case, service provision for SWDs. In addition, since the guidelines about the formation of questionnaires about self-efficacy emphasize the importance of using present time in statements, nine items were built in which each subject was requested to rate how much she agrees with them on a five-level Likert scale (1-5) (1 – Strongly disagree; Strongly agree). For example: “I know how to inform a student with disability about his rights on campus”.

Content validity was made by 12 administrative staff employees, two 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 found was 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 the 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 [removed for blind review]’ Ethics Committee Coordinator (approval number 066/15). To encourage participation, a representative of the research team scheduled visits in these institutions. The representative walked through the academic units on campus, gave the employees that 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 21.0 software. At first, Pearson correlations were used to examine the correlations between demographic variables, attitudes towards PWDs, and SE-AS. Moreover, one-way ANOVA analyses were held to examine the differences between groups regarding their attitude towards PWDs and SE-AS. Finally, a two-stage linear regression analysis was made, 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 on *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 have personal acquaintance with a person with a disability and slightly more than half of the participants (59%) meet with SWDs at least once a week. Most of the participants (65.5%) are familiar with the support centers for SWDs operating at their academic institution, however, only approximately a fifth have participated in accessibility training (22.5%).

*Attitude towards people with disability*. On a scale of 1 to 5, in which 5 is the highest score, the overall attitude of participants towards PWDs is 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 as the lowest aspect (*M* = 3.60, *SD =* .61).

*SE-AS*. While the attitude towards PWDs was positive, their SE-AS was moderate-low (*M* = 2.98, *SD = .77*).

**Internal factors related to SE-AS**

Pearson correlations between attitude towards PWDs and SE-AS 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 since it reflects a stronger correlation than the individual aspects.

No significant correlations were found between the age, seniority, years of education, and attitudes toward PWDs, nor to SE-AS.

**External factors related to SE-AS**

Three One-way Anova tests were conducted in order 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 SWDs frequently (more than once a week) report higher SE-AS compared to participants who do not meet SWDs frequently (*F*(1,198) = *2.44*, *p* = .*120*). No significant differences were found between groups regarding attitudes toward PWDs (*F*(1,198) = .46, *p* = .497).

The second examined the differences between participants who are familiar with the support center for SWDs at the academic institution and participants who are not familiar with it. According to the analysis, there was a significant difference between both groups in SE-AS (*F*(1,198) = 44.58, *p* = .000, *ηp2* = .18). Participants who are familiar with the support center have higher SE-AS than participants who are 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 examined the differences between participants who participated in accessibility training and participants who have 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 among participants who participated in accessibility training was 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 analysis revealed no significant difference between participants who had a personal acquaintance with a person with disability and those who had not, neither in SE-AS (*F*(*1*,19*8*) = 1.80, *p* = .181), nor in attitudes towards PWDs (*F*(*1*,19*8*) = 1.47, *p* = .228).

**predictors of SE-AS**

A regression analysis was held to predict the SE-AS based on internal and external factors: Attitude towards PWDs, 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 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 the analysis, three variables have been found that can explain SE-AS: frequency of encounters with SWDs (β = .153), familiarity with the support center for SWDs (384. = β) and attitudes toward PWDs (β = .186). Participation in accessibility training did not explain SE-AS.

**Discussion**

Administrative service is an important factor in students’ success and well-being, as mediating between them and faculty members, academic and administrative demands. While most studies examine 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 promoting 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 the provision of accessible service to SWDs in higher education institutions by the administrative staff.

The main research findings highlight the important role of both internal and external resources to establish SE-AR among administrative staff. In general, the regression analysis revealed that both internal factor of attitudes toward PWDs, and 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 reveals that positive attitudes towards PWDs have a greater influence on SE-AS than factors that are more distant from the context of disability such as personal characteristics (gender, age ext.). 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 relation between attitudes of teachers in higher education toward disability and self-efficacy in including SWDs. It is possible that the relation between attitudes towards PWDs and SE-AS is related to the level of experience to provide service to this population. Earlier studies regarding health care workers found that negative attitudes towards PWDs lead to clinical decisions that cause 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 research examined the external factor that might be related to SE-AS: 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, direct experience of administrative staff employees in provision of service to SWDs can deepen their knowledge about these students’ needs and contribute to the identification of possible solutions and reasonable accommodations for them. Moreover, the experience can boost the development of communication skills needed in service provision to SWDs.

The study’s findings point out 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 development of an inclusive culture on campus, was barely studied, though mentioned as an important factor (Shpigelman, et al., 2021). According to the present research findings, support centers can assist administrative workers to gain knowledge about existing barriers for 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 helps 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 were higher on SE-AS than those who did not participated; however, this factor did not contribute significantly to SE-AS’s explanation. We assume that this result is 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 emphasize the importance of establishing a quality benchmark for accessibility training in higher education settings. Likewise, Shinohara et al (2018) findings on faculty training, reported on lack of relevant training. Our findings call for examining the training provided to administrative staff that should address.

Surprisingly, personal acquaintance with PWDs has not been found related to SE-AS. This finding seems to be not congruent with previous studies claiming that personal acquaintance with PWDs is related to positive attitudes towards them (Friedman, 2019; Van Puymbrouck et al., 2020). This inconsistency can be explained by the focus of the present study in occupational settings rather than in family-life context. Acquaintance with PWDs in informal daily encounters has different dynamics that in an occupational context, that 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 with 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 to expand the role definitions of administrative staff, to provide 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, mainly knowing how to perform the new expended tasks. Our research showed that on-going supervision by field professionals working in support center and frequent encounters with SWDs can facilitate role breadth self-efficacy. Such understanding and the Self-efficacy in service provision for SWDs questionnaire established, may promote interventions to improve accessible service.

**Limitations and recommendations**

The study’s sample represents a wide range of administrative staff, from eight universities and colleges. However, alongside the contribution of this current study, some limits that might have influenced the validity of 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 precaution. Moreover, there might 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 emphasized the significant contribution 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 workers SE-AS. Moreover, accessibility training that includes meetings with SWDs and is focused on attitude change towards SWDs can assist administrative workers to improve their SE-AS.

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