


Article

Microaggressions and Psychosocial Adjustment among Greek University Students with Disabilities

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Abstract: This study investigated differences in experiences of microaggressions between students with different characteristics (type, visibility, severity, and onset of impairment) and associations between the occurrence of microaggressions and specific psychological dimensions, such as stress, depression, self-esteem, and life satisfaction. It also examined how the afore-mentioned psychological factors and microaggressions contribute to students' adjustment to university. Eighty-nine (89) university students with disabilities (USwDs) completed a series of six questionnaires: the Ableist Microaggression Scale, the Center for Epidemiologic Studies Depression Scale, the Perceived Stress Scale (PSS), the Satisfaction with Life Scale, the Rosenberg Self-Esteem Scale, and the College Adaptation Questionnaire. University students with visual and mobility impairments reported higher levels of ableist microaggressions than those with medical/chronic conditions, while students with visible impairments seemed to experience more ableist microaggressions than their university peers with non-visible impairments. Microaggressive experiences were found to be associated with increased levels of depression and stress as well as having negative consequences for disabled students' self-esteem and life satisfaction. Students' overall adaptation to university was predicted by a high level of life satisfaction, low level of depression, and limited experience of microaggressions related to otherization. The results are discussed in terms of their implications for USwDs' adjustment.

Keywords: microaggressions; adjustment; stress; depression; life satisfaction; university students with disabilities



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1. Introduction

Having access to a high level of education is a right linked to employment opportunities, better income status, participation in social life, and better health and well-being [1–3]. Universities are dynamic institutions that provide opportunities for inclusion and access to all students, including those who belong to marginalized communities, such as people with disabilities (PwDs). The European Commission adopted the Strategy for the rights of PwDs 2021–2030 to foster the implementation of their rights and participation in society and the economy. The new strategy contains a set of actions and initiatives in various domains, such as (a) accessibility (the ability to move and reside freely); (b) having a decent quality of life and the ability to live independently (focuses on the de-institutionalization process, social protection, and non-discrimination at work); (c) having equal participation (by combating any form of discrimination and violence towards PwDs); and (d) having equal opportunities in, and access to, justice, education, culture, sport, and tourism [4].

In the area of education, the EU has placed considerable effort into the inclusive education strategy, which is one of the six pillars of the European Education Area [5]. The inclusive education strategy consists of policies and actions regarding the implementation of inclusive education systems with the ultimate aim being to promote long-term equality

in employment for PwDs. Such actions include the development of an inclusion toolkit for children with disabilities for use in early childhood education, the establishment of subworking groups in the European School System under the United Nations Convention on the Rights of Persons with Disabilities (UNCRC), the development of teacher education training on how to respond to diversity in the classroom, and the implementation of the Action Plan Educational Support and Inclusive Education [6]. As these actions concern the needs of learners with disabilities, the Board of Governors of the European Schools underlined the significance of accessibility, the availability of accommodation, the adaption of the curricula to the needs of students with disabilities, and the modification of the agenda of higher education institutions to support a transition to a more sustainable, inclusive, green, and digital academic environment [6].

European policies concerning diversity equity inclusion include updated actions that reinforce the importance of access to education and lifelong learning, including access to higher education, for marginalized groups, promoting the view that no one should be left behind [7]. In this regard, the EUA-led INVITED project was implemented by 159 higher education institutions in 36 European systems to develop strategies for equity, diversity, and inclusion. The results show that particular factors, such as disability, were used as the starting point for discussions and actions at the institutional level.

The inclusive actions taken to reinforce the participation in higher education for PwDs resulted in an increased number of students with disabilities and/or chronic conditions accessing university studies [8]. As a result, higher education institutions are required to meet the anticipated needs and requirements of disabled students in order to provide suitable conditions for their adjustment [9]. Efforts have been made to establish adequate programs for students with visual impairments, learning disabilities, and mental health conditions [10–12]. However, there is inconsistency between the policy, evaluation criteria, requirements of entrance, and supportive programs developed by institutions [13], making participation in higher education a challenging task for students with disabilities at the global, national, and institutional level [14].

In Greece, legislation regarding the access of students with vision and hearing impairments and Thalassaemia to universities was established in 1983 (1351/1983. 56/28-4-1983). In 2007, legislation was created to establish support services, such as counselling, for university students to aid in the transition from secondary to tertiary education and to support students with disabilities or students experiencing difficulties. In 2009, the category “students with disabilities” was defined by a ministerial decision and includes “people suffering(sic) from serious diseases”. Thus, students with chronic medical conditions/illness are included in the category “people with disabilities”.

According to Greek legislation on disability, the registration of students with disabilities into departments of higher education without taking part in university entrance written examinations is 3%. Certified documents detailing the type and degree of a student’s disability/chronic condition must be submitted for entrance into higher education without completion of the mandatory national entrance exams. The most current legislation for access to university studies by students with disabilities was developed in 2013 when the rate of admission of candidates with special educational needs, disabilities, and chronic health conditions to departments of higher education was 5%. A recent survey conducted in 2014 by the Center for European Constitutional Law [15] found that for the period from 2003 to 2014, the percentage of students with disabilities and chronic illnesses admitted to 17 Greek universities was only 1.53%, which is a lower number than the legislation threshold of 5%.

Ableism, University Life, and Adjustment

Increasing the participation of students with disabilities in postsecondary studies [16] is a social policy movement that enables students to connect with the university community, interact with peers, and communicate with academic staff [17]. Despite the social and legislative actions taken towards the provision of equal opportunities in education for

people with disabilities, USwDs often confront difficulties in their academic lives and social interactions with peers and staff, which provoke social racism or social bullying [18]. Some of the most obvious manifestations of discrimination are the display of negative attitudes and beliefs, the adoption of stereotypes, the expression of emotions and behaviors of devaluation in educational settings [19,20], and the application of discriminatory practices, which are apparent despite the existing legislation targeted at minimizing these occurrences. Apart from the overt type of discrimination, PwDs often experience ambiguous, commonplace, and subtle discriminative behaviors, such as microaggressions [21].

As highlighted by Sue and colleagues [21], microaggressions are unclear, sending denigrating discriminative messages to individuals that refer to their verbal, behavioral, or social status [22]. These hostile indignities may intentionally or unintentionally target a certain person or group [21]. In the 1970s, the term microaggression was used to describe tactful insulting behaviors towards Black Americans [23], and it remains a “discreet” form of contemporary racism towards marginalized social groups, such as women, people with different ethnic backgrounds, people with impairments and/or mental health conditions, and those with different sexual orientations [21].

In their extensive analysis of macroaggressions, Sue and colleagues [22] indicated that microaggressions can take place in three different ways: (a) micro-assaults, which are discriminatory actions, such as avoidance behaviors, name-calling, and other actions that are intended to be hurtful; (b) micro-insults, which tend to be of a nebulous nature and may not be conceived even by the person perpetrating them, as they address insults to marginalized groups; and (c) micro-invalidations, which are activated by negating or nullifying the thoughts, realities, and/or feelings of people who are part of a group that experiences oppression.

Micro-assaults, micro-insults, and micro-invalidations are three categories of microaggressive behaviors that refer to physical, emotional, and mental differences from the social norm and relate to the assumption that PwDs are an object of pity and/or a problem for society [24]. These discriminative behaviors are known as ableism, a term used to describe a way of thinking that is produced through able-bodied experiences and describes a form of discrimination in favor of non-disabled people [25]. If ableism is left unexamined and unchallenged, unlawful indirect discrimination is experienced by people with disabilities, which has subtle effects that may remain unnoticed until too late [26]. Ableism is one form of microaggression, which includes behaviors, such as covert insults, that target individuals based on their disability status [22,27,28].

Microaggressions are powerful enough to provoke feelings of disgrace and discomfort. They have significant effects on mental health and on the overall functionality of PwDs [29–31]. Microaggressive experiences may activate feelings of confusion, anger, anxiety, helplessness, hopelessness, frustration, and fear, which may lead to denial, withdrawal, and substance abuse [32]. Suffering from chronic stress due to physical problems may be a result of experiencing microaggressions on a daily basis [33,34]. Lett and colleagues [35] studied the impact of ableist microaggressions on university students and concluded that high levels of depression and anxiety exist among disabled college students because of the insufficient support provided by university services to mitigate against these negative results [36] as well as the poor academic self-concept and lower grade satisfaction of these students. These discouraging and negative perceptions of ability impact USwDs’ self-esteem and sense of worthiness [37]. In a recent study, Kattari [38] demonstrated that identity-related microaggressions, such as those regarding color, mental health, sexual orientation, and physical ability, have an overall negative impact on mental health, with effects ranging from physical symptoms to negative self-perception. These results are consistent with the outcomes of previous studies about racial microaggressions and negative mental health decline in college students [30,39–42].

The impact of microaggressions on the lives of people with disabilities requires validation to be estimated and elaborated. Conover, Israel, and Nylund-Gibson [43] constructed the Ableist Microaggression Scale (AMS) to determine quantitative outcomes of microag-

gressive experiences of PwDs. The development of this scale was based on the taxonomy of disability microaggressions outlined by Keller and Galgay [28], which is divided into the following eight domains: denial of identity, denial of privacy, helplessness, secondary gain, spread effect, patronization, second-class citizenship, and desexualization. In terms of scale structure, the final version of the AMS is a four-factor model analysis that includes the categories helplessness, minimization, denial of personhood, and otherization. Helplessness occurs when PwDs are treated as incapable and dependent, causing them to receive help even when it is not asked for or needed. Minimization happens when people overestimate disability and imply that disabled people could function as able-bodied if they wanted to. Denial of personhood occurs when people assume that a physical disability indicates a decreased mental capacity, and otherization occurs when people with a disability are treated as “abnormal” (sic) and outside of the natural order.

Individuals who experience microaggressions, regardless of the social group they belong to, describe them as experiencing a “small death” [21]. Experiencing microaggressions can negatively affect aspects of academic and social life, especially during the transitional stage of participation in higher education. In fact, the transitional process itself is considered a continuous adjustment process that should be coordinated with the corresponding adaptation process and the support level that a young person has reached [44]. Some young people may find it difficult to achieve a level of internal balance, and they may experience emotional distress and feelings of depression when exposed to complex and/or hostile contexts [45,46]. In addition, academic life itself is a stressful state at the social and cognitive levels [47], and there are a few cases of young people being diagnosed with a severe anxiety disorder because of this stress [48].

Distress and anxiety are psychological factors related to the process of adaptation to university life [47]. This process is associated with the management of a new independent lifestyle and obligations related to this independence [48]. In conjunction with the above, young university students must adapt to new and different learning contexts, teaching methods, and approaches compared with their previous academic status, and they have to respond to the new responsibilities and management of their lives at university. The adaptation process is also linked to expectations that university students with and/or without disabilities develop before beginning their university studies [49]. In the area of disability, a number of studies that examined the implementation of university policies for disabled students [36,50–52] have found that some students originally felt enthusiastic about university, believing that there would be improvements in important areas of their lives, for example, physical access to university buildings, rooms, and libraries. However, they felt disappointed after confronting difficulties in accessing them. University students with visual or hearing impairments must make a considerable effort to access knowledge, as university teachers usually do not use visualized or augmentative and alternative communication devices to promote access and participation. In addition, students with hearing impairments find it difficult to use their remaining hearing ability due to noise in large classrooms [36,52–54].

In some studies [55,56], students with disabilities have reported feeling subjectively less successful than other students, stating that they find it difficult to achieve their academic goals during the study period. In addition, they often deal with lecturers who are not experienced with teaching students with disabilities, curricula that are strictly formed to meet the needs of able-bodied students, educational policies that focus on student segregation, and difficulties with accessing buildings [35,57]. They also mentioned having a sense of social isolation [58] as some institutions consider academic accessibility more important than students’ social participation and support [59]. Being a university student with disability is associated with difficulties with a variety of aspects ranging from accommodation to transition to a new developmental academic stage. Under this spectrum, USwDs are often faced with subtle discriminative behaviors regarding their abilities, and these have cumulative effects on their academic lives and psychological wellbeing. Experiencing microaggressions can provoke feelings of embarrassment, anger, and frustration, and these

feelings are closely associated with a lack of accomplishment [35]. However, few studies have demonstrated the impacts of microaggressive behaviors on the process of adjustment to higher education for students with disabilities.

In light of the above, the current study aimed to quantitatively assess the impact of microaggressions experienced by USwDs during adjustment to university life. Three research questions were formulated to investigate (a) differences in experiences with microaggressions between students with different disability characteristics (type, visibility, severity, and onset of impairment), (b) the relationships between microaggressions and psychological factors (perceived stress, depression, self-esteem, life satisfaction), and (c) how the above psychological factors and microaggressions contribute to students' adjustment.

2. Materials and Methods

2.1. Participants

The sample consisted of students with disabilities attending different university study programs offered by Schools of Humanities and Social Sciences, Health Sciences, Economics and Business, Engineering, Applied Sciences, and Agricultural Sciences. The schools were under the umbrella of public universities located in Attiki, Central Macedonia, Epirus, Thessaly, and Crete (5 of 13 regional units of Greece). In total, 89 students (53 females and 36 males) participated in an online survey. Participants' ages ranged from 18 to 50 years ($M = 26.36$, $SD = 7.54$). Apart from three exceptions, all of the USwDs were studying for an undergraduate degree (see also Table 1). Participants could select more than one category (as reflected in the demographics questionnaire) to describe the type(s) of disability they experience. A total of 31.5% of participants self-identified as having a medical chronic condition/illness, 24.7% had a hearing disability, 21.3% had a mobility/physical disability, 15.7% had a vision disability, and 6.7% of the respondents chose the category 'other', as the diagnostic categories offered did not match the characteristics of their disability. Table 1 illustrates the demographic information of the sample.

2.2. Measures

A four-part online survey questionnaire was constructed and administered to collect data from the participating USwDs. The first part of the survey collected sociodemographic data, including age, gender, level of education, and socioeconomic status. Given that there is a great deal of diversity among the community of PwDs, additional information was gathered concerning the type, severity, onset, and visibility of disability [60].

The second part of the online survey collected information about the USwDs' overt and covert experiences of prejudice and discrimination within the higher education departments they attend for their studies. Perceptions of ableist microaggressions were measured with the *Ableist Microaggression Scale* (AMS) instrument developed by Conover, Isreal, and Nylund-Gibson [43]. This self-reported scale was constructed using Keller and Galgay's [28] framework of disability microaggressions that was developed from focus group discussions with self-identified disabled persons, followed by exploratory and confirmatory factor analyses. The scale consists of 20 items (e.g., 'People don't see me as a whole person because I have a disability' and 'People think I should not date or pursue sexual relationships because I have a disability'), which have to be answered on a six-point Likert-type rating scale (ranging from 0 = 'Never' to 5 = 'Very Frequently'). In a study by Conover and her colleagues [43], a high level of internal consistency reliability was found across two samples of persons with physical disabilities (Study 1 [$N = 559$], Cronbach's alpha 0.91 and Study 2 [$N = 833$], Cronbach's alpha 0.92 for the 20-item AMS). Exploratory and confirmatory analyses of the data from the US study yielded a four-dimensional factor structure, namely, 'helplessness'; 'minimization'; 'denial of personhood'; and 'otherization'. The confirmatory factor analysis revealed that the four-factor model verified the assumptions and showed a good model fit (i.e., $\chi^2 [164, N = 833] = 820.21$, $p < 0.001$, RMSEA = 0.07 [0.06 0.07], CFI = 0.89, and SRMR = 0.07) [43].

Table 1. Demographic information for the sample.

Variables	Sample (N = 89)
Age	
Mean	26.36
Range	18–50
Standard Deviation	7.54
Gender	
Female	53 (59.6%)
Male	36 (40.4%)
Disability type	
Medical chronic condition or chronic illness	28 (31.5%)
Hearing disability	22 (24.7%)
Mobility or physical disability	19 (21.4%)
Vision disability	14 (15.7%)
Other	6 (6.7%)
Disability onset	
Congenital	47 (52.8%)
Acquired	32 (36.0%)
Both	10 (11.2%)
Disability visibility	
Visible	33 (37.1%)
Semivisible	24 (27.0%)
Invisible	26 (29.2%)
Unsure	6 (6.7%)
Disability severity	
Mild	11 (12.4%)
Moderate	41 (46.1%)
Severe	12 (13.5%)
Very severe	25 (28.0%)
Level of university education	
Undergraduate	86 (97.0%)
Postgraduate	3 (3.0%)
Socioeconomic status	
Lower class	16 (18.0%)
Middle class	73 (82.0%)
Upper class	–

The third part included Likert-type scales rating depression (20 items), stress (10 items), life satisfaction (5 items), and self-esteem (10 items) among the USwDs. Underpinning the above psychological aspects is an emerging line of research focusing on the link between the experience of ableist microaggressions and the development of distressing psychological symptoms by disabled persons (e.g., [35,43,61]. To screen for symptoms related to a depressed mood, the Center for Epidemiologic Studies Depression Scale (CES-D) was administered. This self-reported tool was developed by the National Institute of Mental Health in the US. It comprises 20 descriptive statements that cover affective, psychological, and somatic symptoms [62].

Participants were asked to indicate whether they had experienced each descriptive depressive symptom in the previous week. For example, one item from the CES-D asks if the participant has experienced feeling that people dislike him or her. Participants were prompted to indicate whether each depressive symptom or mood applied to them by selecting 0 = ‘rarely or none of the time (less than one day)’, 1 = ‘some or a little of the time (1–2 days)’, 2 = ‘occasionally or a moderate amount of the time (3–4 days)’, and 3 = ‘most or all of the time (5–7 days)’. Four of the items are reverse-scored and then scores are summed across the 20 items. The possible range of scores is 0–60, with higher scores indicating the presence of severe depressive symptoms. At the international level, a small but illuminating body of literature has reported sound psychometric characteristics for all versions of the CES-D (i.e., full and short versions), showing that it has the ability to detect symptoms of

depression in adolescents and adults with disabilities (see, for example, [63,64]. Conover and colleagues [43] also found a high internal consistency reliability for the CES-D with 10 items (Cronbach's $\alpha = 0.90$) and a small but statistically significant convergent validity with the AMS ($r = 0.29$). In Greece, Madianos and Stefanis [65] reported a high inter-rater reliability, as measured by the estimation of the Kappa (K) coefficient, in a two-stage study ($K = 0.78$ and $K = 0.81$), while Fountoulakis and associates [66] found that the Cronbach's alpha score for the total CES-D scale was 0.95 and the 1–2 day test–retest reliability was 0.71. Kormas, Karamali, and Anagnostopoulos [67] reported a statistically significant association between depression and needs satisfaction, as assessed by the 21-item Basic Psychological Needs-Satisfaction Control for a sample of 318 undergraduate students enrolled in Greek university departments. Thus, the 20-item version of the CES-D appears to have good psychometric properties when used in the form that it has been employed in Greek samples.

Next, the Perceived Stress Scale (PSS), a global measure of stress, was used. The original scale had 14 items and was developed in 1983 by Cohen, Kamarck, and Mermelstein [68]. In 1988, Cohen and Williamson revised and reduced the scale into 10-item and 4-item versions. In the present study, the researchers administered the 10-item version of the PSS, in which participants were asked to indicate how often they had perceived life as unpredictable, uncontrollable, and overloading in the past month. For example, one item from the PSS states 'in the last month, how often have you felt you were on top of things?'. Frequency was rated on a five-point response scale (0 = 'never', 1 = 'almost never', 2 = 'sometimes', 3 = 'fairly often', 4 = 'very often'). In different countries, the scale has demonstrated good reliability, with Cronbach's alpha scores both for the 10-item and 14-item versions of the PSS ranging from 0.75 to 0.91 (see [69] for a brief review of related studies). As far as the validity of the scale is concerned, it remains an unsolved issue in the literature as to whether the PSS-10 follows a one- or two-dimensional model. The author and colleagues [70] conducted a study involving a sample of 941 respondents from Greece (including a subsample of university students) and made some important observations in relation to the reliability and validity of the PSS-10. The study reported that (a) the Cronbach's alpha value for the PSS-10 was 0.82; (b) the 'perceived stress' construct measured by the PSS has two factors ('perceived distress' and 'perceived coping'), as suggested by the confirmatory factor validity analysis; and (c) results from the PSS-10 are highly correlated with those from the 21-item Depression Anxiety Stress Scale (DASS). Lastly, the PSS-10 demonstrated good convergent validity with the depression subscale of DASS, with a score of 0.61 ($p < 0.001$) [70].

To assess life satisfaction, a psychological variable, a widely used tool, was employed: the Satisfaction with Life Scale (SWLS) [71]. A SWLS validation study conducted in the US with undergraduate university students showed that the scale measures 'life satisfaction' as a unidimensional construct consisting of 5 items [71]. According to the instructions for using the SWLS, satisfaction is expressed as a score on a seven-point scale. Each disabled university student in this study was asked to rate the extent to which his/her life is close to ideal, as follows: the conditions of his/her life are excellent; he/she is satisfied with his or her life; he/she has got the important things in life; and if he/she could live his/her life over, he/she would change almost nothing. The answers were rated on a seven-point Likert scale from 'strongly disagree' to 'strongly agree'. The SWLS has demonstrated good levels of internal consistency (0.87), two-month test–retest reliability (0.82), and inter-rater reliability (0.73) [71]. The SWLS was adapted for the Greek population by Antoniou and Dalla as cited in [72]. In 2016, Theodoropoulou and Kartenoliotis [73] conducted a study examining the reliability and validity (exploratory and confirmatory factor analyses) of the Greek version of the SWLS using a sample of 340 university students attending physical education classes at the University of Athens. They reported high levels of internal consistency (0.90 and 0.93), an acceptable 15-day test-retest reliability (0.77), and a one-factor model (for more information, see [73]).

The Rosenberg Self-Esteem Scale (RSES; [74]) was also included in the third part of the survey in the current study. The 10-item scale was designed to evaluate the perception of self-esteem that an individual has regarding his or her own value. In particular, the RSES contains five positively worded items regarding individual self-esteem, such as 'I feel that I'm a person of worth' and 'I feel that I have a number of good qualities'. The remaining five items are negatively worded representations of a person's self-esteem, such as 'I certainly feel useless at times' and 'All in all, I am inclined to feel that I am a failure'. The USwDs participating in our research work were instructed to rate their self-esteem on a four-point Likert scale with verbal anchors of 1 'strongly disagree' and 4 'strongly agree'. At an international level, many studies have reported that the RSES-10 has sound psychometric properties across a variety of populations (including individuals with intellectual disabilities), with an internal consistency ranging from 0.40 to 0.90 (see [75] for a representative presentation of the scale's internal consistency reliability). However, investigations into the dimensionality of the RSES have not resulted in a universal agreement in relation to one-factor solutions, as originally proposed by Rosenberg [76]. In Greece, a recent study by Galanou, Galanakis, Alexopoulos, and Darvini [77] that included 652 undergraduate and post-graduate students demonstrated that the Greek version of RSES displays a good construct validity (a bifactor model was found for the RSES), a statistically significant relationship between self-esteem and stress as measured by the 14-item Perceived Stress Scale, and a high level of reliability with a Cronbach's alpha of 0.80.

Lastly, the fourth part of the survey collected information about adjustment to the university environment by disabled students. Based on studies showing that experiences with discrimination significantly predict greater depression and anxiety symptoms in combination with poorer academic performance for disabled university students [25,35], an online version of the College Adaptation Questionnaire (CAQ; [78]) was included. The CAQ comprises 18 items, where each item is a statement for which the student rates his or her adjustment on a seven-point Likert-type scale, ranging from 1 ('does not apply') to 7 ('applies very much'). Sample items are the following: 'I am glad that I came to study here' and 'I find it very difficult to adjust to student life'. Of the 18 items, 10 are negatively worded items and, thus, were reverse-scored for all analyses. The CAQ yields a full-scale score as a summed index of overall adjustment to university as well as scores in three specific dimensions (social adaptation, attachment to institution, and personal-emotional adaptation). All three dimensions of the CAQ were shown to be internally consistent (range from 0.41 to 0.81) in a previous Greek study with a sample of 300 university students (see [79]).

2.3. Procedures

This study was approved by the University of Thessaly's Ethical Committee and was carried out from November 2019 to March 2021. All prospective USwDs registered with disability or social welfare centers based in universities across the country were contacted through research announcements sent by e-mail by staff from each center. Interested participants accessed the survey anonymously via a designated URL link on Google Forms. Prior to the start of the online survey, participants' informed consent was obtained through a statement explaining the purpose of the study and the participation criteria. In a following section, USwDs were asked to respond to the measures outlined above. It is important to note that the survey followed the principles of universal design to ensure accessibility for disabled participants according to their modes of communication in the Greek language. For example, the whole survey was accessible in Greek Sign Language through videos developed by an interpreter with hearing impairment.

2.4. Data Analysis

The Statistical Package for the Social Sciences (SPSS) version 26.0 was used to code and analyze the participants' responses to the questionnaires. Prior to conducting our main analyses, we conducted reliability analyses for the AMS, PSS, SWLS, RSES, and CAQ full

scales as well as for the AMS and CAQ subscales employed in this study. As presented in Table 2, the majority of the scales and subscales showed acceptable values in a range of 0.75 to 0.88. However, the perceived stress scale and minimization subscale showed relatively low levels of reliability, with Cronbach's $\alpha = 0.54$ and Cronbach's $\alpha = 0.43$, respectively.

Table 2. Cronbach alphas of all scales and subscales.

Scales and Subscales	Cronbach α s
Ableist Microaggression Scale	0.87
Helplessness_Subscale	0.78
Minimization_Subscale	0.43
Denial of personhood_Subscale	0.83
Otherization_Subscale	0.73
Center for Epidemiologic Studies Depression Scale	0.88
Perceived Stress Scale	0.54
Satisfaction with Life Scale	0.86
Rosenberg Self-Esteem Scale	0.74
College Adaptation Questionnaire	0.87
Social Adaptation_Subscale	0.77
Attachment to Institution_Subscale	0.75
Personal-emotional Adaptation_Subscale	0.79

Following this, a series of one-way ANOVAs were applied to account for differences in experience with microaggressions between USwDs involving differences in self-identified disability characteristics, such as type, visibility, severity, and onset of disability. Next, Pearson r correlations were run to describe the associations between ableist microaggressions, depression, perceived stress, life satisfaction, and self-esteem for USwDs. Finally, a series of regression analyses were conducted to examine the extent to which experiences with microaggressions and perceived levels of depression, stress, life satisfaction, and self-esteem predict the adjustment of USwDs to a university environment.

3. Results

3.1. Differences in AMS Dimensions

Analyses of variance were applied to examine differences based on type, visibility, severity, and onset of impairment in all AMS dimensions.

Mean AMS scores and standard deviations for types of impairment are presented in Table 3. Statistically significant differences were observed for helplessness, otherization, and total AMS score. Bonferroni post-hoc tests revealed that students with visual and mobility/physical impairments tended to score higher than students with other types of disability for helplessness [$F(4,84) = 5.90, p = 0.000$], while students with medical/chronic Conditions tended to score significantly lower than students with other types of disability for otherization and total AMS [$F(4,84) = 5.87, p = 0.000$, and $F(4,84) = 4.75, p = 0.002$, respectively]. No significant differences were found between types of disability for 'minimization' [$F(4,84) = 0.60, p = \text{NS}$] and 'denial of personhood' [$F(4,84) = 1.39, p = \text{NS}$].

Table 3. Mean AMS scores (SD) by type of impairment.

AMS	Type of Disability				
	Medical/Chronic Conditions	Vision Impairment	Hearing Impairment	Mobility/Physical Impairment	Other
Helplessness	6.10 (4.89)	12.78 (7.52)	8.36 (4.95)	12.57 (5.63)	7.00 (3.22)
Minimization	7.64 (3.56)	8.07 (2.52)	6.81 (2.70)	7.52 (2.98)	8.66 (3.14)
Denial of Personhood	7.55 (3.08)	8.50 (6.12)	8.36 (5.41)	8.94 (5.57)	7.83 (6.36)
Otherization	7.71 (4.28)	13.68 (5.64)	11.90 (6.98)	15.68 (6.59)	10.66 (4.32)
Total AMS	28.46 (11.96)	43.71 (6.30)	37.04 (15.99)	45.94 (17.07)	36.33 (10.76)

Regarding perceived visibility, statistically significant differences were observed for all AMS dimensions. Mean scores and standard deviations are shown in Table 4. Students with

visible and semi-visible disabilities tended to score higher for helplessness than students who reported that their impairment was invisible or who were not sure about visibility [$F(3,85) = 5.97, p = 0.001$]. Students with invisible disabilities scored significantly higher for minimization [$F(3,85) = 4.48, p = 0.006$] and lower for denial of personhood [$F(3,85) = 5.20, p = 0.002$] than students who reported a semi-visible impairment or those who were not sure about visibility. Students with visible and semi-visible disabilities scored higher than students with invisible disabilities for otherization [$F(3,85) = 6.47, p = 0.001$], while students with invisible disabilities scored significantly lower than other students with disabilities for total AMS [$F(3,85) = 4.53, p = 0.005$].

Table 4. Mean AMS scores (SD) by perceived visibility of impairment.

AMS	Disability Visibility			
	Visible	Semi-Visible	Invisible	Unsure
Helplessness	11.06 (5.10)	10.79 (6.72)	5.34 (6.26)	8.66 (7.64)
Minimization	6.54 (2.90)	7.12 (3.08)	9.26 (2.87)	7.33 (2.42)
Denial of Personhood	7.84 (5.06)	9.08 (5.89)	4.15 (4.20)	11.16 (7.67)
Otherization	13.54 (6.04)	13.25 (6.20)	7.30 (3.67)	11.83 (10.34)
Total AMS	40.30 (14.76)	41.62 (18.69)	28.07 (9.09)	42.66 (22.36)

No statistical significant differences were found between students with different levels of perceived severity and different onsets of impairment for helplessness [$F(3,85) = 1.52, p = NS$ and $F(2,86) = 2.35, p = NS$, respectively], minimization [$F(3,85) = 1.67, p = NS$ and $F(2,86) = 2.34, p = NS$, respectively], denial of personhood [$F(3,85) = 0.45, p = NS$ and $F(2,86) = 0.91, p = NS$, respectively], otherization [$F(3,85) = 0.79, p = NS$ and $F(2,86) = 1.94, p = NS, p = NS$, respectively], and total AMS scores [$F(3,85) = 0.74, p = NS$ and $F(2,86) = 1.04, p = NS$, respectively]. Mean scores and standard deviations are shown in Tables 5 and 6.

Table 5. Mean AMS scores (SD) by perceived severity of impairment.

AMS	Impairment Severity			
	Mild	Moderate	Severe	Very Severe
Helplessness	10.36 (7.81)	7.70 (5.90)	10.91 (5.35)	10.16 (5.57)
Minimization	6.00 (3.31)	7.36 (3.26)	7.83 (2.97)	8.40 (2.56)
Denial of Personhood	7.36 (6.05)	6.63 (5.62)	8.50 (5.14)	7.88 (5.86)
Otherization	9.36 (5.40)	11.78 (7.08)	10.41 (4.48)	12.60 (6.38)
Total AMS	33.36 (16.36)	35.70 (17.36)	39.08 (12.79)	40.60 (15.26)

Table 6. Mean AMS scores (SD) by onset of impairment.

AMS	Impairment Onset		
	Acquired	Congenital	Both
Helplessness	8.06 (6.04)	10.40 (5.74)	6.80 (6.74)
Minimization	8.03 (3.26)	6.93 (2.78)	8.90 (3.47)
Denial of Personhood	6.56 (5.85)	8.08 (5.66)	6.20 (4.61)
Otherization	10.78 (6.44)	12.63 (6.45)	8.70 (5.16)
Total AMS	35.84 (16.37)	39.31 (16.30)	32.00 (13.47)

3.2. Correlations

Pearson correlation coefficients were calculated to assess associations between dimensions of AMS and students' psychological variables. These correlations are shown in Table 7.

Table 7. Correlations between psychological variables and dimensions of AMS.

	1	2	3	4	5	6	7	8	9
1. PSS	1.00								
2. CES-D	0.19	1.00							
3. RSE	−0.07	−0.45 **	1.00						
4. SWLS	−0.08	−0.56 **	0.46 **	1.00					
5. Helplessness	−0.03	−0.08	0.24 *	0.15	1.00				
6. Minimization	0.22 *	0.29 **	−0.14	−0.02	−0.14	1.00			
7. Denial of Personhood	0.00	0.07	0.10	0.07	0.73 **	0.05	1.00		
8. Otherization	0.08	−0.06	0.19	−0.21 *	0.57 **	0.06	0.55 **	1.00	
9. Total AMS	0.07	0.05	0.17	0.12	0.81 **	0.25 *	0.84 **	0.83 **	1.00

* $p < 0.05$, ** $p < 0.01$.

Scores for total AMS were, as expected, correlated with scores on all subscales. Higher helplessness scores were associated with higher denial of personhood and otherization scores.

Higher PSS and CES-D scores were associated with higher minimization scores, while lower RSE and SWLS scores were associated with higher CES-D and helplessness scores. Higher SWLS scores were also associated with lower otherization scores.

No other associations were found between scores on AMS subscales and scores on scales used to assess psychological constructs.

3.3. Regression Analyses

In order to determine the relative contribution of each psychological construct and microaggression scale to the CAQ scales, four multiple regressions were performed.

When ‘social adaptation’ served as the dependent variable, R was significantly different from zero [$R^2 = 0.31$, $F(1, 79) = 35.32$, $p = 0.000$]. Inspection of the predictor variables revealed that life satisfaction ($\beta = 0.54$, $t = 5.94$, $p = 0.000$) and otherization ($\beta = -0.57$, $t = -6.01$, $p = 0.000$) significantly predicted social adaptation scores. Thus, social adaptation was predicted by low life satisfaction combined with a high experience of otherization.

For the regression on ‘attachment to institution’ scores, R was also significantly different from zero [$R^2 = 0.42$, $F(1, 79) = 41.83$, $p = 0.000$]. Inspection of the predictor variables revealed that life satisfaction ($\beta = -0.39$, $t = -3.77$, $p = 0.000$) and depression ($\beta = -0.42$, $t = -3.28$, $p = 0.000$) significantly predicted attachment to institution scores. Therefore, attachment to institution was predicted by low life satisfaction combined with high depressive symptomatology.

For the regression on ‘personal-emotional adaptation’ and ‘total CAQ’ scores, R was also significantly different from zero [$R^2 = 0.27$, $F(1,79) = 28.92$, $p = 0.000$ and $R^2 = 0.32$, $F(1,79) = 35.24$, $p = 0.000$ respectively]. Personal-emotional adaptation was predicted by depression ($\beta = -0.36$, $t = -3.58$, $p = 0.000$) and helplessness ($\beta = -0.43$, $t = -5.23$, $p = 0.000$), while overall college adaptation was predicted by life satisfaction ($\beta = 0.38$, $t = -3.61$, $p = 0.000$), depression ($\beta = 0.26$, $t = -2.48$, $p = 0.000$), and otherization ($\beta = -0.34$, $t = -3.49$, $p = 0.000$). Hence, disabled students with high levels of depression who had experienced microaggressions related to helplessness had low scores for personal-emotional adaptation, while overall adaptation to university was predicted by a high level of life satisfaction, a low level of depression, and limited experience with microaggressions related to otherization.

4. Discussion

The purpose of the present study was to explore the experiences of microaggressive behaviors among Greek university students with disabilities during their participation in higher education. Further, we investigated the association between microaggressions and certain psychological factors and how these factors and the experience of microaggressions contribute to students’ adjustment. The findings of this study showed that the type of impairment is associated with helplessness (being treated as incapable and dependent), otherization (being treated as abnormal), and the total AMS score. University students with visual and mobility/physical impairments had encountered more microaggressive experiences related to helplessness than students with other disabilities and/or chronic

conditions. This finding is in congruence with the set of studies that show that people without disabilities tend to consider microaggressive behaviors to individuals with visual and/or physical impairments more acceptable than to people with chronic conditions (i.e., epilepsy or bipolar disorder). It is a common characteristic of microaggressions, as non-disabled people are not aware of the detrimental effects of their behavior, and they believe that they are acting with good intentions [21]. According to Green and colleagues [80,81], people tend to avoid individuals with physical disabilities because of unfamiliarity with disability or hesitation about interactions with PwDs. However, there are other studies that indicated that people without disabilities have more positive attitudes toward individuals with physical and sensory impairments than toward those with mental health conditions or brain-injured impairments as cited in [37]. They go further by suggesting that within the disability hierarchy framework, certain impairments are perceived as more or less “disabling” than others or are “better”/less severe than others. Thus, it is suggested that individuals with physical disabilities experience a lower number of stigma-related behaviors than individuals with psychiatric or cognitive disabilities [82,83].

University students with visible impairments reported higher scores for helplessness than other participants probably because their peers may assume they are not capable of accomplishing certain tasks in their daily routines, thus non-disabled peers may offer unwanted help. In other instances, peer students may believe that USwDs experience difficulties participating in community activities and do not include them. Such microaggressive behaviors may cause feelings of frustration, as USwDs may either receive unwanted help or being excluded from social activities [84,85]. In this setting, when a person has a visible difference or disability, behaviors associated with intensity and stigmatization are elicited [86].

The results of this study also revealed that people with invisible disabilities scored higher for minimization, indicating that they have witnessed behaviors of ignorance, minimization, or even denial of their disability [85]. People tend to minimize invisible disabilities, since they may perceive disability to be associated with an obvious physical impairment; in this way, invisible impairment implies that the disability cannot be seen at all [87]. Invisible disabilities have a secondary impact on a person’s social life, as it is a subject of disclosure and disability classification. People with invisible disabilities are also exposed to rejection, ableism, and discrimination if they reveal their disability, and they may need to prove their disability in order to access support services [88]. It seems that people with invisible disabilities are not only subjected to stigma and discrimination at the personal level but also at societal and political decision-making levels when presenting themselves as “disabled” [89]. For instance, university students with invisible disabilities experience ableism in their university lives when accessing services, seeking institutional support, and claiming physical spaces, as they have to confirm their disability by providing official documents [90]. Often, students with disabilities try to downplay themselves in order to fit into the campus culture or other identity groups. There is an attitude of minimizing or concealing one’s disability, which can also function as a protective mechanism to avoid discriminatory interactions [84,91]. In contrast, the disclosure of disability might lead to reduced stigma [92], but according to De Cesarei [8], choosing not to disclose one’s disability limits academic inclusion. Microaggressions towards individuals with different social identity characteristics, such as race, gender, sexual orientation, religion, and disability [21,31], may result in higher rates of negative mental health outcomes, including feelings of being excluded and being less capable of achieving a high academic performance [30,93]. The results of this study indicate that experiences with minimization are associated with high levels of depression and anxiety, experiences with helplessness are associated with low self-esteem, and experiences with otherization are associated with low levels of life satisfaction. These results are generally in accordance with previous findings [30,39]. However, they should be interpreted with caution since it is possible that USwDs with higher levels of depression and stress and/or lower levels of self-esteem and

life satisfaction may interpret more situations as microaggressions rather than the other way around.

The association between satisfaction with life and lower scores on otherization may suggest that when USwDs are accepted as equal with positive and inclusive mindset(s) by their university peers, they develop a more satisfying, stable, and coherent sense of life and wellbeing. A positive sense of wellbeing, which includes the ability and right to enjoy life as it is, to connect to other people, and to experience happiness seems to be crucial for life satisfaction [94] and can be of critical importance in the smooth adjustment process to university for all students, including USwDs [95,96]. In conjunction with the above, other characteristics, such as self-esteem and social support, may function as protective factors when students endeavor to adjust to university life [97–100].

Furthermore, social adaptation to university was found to be negatively predicted when there are low life satisfaction scores and high rates of otherization experiences. Low levels of life satisfaction combined with depressive symptomatology were also found to predict reduced attachment to the institution. The mental health of USwDs is associated with the development of a sense of belonging to the environment and behaviors of bonding and belonging to the institution. On the contrary, there is high possibility that university students with disabilities are not receiving sufficient support to overcome the negative effects of discrimination [36], and this may promote a sense of insufficient attachment to the institution. Alternatively, a lack of life satisfaction and depression may reflect a sense of institutional betrayal. Thus, there is a need for support services to alleviate such consequences [35]. The present study also revealed that personal-emotional adaptation can be predicted by depression and helplessness, and overall adaptation to university can be predicted by life satisfaction, depression, and experiences of otherization. Therefore, it seems that mental health aspects are more crucial for the adaptation of USwDs than experiences of microaggression. Given that students with disabilities face many types of emotional and psychological pressures, such as the degree of contentment with the resource office for disability, bonding issues with parents and peers, and participation in non-academic activities [101,102] as they strive to adjust to university, special attention should be given to institutional support services. Moreover, the results of our study suggest that being treated as other may be an additional factor that undermines adjustment and worsens USwDs' mental health. However, due to the cross-sectional design of the study, our findings do not indicate causal relationships.

In addition to the above limitation, the generalizability of our results may be restricted given that the sample was relatively small while the study, due to the COVID-19 restrictions, was conducted online; the latter could have influenced the length and depth of the participants' responses (i.e., one person submits multiple responses, some participants may not have internet access). It is possible that some participants encountered difficulties and/or were not able to complete the questionnaire due to the lack of adequate reasonable adjustments and further modifications [103]. Unsuccessful completion of the questionnaire may have also occurred due to a lack of understanding and responding to questions, as there was no provision for explanations in real-time.

5. Conclusions

The present study indicates that experiences with microaggressions towards students with disabilities in Greek universities are associated with the type of disability and certain psychological factors. Furthermore, our findings suggest that adjustment to university for these students may be undermined by factors related to ableism. Future research in this direction should continue to examine these factors and potential moderating variables, such as coping strategies and social support. Future research should also examine how faculty and staff are affected by microaggressions at all levels, including interpersonal and environmental contexts and students' responses as well as how additional social identities and characteristics (e.g., religion, race, ethnicity, gender) influence USwDs' experiences.

Moreover, our findings underscore the need for inclusive initiatives, practices, and policies. Although statements of causation cannot be made, our findings do support the possibility that it is important to assess microaggression experiences among USwDs. Practitioners working in university services need to collect information about the duration and frequency of microaggressive experiences, as this might help to identify those at highest risk. Institutions should provide a supportive response to reduce negative effects associated with discriminative events and provide opportunities for positive interactions, disability dialogue, and action(s). The provision of academic and psychological support (e.g., counselling services, tutoring) to students with disabilities and the establishment of inclusion awareness campus activities for all involved (i.e., tutors, professors, peers) could lessen the occurrence and impact of discrimination and improve mental health and social growth. Only by raising awareness, voicing concerns, and constructively confronting microaggressions can we change attitudes and behaviors that devalue and limit the potential of USwDs, and champion a more fully inclusive culture.

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