The Utility of DASS-21 as a Research Method for Second Language Acquisition Studies for Vulnerable Learners

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Abstract

This mixed-methodology pilot study aimed to examine the relationship between mental distress and language acquisition in vulnerable students, specifically those of immigrant and queer backgrounds. The study included participants (N=4) with a mean age of 29 years old (±4.7 years) who were learning Icelandic as a Second Language. To assess the prevalence of stress, anxiety, and depression and their impact on language acquisition, the Depression, Anxiety, and Stress Scale (DASS-21) and semi-structured interviews were utilized. Two competing theories with mediation models were tested. Model A explored whether language acquisition mediates the relationship between stressors experienced by immigrant or queer students and mental distress in a language class. Model B examined whether mental distress mediates the relationship between stressors related to participants' backgrounds and language acquisition. The results revealed a significantly high prevalence of mental distress among both groups of vulnerable students, irrespective of their proficiency level. The findings support Model B, indicating that mental distress mediates the relationship between stressors from students' backgrounds and language acquisition. The data were analyzed using mediation analysis (Chi-square test, Sobel's first-order test, percentile bootstrap) and were further supported by the semi-structured interviews. This pilot study provides a foundational dataset for future comprehensive investigations and offers potential solutions to address the challenges faced by vulnerable students. The abstract is presented independently from the article and avoids references and non-standard abbreviations.

Keywords: Second Language Acquisition, Inclusive Education, DASS-21, Mental Health

1. Introduction

Amidst the significant changes brought about by the shift to blended and online learning after the pandemic, a notable impact on language learners, especially those from vulnerable backgrounds, has emerged. These students have faced setbacks in their learning progress and emotional responses such as alarm, resistance, and exhaustion. This transformation has led to either positive stress (eustress) or negative stress (dystress) for students (Selye, 1956). The altered learning environment, along with increased distractions and challenges, affects how new knowledge and language acquisition are received (Affective Filters by Krashen, 1982).

During this transition, students prone to depressive symptoms and striving in a demanding environment face potential influences from both genetic and environmental stressors, potentially triggering depressive disorders similar to the Diathesis Stress Model (Ingram and Luxton, 2005). The increased academic workload, coupled with the absence of traditional in-person interactions, creates substantial stress, which is even more pronounced for vulnerable students with existing challenges. Recognizing their mental distress and identifying stressors are crucial for adapting the curriculum and ensuring inclusive post-pandemic language classes. This leads us to ask: How have queer and immigrant students in Iceland been impacted by the pandemic? What does this mean for their journey in acquiring a second language? Answering these questions requires exploring the effectiveness of the Depression Anxiety Stress Scale (DASS-21) in assessing the well-being of vulnerable student groups. This pilot study aims to test the applicability of DASS-21 in language acquisition research for these students and determine whether it can describe language acquisition within this demographic.

By going beyond conventional analysis, we gain a deeper understanding of inequalities and social factors, leading to more nuanced solutions (Gillborn, 2015; Crenshaw, 1989). Through exploring the interaction between language, identity, and sociocultural factors, we uncover the complex layers affecting language learning dynamics (Bronson and Watson-Gegoe, 2008). Consequently, we identify the strengths and limitations of current inclusive pedagogical approaches in Iceland. This study focuses on adult learners at the Language School, who are learning languages for academic, professional, or personal reasons. This pilot study is significant in two ways: it helps choose an appropriate model for the main study by shedding light on the connection between language acquisition and stress, and it assesses the use of the Depression Anxiety Stress Scale (DASS-21) on a broader scale to understand how race, language, and gender identities intersect in students' self-development. Beyond highlighting challenges faced by these groups during the pandemic, the study explores the complex negotiation of transnational, transcultural spaces, and intersectionality among queer and immigrant students in Iceland.

2. Methodology

2.1. Participants and Procedure

To gain a comprehensive understanding of the challenges faced by queer and immigrant students, a mixed-method research approach was employed. This approach combines quantitative and qualitative methods to generate a practical framework for investigation (Tashakori and Teddlie, 2008). The mixed-method pilot study aimed to enhance comprehension of complex issues in second language acquisition among vulnerable students through integrated approaches, surpassing the insights of each method alone (Molina-Azorin,

2016; Creswell & Plano Clark, 2007). Participants were selected purposefully from Tungumalskóli (Language School), including both queer and immigrant students. This selection facilitated a focused exploration of the central phenomenon (Creswell, 2014). To ensure impartiality in data analysis, a second rater was employed. Although the initial sample size was calculated as 4, additional students were invited to counter non-response or participation withdrawals.

2.2 Measures

The Depression Anxiety Stress Scale (DASS-21) was chosen for this pilot study due to its public domain status, electronic applicability, high reliability, and versatility across fields without the need for professional assistance (Le et al., 2017). The bilingual English and Icelandic survey scale was translated by Dr. Pétur Tyrfingsson from Iceland's Landspitali University Hospital. Ethical clearance for this pilot study was obtained from the University of Iceland Ethics Committee (issue SHV2022-033).

Depression Anxiety Stress Scale-21 (DASS-21)

The DASS-21 is a widely used 21-item self-report inventory, comprising three subscales: anxiety, depression, and stress (Lovibond & Lovibond, 1995). Participants rate each item on a 4-point Likert scale. A simplified version of this scale, reflecting the need for mixed-methodology research in educational research (Truscott et al., 2009), was employed to pinpoint sources of mental distress in the Icelandic second language context. The stress, anxiety, and depression subscales demonstrated acceptable internal consistency (stress=0.857, anxiety=0.840, depression=0.931).

Semi-structured Interview

To explore research questions in depth, a semi-structured interview format was used. Participants discussed topics such as sources of mental distress, impacts on daily life and learning, coping strategies, and suggestions for additional support (Appendix 4). Sensitive topics like stressors, prior trauma, conflicts, and experiences in the language class were also addressed. Individual interviews were conducted to minimize group dynamics and facilitate exhaustive exploration. Interview data were transcribed, coded, and analyzed using SPSS Text Analytics by two independent coders, with differences resolved through consensus. Themes were identified, indexed, and categorized manually to highlight factors related to depression, anxiety, and stress among participants.

2.3 Statistical Analyses

Descriptive statistics, intercorrelations, and logistic regression were performed using SPSS 28 to investigate depression, anxiety, and stress among queer and immigrant students. One-way analysis of variance (ANOVA) compared mean differences in these variables. Mediation analysis, including Chi-square and Sobel's first-order tests, helped identify the most suitable model. Non-parametric bootstrapping, a data-driven simulation technique, was used for estimating standard errors and confidence intervals in a larger population (N=5000) (Bishara & Hittner, 2015; Carpenter and Bithell, 2000).

3. Results

Participant Demographics

Out of the initial 10 approached participants, 4 (40%) completed the survey and consented to interviews. Two participants engaged in the survey but declined interviews, leading to their exclusion. All participants (100%) chose to complete the survey and participate in online interviews. The participants' mean age was 29 years (±4.7 years).

Participant Characteristics

Participants comprised various genders, with 25% male, 25% female, and 50% identifying as queer. In terms of age distribution, 50% were between 20-30 years old, and the remaining 50% were between 30-40 years old. All participants were immigrants, with 75% having attained tertiary education or above, and 25% holding an advanced diploma. Regarding language proficiency, 25% were beginners, 50% were at an intermediate level, and 25% were advanced. Exposure to stressors or traumatic events was evident, with 25% seeking counseling and 50% being prescribed medication (Table 2).

Prevalence of Mental Distress

Participants' self-reported stress, anxiety, and depression symptoms in the language classroom are presented in Figure 3 and Table 3. Applying established severity thresholds, results indicated that 75% of participants experienced mental distress. One case (25%) each of moderate, severe, and extremely severe stress was reported. For anxiety, one case (25%) indicated severe levels, while three cases (75%) reported extremely severe anxiety. In terms of depression, one case (25%) demonstrated mild symptoms, while three cases (75%) exhibited extremely severe depression.

Challenges in Current Language Classes

Participants identified challenges related to language tasks and the transition to blended or online learning during the pandemic. Listening and speaking tasks were particularly difficult due to unfamiliar phonetic elements and the pace of speech. Pronunciation struggles were highlighted, especially with challenging Icelandic letters. Participants mentioned demotivation and difficulties adapting to online classes, which led some to drop out. Off-task behavior was more common online. Additionally, a lack of connection with the teacher and challenges with class materials were noted.

Source of Mental Distress Among Vulnerable Groups

Queer students exhibited higher mental distress scores than immigrant students. Queer participants reported severe stress, extremely severe anxiety, and extremely severe depression. Immigrant participants had severe stress, anxiety, and depression. However, overall distress severity ratings indicated that both groups faced considerable mental distress.

Language Proficiency and Mental Distress

Language proficiency appeared to influence mental distress. Beginner-level participants preferred interactive, game-based lessons, while intermediate and advanced learners sought

independent exploration of materials. Participants noted teachers' lack of awareness and adaptedness to students' needs. Confidence issues also emerged as a significant challenge.

Association Between External Stressors and Mental Distress

A clear association was found between external stressors or traumas and mental distress, particularly depression, followed by anxiety and stress. Participants expressed the mutual influence of living stressors and classroom mental distress.

Path Model Analyses

Two mediation analyses were conducted to test models involving external stressors, language acquisition, and mental distress. Model B demonstrated a well-fitting pattern, suggesting external stressors mediated the relationship between language acquisition and mental distress. This connection between external stressors and mental distress was highlighted in the interviews, with participants attributing stressors both to their mental distress in the classroom and their learning progress.

In summary, the study revealed that vulnerable students, including queer and immigrant participants, experienced substantial mental distress in the language classroom. Challenges were identified in various areas, including language tasks, online learning, and teacher awareness. External stressors were found to mediate the relationship between language acquisition and mental distress.

4. Discussion

The results of the pilot study revealed a substantial prevalence of stress, anxiety, and depression among vulnerable student groups, with rates exceeding 75%. This prevalence of mental distress was consistent with previous research on queer students and students of immigrant backgrounds, irrespective of their language proficiency (Caravita et al., 2020; Campos, 2017; United Nations, 2016; Nguyen & Yang, 2015). The data indicated that students encountered mental distress both within and outside the classroom due to external stressors linked to their identities and the language learning process. Furthermore, learning Icelandic as a second or foreign language posed inherent challenges owing to its grammatical complexity (Thorardottir & Juliusdottir, 2013). For beginners, the intricacies of grammar could be daunting and adversely affect motivation, potentially leading to increased language anxiety and activation of Affective Filters (Krashen, 1982), regardless of students' background or socioeconomic status.

The integration of quantitative and qualitative data suggests that the psychometrics of DASS-21 can be effectively employed in language acquisition research to explore the mental distress experienced by queer and immigrant students. These findings contribute valuable insights to the mental health literature concerning vulnerable groups, facilitating comparisons with the broader population. The DASS-21 outcomes hint at a relationship between language acquisition and specific mental health assessment metrics, such as depression, anxiety, and stress. Moreover, these relationships were instrumental in establishing an appropriate mediation model for further analysis.

Mediation analysis brought to light the robust relationship in Model B between external stressors faced by vulnerable students and their language acquisition struggles. Learners

encountered challenges not only in mastering the language but also in acclimatizing to the classroom environment due to lack of teacher awareness, course inclusivity, and motivation-related factors. Queer or immigrant students often found themselves lagging behind or characterized as off-task, particularly when demotivated by course content or language barriers. The disconnect experienced in the language classroom with respect to cultural and gender identities hindered their investment and engagement in learning. A lack of a supportive environment, influenced by an absence of 'withitness' or training, was evident from the semi-structured interviews. While Model B holds promise for the main study, Model A, with language acquisition as a mediator, also contributes to classroom mental distress, as indicated by qualitative findings. This suggests that external stressors and language learning might act in both endogenous and exogenous ways, warranting further exploration of suitable language acquisition models for vulnerable groups.

Considering the diverse participant ages, a discussion surrounding the "critical period" (Hartshorne et al., 2018) becomes relevant. Factors like age at first exposure to a foreign language, years of experience, affinity between the target and native languages, and individual age could influence proficiency in Icelandic. Notably, proficiency among learners in this dataset was randomly distributed and did not align with the suggested critical period age of 17.4 years. This divergence could be attributed to late-emerging neural maturation, potentially affecting the critical period's duration. External influences, such as socioeconomic status, and the phenomenon of 'Language Interference' - whereby familiarity or unfamiliarity with target language structure influences acquisition pace - also played roles. Participants' careers or fields of study involving frequent reading and writing may have contributed to higher language abstraction, organization, comprehension, and expressiveness.

Fostering an inclusive classroom environment is crucial, with teachers expected to be sensitive to students' needs and aware of classroom dynamics. The development of stereotype threats, culminating in 'self-fulfilling prophecies,' can arise when students from marginalized backgrounds are stereotyped. These threats were observed in various contexts (Bedyńska et al., 2020; Spencer et al., 2016), affecting language learning as well. For instance, certain nationalities in an Icelandic class might be unfairly labeled as unable to meet assignment deadlines or correctly articulate specific letters. Similarly, pressure on queer students to read aloud can lead to stress and hinder progress. Stereotype threat, highlighted in this pilot study's interviews, establishes a mediating path linking identity, belonging, feelings, and well-being with lowered language achievement.

To ensure inclusivity, teachers must be attentive not only to language choice but also to the materials employed. The pilot study revealed instances where students felt excluded due to pronoun usage or a lack of diverse examples in the course. Recognizing the discourse of linguistic diversity and dialectical sensitivity is crucial for inclusion. Training language teachers to address linguistic biases promotes a positive atmosphere and aids in language skill acquisition (Pérez-Leroux & Glass, 2000). While curricula and blueprints emphasize diversity, challenges in implementation hinder their effective use. Failure to accommodate diverse identities can impede second or foreign language acquisition by fostering cultural conflicts during the establishment of Learner's Identity (Moore, 2016; Snider, 2004), ultimately erecting barriers to the learning process.

The transition to online and blended learning has amplified the likelihood of language learners dropping out, necessitating revisions to teaching approaches and materials. Interactive Groups (IGs) offer a potential solution by promoting inclusivity in diverse

language classrooms (Zubiri-Esnaola et al., 2020). By fostering a conducive atmosphere for dialogic interactions, IGs enhance learning expectations and facilitate teacher-student rapport, encouraging discourse and understanding.

Enhanced understanding of students facilitates the integration of contemporary and relevant themes and materials into curricula and classroom practices. However, the age, religious beliefs, resource awareness, and implementation comfort levels of teachers pose challenges to this integration (Page, 2014), highlighting the need for further research and professional development. As educators, it is imperative to challenge our values, beliefs, and assumptions, contributing to a comprehensive perspective of reality and assisting students in navigating their world (Checkland, 2005). Language teachers should be prepared to confront the complexities of the language classroom, interrogating their position within the societal context for a holistic perspective.

Despite its valuable insights, the current pilot study has limitations. The quantitative phase could benefit from replacing the Sobel test with PROCESS for improved statistical power and relevance. Additionally, the small dataset resulted in low power and accuracy of bootstrap statistics. As a non-follow-up study, the pilot only presents mental distress among participants during a specific period. Qualitative data solely reflect participants' perspectives, omitting teacher opinions. Furthermore, the study was conducted in a single language school, potentially limiting its applicability to other educational contexts. Further research is essential to address these limitations comprehensively.

5. Conclusion

As we look towards future research endeavors aimed at enhancing, contextualizing, or refining existing scales for use among vulnerable student groups, the significance of the DASS-21 cannot be underestimated. The scale's simplicity and user-friendliness, coupled with its capacity to delve into intricate phenomena among vulnerable student populations through qualitative analysis, make it a valuable tool. The recorded high prevalence of stress, anxiety, and depression among these language students serves as a compelling testament to the efficacy, reliability, and precision of the DASS-21, aligning with established research standards and advancing the field.

While acknowledging the limitation of a relatively small quantitative dataset, which naturally translates to diminished statistical power and accuracy, it nonetheless lays a foundational groundwork for subsequent main studies or more comprehensive investigations in the future. The integration of qualitative insights into the survey outcomes has undoubtedly enriched the quantitative findings. This integration has unveiled that mental distress transcends the boundaries of language lessons, emanating from participants' identities and backgrounds. Establishing rapport and connection with participants has uniquely positioned me to identify the divide between language instruction and the lived realities of these participants—a gap that educators must conscientiously bridge.

In conclusion, as we peer into the horizon of ongoing exploration and progress in this domain, the insights gleaned from this pilot study underscore the enduring relevance of the DASS-21 and highlight the critical need for holistic approaches that recognize and address the multifaceted factors contributing to mental distress among vulnerable student groups. This study serves as a steppingstone, urging the educational community to advocate for

inclusivity, promote understanding, and foster environments conducive to the holistic well-being and academic success of all students, regardless of their backgrounds and identities.

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