**Proposal Narrative**

**Perceptions of Academic Abilities and Mental Well-Being among Students in Higher Education with Attention Deficit Hyperactivity Disorder:**

**A Participatory Research Project to Create an Inclusive Educational Model**

**Project Description**

The focus of this project is building an inclusive educational model for students in higher education who have attention deficit/hyperactivity disorder (ADHD). The model is based on participatory research, in which higher education students with ADHD took an active role in formulating the research goals and constructing interviews for the study population. The study was designed to create an applicable work model that will support students’ academic self-efficacy and mental well-being.

**Central Research Questions**

1. To what extent do teaching methods, assessment methods, and the environment (virtual or physical) contribute to academic self-efficacy and mental well-being among higher education students with ADHD?
2. To what extent do institutional supports and individual accommodations contribute to academic self-efficacy and mental well-being among higher education students with ADHD?
3. What is the optimal work model to promote inclusion of higher education students with ADHD, from both a universal and an individual perspective?

**Project Significance**

ADHD is the most common disability among students in higher education, and students with ADHD represent the largest population needing accommodations in examinations and learning in higher education (Baeyens, 2021). This proposed research project will focus on identifying the barriers and opportunities experienced by students with ADHD throughout their academic degree study programs. The project will formulate an inclusive educational model that will provide equal opportunities for these students and reduce disparities. The work model will enable institutions of higher education to provide the necessary support for students with ADHD to build their academic self-efficacy and mental well-being during their studies.

**Literature Review**

**Students with Attention Deficit Hyperactivity Disorder**

Attention-deficit/hyperactivity disorder (ADHD), is one of the most common and most

complex childhood disorders (American Psychiatric Association, 2019). Current statistics report a lifetime prevalence of 8%-12% of the general population (Antshel, 2018; Biederman & Faraone, 2005; Polanczyk et al., 2014). Studies show that at least some ADHD symptoms persist into adulthood, causing disruptions across many areas of functioning. However, reliable empirical data for this is still lacking (Schubert & Lehmkuhl, 2017).

Students with ADHD face multiple challenges in high school, and often have

low self-efficacy regarding their ability to succeed in higher education. Consequently,

these students tend to continue to post-secondary education at a much lower rate

compared to young adults without ADHD (DuPaul, 2017). Yet, despite the multiple

challenges, in recent years there has been a significant increase in the number of

students with ADHD continuing to higher education (Anastopoulos, 2015).

 ADHD is currently the most common diagnosis among students in higher education, alongside other learning disabilities: between 2% and 8% of all students studying in institutions of higher learning have been diagnosed with ADHD (Baeyens, 2021).

Regarding academic outcomes, research shows these students tend to have a lower GPA and a higher rate of failing, withdrawal from courses, repeating classes and dropout (DuPaul, 2017).  Statistics show that only 9.1% of individuals with ADHD graduate from college compared to 60.6% of the general population (Anastopoulos, 2015). Common barriers of this population may include staying focused and paying attention, as well as challenges in executive functioning, such as problem solving, time management, goal-oriented activities, and self-regulation (Gray et al, 2016, Van der Oord et al, 2018). These difficulties can negatively impact one’s life successes such as: educational attainment, occupational success, interpersonal relationships, mental and physical health, and even financial and legal difficulties (Anastopoulos, 2015, Nigg, 2013). In addition, ADHD may be compounded by various comorbidities, such as learning disabilities (LD), emotional challenges, substance abuse and other neurodiverse conditions (Nelson & Gregg, 2012). Students with ADHD who attend college may face a heavy load while contending with a lack of adequate academic skills which are essential for academic success. Psychosocial challenges, and especially academic self-efficacy (Mana et al., 2020) may efect their  emotional well-being (Krauss & Schellenberg, 2022).

In addition to these well-known barriers, the Covid-19 pandemic presented additional challenges for students with ADHD, who had to adapt to changing and fluctuating learning environments. A study by Sibley et al. (2021) found that students with ADHD reported social isolation, difficulties with online learning, and motivational difficulties during this period.

Despite the rising number of students with ADHD in higher education, most of the discourse on the integration and inclusion of differently-abled learners pertains to K-12 educational settings. Success in the realm of higher education is still widely perceived as being dependent on traditionally acceptable educational capabilities (Abegglen, 2021). At the same time, institutions of higher education have come to recognize the importance of supporting the integration of people with disabilities into the community and general society, and there has been increased focus on providing responses to individuals’ needs (Varunek, 2020).

Based on an approach of integration, students with documentation of a diagnosis of ADHD or other disabilities may be eligible to receive accommodations in examinations and, in some cases, also in learning (Toutain, 2019). Accommodations during exams include being permitted to take exams in a separate and quiet room, extended time for taking the exam, being allowed to take a break during the exam, and someone reading the exam to the student. Learning accommodations include designated and reserved seating in class, access to recordings of lectures, support on specific topics, and possible extensions on deadlines for submitting assignments Baeyens, 2021; Sedgwick, 2018; Weis et al., 2021). While the practice of integration refers to individuals, the concept of integration provides a holistic view of the learning environment, curricula, teaching-learning processes, and the need for each of these to be adapted to students, according to their abilities (Abegglen, 2021).

One of the primary models addressing the accessibility of teaching materials and methods for students with disabilities, including ADHD, is the Universal Design in Learning (UDL), a framework designed to promote teaching-learning processes that are appropriate for a broad spectrum of students (Center for Applied Special Technology, 2019). This framework is based on the concept of inclusion, according to which disability is one characteristic of human diversity, alongside gender, race, nationality, age, socioeconomic status, and differences in personal learning style (Ross, 2019).

The UDL model refers to general adaptations of teaching, learning, and evaluation processes, according to three main principles: multiple means of engagement, representation, and expression. The UDL emphasizes the certitude that students with disabilities such as ADHD should be included equitably and without labeling (Ok & Roa, 2019). For example, while according to the integration approach, only students with documented disabilities will be eligible for additional time on exams, according to an inclusive approach, exams should be designed so that all students, each working at their own pace, will be given sufficient time to complete it (Delaney & Hata, 2020).

The UDL recognizes the key contribution of the educational staff to students’ learning experience (Ross, 2019). It emphasizes the importance of ensuring compatibility of the curriculum, pedagogy, and assessment methods for students with disabilities, as well as providing them with individualized support to promote their academic success (Finkelstein et al., 2021).

To summarize, the research literature already includes a great deal of information about the barriers experienced by students with ADHD, and in practice they may be provided with accommodations in exams and learning. However, there is no solid, comprehensive data on the relationship between the barriers experienced and the responses provided. Further, there is little information on teaching-learning processes for students with ADHD, from the perspective of the students themselves.

Therefore, this study seeks to present a unified and inclusive model that maps both the barriers faced by students with ADHD and the opportunities that will enable them to experience academic self-efficacy and mental well-being. It addresses the accommodations, services, and teaching-learning processes necessary to enable them to have an optimal learning experience. The study was designed in collaboration with students with ADHD, who will also be part of the research team.

**Research Methods**

The present study is a participatory research mixed-methods study that combines quantitative and qualitative research tools. In participatory research, the investigators work collaboratively with people who are impacted by the subject under study and will act based on the results (Andersson, 2018; Hall, Gaved, & Sargent, 2021). A participatory research approach has been applied from the initial stages of this study, with the establishment of a partnership with three students in the third year of their study program who have ADHD and who received assistance from the relevant support services available on campus. Two were female students in the Faculty of Health Professions and the third was a male student in the Faculty of Business Administration. As part of planning the research, a focus group was held with these three students. They strongly suggested that the research goals should examine the academic self-efficacy and mental well-being of students with ADHD. They also noted the importance of examining the research questions using mixed-method research methods that include the collection of both quantitative and qualitative data. The focus group noted the need for accessibility to audio versions of written questionnaires, to accommodate the typical learning difficulties of students with ADHD. They raised a number of issues to be included in the interviews (qualitative research).

**Study Participants**

The study population will include undergraduate students with the documented developmental disability ADHD.

The participants will be a convenience sample of 60 undergraduate students with ADHD diagnostic (documented disability), ranging in age between 18-50 years old, studying in any faculty at Ono Academic College (a private college in Kiryat Ono, Israel).

Study participants will be selected according to a variety of traits: gender, age, cultural affiliation, year of study, and faculty of study. The study population will be comprised of students who are eligible for academic accommodations on the basis of their ADHD, and who receive assistance from the various support services available on campus.

**Research Tools**

A questionnaire on academic self-efficacy and personal well-being will be used to collect quantitative data. This questionnaire was developed to be used in research on the integration of populations with disabilities in higher education. The questionnaire consists of two parts: a section on self-efficacy with 11 items, and a section on mental well-being with 6 items. Respondents will be asked to rate each item on a scale of 1-5, with 5 indicating “very much” and 1 indicating “not at all”. The self-report questionnaires will be distributed to participants online using the Google Forms platform. Internal reliability between items was tested using 62 questionnaires completed by higher education students with ADHD. For both variables, internal reliability was found to be high (for academic self-efficacy α = .822; for mental well-being α = .820).

The questionnaire underwent expert validation by the principal investigators as well as by an undergraduate student with ADHD. These questionnaires will be distributed to participants, in accordance with the recommendation of the students with ADHD who are partners in the research and who took part in the focus group.

**Qualitative research tools**. We will conduct in-depth semistructured interviews which will explore students' strengths and challenges and their impact on students’ coping during everyday life and previous studies.

These in-depth interviews will enrich and expand upon the data collected via the questionnaires, by providing a perspective on students’ past and present learning experiences. The interviews will also address the accommodations and supports provided to students and how these contribute to students’ academic self-efficacy and mental well-being. The interviews will address retrospective perspectives on best practices and suggestions to improve and promote their inclusion in the field of higher education.

The questions to be included in the interviews were designed in collaboration with the focus group of students with ADHD, who are in an advanced year of their degree program, and with a language teacher who has ADHD. The questions were formulated and refined according to their recommendations. Following data collection, another focus group will be convened, which will include a discussion of the research findings and an exchange of ideas for formulating best practices for the inclusion of students with ADHD in higher education.

**Research Process**

The following diagram details the stages of the research:

* Research design – Defining the research goals and research questions in collaboration with students with ADHD (completed)
* Collection of qualitative data – Semi-structured in-depth interviews
* Collection of quantitative data – Questionnaires
* Focus group – Analysis of preliminary findings, in collaboration with students with ADHD
* Focus group – Presentation of final findings and exchange of ideas for developing a work model
* Formulation of the finalized work model
* Preliminary pilot project for implementation of the recommended work model
* Focus group – Feedback on pilot project

In the first phase of the research, a meeting was held with three students with ADHD, who participated in formulating the research goals, research questions, and research procedure. This study was approved by the college’s Institutional Ethics Committee (202105onoEx2022).

In the second stage, we will collect quantitative and qualitative data simultaneously. Personal meetings will be coordinated with the participants, who will receive an explanation of the study and sign an informed consent form. Following this, they will complete the questionnaires and the interviews will be conducted. The questionnaires will be filled out anonymously. The interviews will be recorded and transcribed, and all identifying details will be omitted from the interview transcripts. The raw data will be saved and stored by the principal investigators and will be protected with a password. In the third stage, data analysis will be conducted in collaboration with the students with ADHD who were partners in designing the research and who will function as research assistants. In the fourth stage, a focus group will be held with the students who participated in the previous stages, to discuss an optimal work model and its feasibility. The focus group meetings will be recorded and transcribed. Identifying details on participants will remain confidential. In the fifth phase, a pilot project for the implementation of the proposed work model will be conducted, in collaboration with supporting entities at the college. In the final phase, another focus group will be convened with the students who participated in designing and conducting the research, to provide feedback on the pilot project, and to collaboratively formulate the final work model.

**Data Analysis Procedures**

An inductive-comparative method will be used to analyze the thematic content of the data collected in the personal interviews. First, units of meaning will be identified in the texts. Then these will be coded into categories. Following this, a lateral sub-analysis will be performed in order to identify meanings and patterns common among the interviewees, as well as their unique perceptions (Bengtsson, 2016). The focus group will determine criteria for mapping best practices. Suggestions they offer during the meeting will form the basis for formulating the recommended work model.

To analyze the quantitative data, we will use descriptive statistics to assess the accommodations and supports provided to students, and to describe their perceptions of their level of academic self-efficacy and mental well-being. Linear regression tests will be used to identify the factors that predict academic self-efficacy and mental well-being.