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A Scoping Review of Acceptance and Commitment Therapy in Higher Education

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A thesis submitted in partial fulfillment of the requirements for the Master of Arts degree in Education

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Abstract

Acceptance and Commitment Therapy (ACT) is a transdiagnostic intervention that holds promise in improving well-being across various contexts. The current scoping review aims to examine the literature on the use of ACT interventions in higher education to improve aspects of student well-being and academic outcomes. Chapter 2 summarizes the results of the review and includes 34 peer-reviewed empirical research articles that applied ACT interventions with higher education students. Online and in-person interventions were both widely used and found to be effective. Though these outcomes are promising, nearly half of the articles reviewed provided insufficient detail to allow for replication and reported scant demographic details. Strengths, limitations, and directions for future research involving ACT interventions are discussed, in the interest of further aligning research with the Association for Contextual Behavioral Science Task Force recommendations, and most importantly, supporting students. Chapter 3 focuses on future areas of research and opportunities for the use of ACT.

Keywords

Higher Education, Acceptance and Commitment Therapy, Acceptance and Commitment Training, Psychological flexibility, academic performance, well-being

Summary for Lay Audience

Acceptance and Commitment Therapy (ACT) is an intervention that is used to address various difficulties, like anxiety, depression, physical pain, and inflexibility. The current dissertation includes three sections. The first aims to provide an overview of the mental health crisis in higher education as well as an overview of the history of ACT. Chapter 2 explores the available research on the use of ACT to improve psychological and academic well-being in students pursuing studies in college or university. 34 articles were included in the review and details on the ACT programs and impacts on psychological and academic well-being are discussed. Finally, chapter 3 discusses future areas of research and focuses on some of the limitations of the review in chapter 2.

Co-Authorship Statement

Sarah Caimano completed this scoping review for her Master's thesis under the supervision of Dr. Albert Malkin and in collaboration with Patricia Monroy, Denise Horoky, and Jina Kum, who will be co-authors on presentations and publications resulting from the manuscript presented in Chapter 2.

Acknowledgments

I would like to extend my gratitude to everyone who supported me during my master's studies. First and foremost, I would like to thank my supervisor, Dr. Albert Malkin, for his continuous patience and guidance over the last two years. Dr. Malkin has graciously shared his knowledge of the field and has acted as a mentor throughout my studies. A further thanks to Dr. Colin King who provided insightful feedback and guidance throughout my thesis. This project would not have been possible without Denise Horoky, who provided crucial support during the early stages of this review. I would also like to thank my professors and classmates from the School and Applied Child Psychology master's program. I will carry your knowledge and advice into my future studies and practice.

Finally, I would like to thank my family and friends for believing in me and continuously encouraging me throughout my studies. To my mom and stepfather, Fausta and John, and brothers, David and Mickael, thank you for never giving up on me and continuing to act as my rock. To my partner Steven, thank you for being my official proofreader throughout the course of my education and for supporting me through all my late-night writing sessions. A final thanks to my daughter Elianna for being my motivation to continue pursuing my studies in order to provide the best for you.

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Chapter 1

1 A Brief Literature Review

Young adults are continuously encouraged to pursue higher education (Oreopoulos & Petronijevic, 2013). In Canada alone, “73% of young Canadians aged 25 to 34 had attained a postsecondary qualification [in 2019], rising from 59% in 2000” (Zeman & Frenette, 2021). Pursuing higher education has been found to be beneficial as it allows for higher earnings, “longer life expectancy and improved health”, and high rates of job satisfaction (Zeman & Frenette, 2011; Statistics Canada, 2021). Despite some of the positives that can be drawn from having a highly educated population, a growing concern in Canada is the mental health of these students (Evans et al., 2018).

1.1 Student Mental Health

When compared to the general population, students pursuing higher education are considered to be at a greater risk for psychological distress (e.g., Evans et al., 2018; Wyatt & Oswalt, 2013; Stallman, 2010). In a study conducted in Australia that aimed to examine mental health in university students, 83.9% of the sample of university students reported elevated distress levels (Stallman, 2010). More concerning, 19.2% met the criteria to be classified as having a serious mental illness, compared to only 3% in the general population (Stallman, 2010). Similar findings were reported by Evans and colleagues (2018), where graduate students were “six times as likely to experience depression and anxiety as compared to the general population” (p.282).

Although sources of psychological distress are unique to the individual, typical causes of stress in higher education students include pressure from family, financial concerns resulting in the need to balance work and school, academic difficulties and fear of meeting deadlines, interpersonal conflicts with peers, and difficulties with changes in routine and sleep habits (Deng et al., 2022; Ngcobo & Pillay, 2010; Jones et al., 2018; Robotham, 2008; Lakshmi, 2009; Deasy et al., 2014). The combination of these sources puts students in a unique position, leading to levels of distress that set them apart from the general population (Evans et al., 2018; Wyatt & Oswalt, 2013).

While certain levels of stress can be functional and are actually considered to be a normal part of university life, extreme levels can be harmful (Robotham, 2008; McLachlan & Gale, 2018). In university students, high levels of psychological distress have been linked to lower academic performance, poorer self-care, breakdowns in relationships, and increased tendency to drop out (Pascoe et al., 2019; Osborn et al., 2022; Robotham, 2008). More generally, extreme prolonged psychological distress has been linked to an increased tendency to turn to drugs and alcohol as a coping mechanism, an increased risk of cardiovascular illness, and higher rates of suicide (Horwitz et al., 2020; Worsley et al., 2022; McLachlan & Gale, 2018).

Further, the COVID-19 pandemic has only served to be an aggravating factor to this, leading to more students reporting symptoms of anxiety and depression as they have had to navigate the ongoing changes and increased stressors (Schmits et al., 2021). As a result, many students feel like dropping out of school as they are unable to cope with the added stressors (Schmits et al., 2021). Students who had pre-existing mental health concerns prior to the COVID-19 pandemic tended to remain stagnant or slightly improve in terms of their mental health while those who had no pre-existing conditions were more likely to report new concerns, leading to an overall increase in the number of students requiring mental health services (Hamza et al., 2021). It is now, more than ever, imperative that we reflect on the available resources and provide these students with the necessary supports to be successful in their studies.

1.2 Services Available to Students

There are many services that are typically offered to students, either directly through higher education institutions or within the community. In a meta-analysis conducted by Osborn and colleagues (2022) exploring the use of mental health services by higher education students, authors discussed that students reported using both on-campus services (e.g., university counselling services, university health services, mentoring service, etc.) and off-campus services (e.g., seeing a psychiatrist, substance use services, hospitalization, etc.). At Bishop's University for example, a small university located in Quebec, Canada, students have access to counselling services, health services, sexual violence resources, academic coaching, and spiritual care, to name a few. These services

are all available to students with the goal of supporting their psychological and academic well-being as they pursue their higher education studies (Bishop's University, 2023). While this is just one example, many Canadian Universities offer similar services to their students (e.g., Western University, 2023; McGill University, 2023; University of Alberta, 2023).

Despite a wide variety of services available to students, there are many barriers that prevent students from seeking help when in need. A primary barrier was cost, where private services off-campus, or even on-campus paid services were sometimes too costly for students, and therefore not a service made use of by students (Osborn et al., 2022). This seems to be a recurring theme in many studies and often one of the most prevalent barriers (Eisenberg et al., 2007; Horwitz et al., 2020; Busby et al., 2021). In addition to cost as a significant barrier, certain groups may choose not to seek help within their educational institutions as they feel as though the available services are not “appropriate for their needs” (Osborn et al., 2022). There are certain groups of students that are consistently underrepresented when examining the types of students who seek mental health services. Similar in the general population, Caucasian homosexual or bisexual female students are most likely to seek services. Factors such as “sex and gender, ethnicity, and age” often influence help-seeking behaviour, more so than need (Osborn et al., 2022). Students who choose not to seek treatment despite experiencing psychological distress may also fear facing stigma or have concerns of confidentiality or privacy (Osborn et al., 2022). Similar issues were explored by Horwitz and colleagues (2020), where they discuss cultural sensitivity issues as a barrier for minority students, as they were less likely to seek mental health services in times of need. Finally, students also report that mental health services can be difficult to navigate and wait-lists for mental health services tend to be quite lengthy, preventing students from being proactive in seeking help (Barnett et al., 2021; Horwitz et al., 2020).

1.3 Acceptance and Commitment Therapy to Address Mental Health

One emerging approach to address the growing needs of higher education students is Acceptance and Commitment Therapy (ACT). ACT has its roots in behaviour analysis

and is an evolution of the therapy known as comprehensive distancing (Zettle, 2011; Tarbox et al., 2020). Developed by Steven C. Hayes in the early 1980s, comprehensive distancing encouraged individuals to separate themselves from their thoughts and behaviours and judge them from an external perspective. Rather than self-reflecting, this ‘distancing’ was thought to allow the individual to impartially evaluate their thoughts and behaviours, as any ties or personal connections to them were minimized (Zettle, 2011). Over time, these processes continuously evolved, and additional concepts such as self-awareness and the importance of values to guide behaviour were incorporated, resulting in what we know today as ACT (Zettle, 2011).

The theoretical base that underpins ACT is functional contextualism. Functional contextualism, an outgrowth of radical behaviorism, is a contemporary behavioural theory that aims to understand human behaviour in relation to an individual’s context. Without context, the behaviour is believed to lack meaning (Boone et al., 2015). As such, two identical behaviours can have two very different meanings and impacts on one’s life. For example, an individual running to stay in shape compared to an individual running from a fire; although the act of running is identical in both instances, the contexts behind the behaviours are drastically different, resulting in the behaviours having different functions. It is important to note that in functional contextualism, behaviours are not limited to “overt actions, but also [include] internal events such as thoughts, feelings, [and] memories,” and are a product of experiences and genetics (Boone et al., 2015, p. 645; Kelly & Kelly, 2022).

Functional contextualism serves as the basis for relational frame theory, where the way in which an individual relates to stimuli is believed to influence their behaviours.

Alternatively, this can be described through the concepts of verbal language and its impact on behaviours (Tarbox et al., 2020). Humans can make sense of events via verbal rules which guide our behaviour. However, when one adheres so closely to these rules where they are unable or unwilling to alter or act against them, this becomes problematic (Tarbox et al., 2020). For example, consider a student that is struggling academically. This student may compare themselves to their peers, who tend to outperform them, and believe that they are simply not as intelligent as their peers and are therefore unable to

perform well academically. This maladaptive thought may become so intrusive, as they relate very closely to this thought, that they stop trying to move past it. The strong importance that has been placed on this thought has resulted in it having a significant impact on the individual's behaviour. Strategies used in ACT, and its precursors, serve as a way to change our relationship with our 'verbal rules' and the ways in we allow them to govern our behaviours. By encouraging a shift in attitude, individuals place less of an importance on maladaptive thoughts, allowing them to act in ways that align more closely with their goals (Harris, 2019).

1.3.1 Overview of ACT

ACT is based on six core processes organized into a Hexaflex model. The Hexaflex serves as a visual tool for participants and outlines processes that are the basis of this therapy (Rolffs et al., 2018). While variations of the Hexaflex exist, figure 1 depicts a commonly used model. Making use of metaphors, activities, and homework assignments, individuals work through the six core processes with the end goal of increasing their psychological flexibility, the process involved in adapting to changes or situations one is faced with, and the ability to shift one's mindset based on different rules or expectations (Faja & Nelson, 2019). In doing so, they come to a state of acceptance with regards to their own lives and any challenges they may face (Zhang et al., 2018). Briefly, the six processes are acceptance (i.e. working through events without making an effort to change the outcome or avoid them), cognitive defusion (i.e., shifting the way one processes negative thoughts and decreasing their attachment to them), present moment awareness (i.e., living in the here-and-now open-mindedly), values (i.e., aspects one deems important in guiding actions and behaviours), self as context (i.e., encourages the understanding that thoughts and events do not define one's existence and allows individuals to think of themselves more flexibly as they are experiencing these events), and committed action (i.e., creating an action plan to live life more flexibly and in line with one's values) (Hayes, 2006).

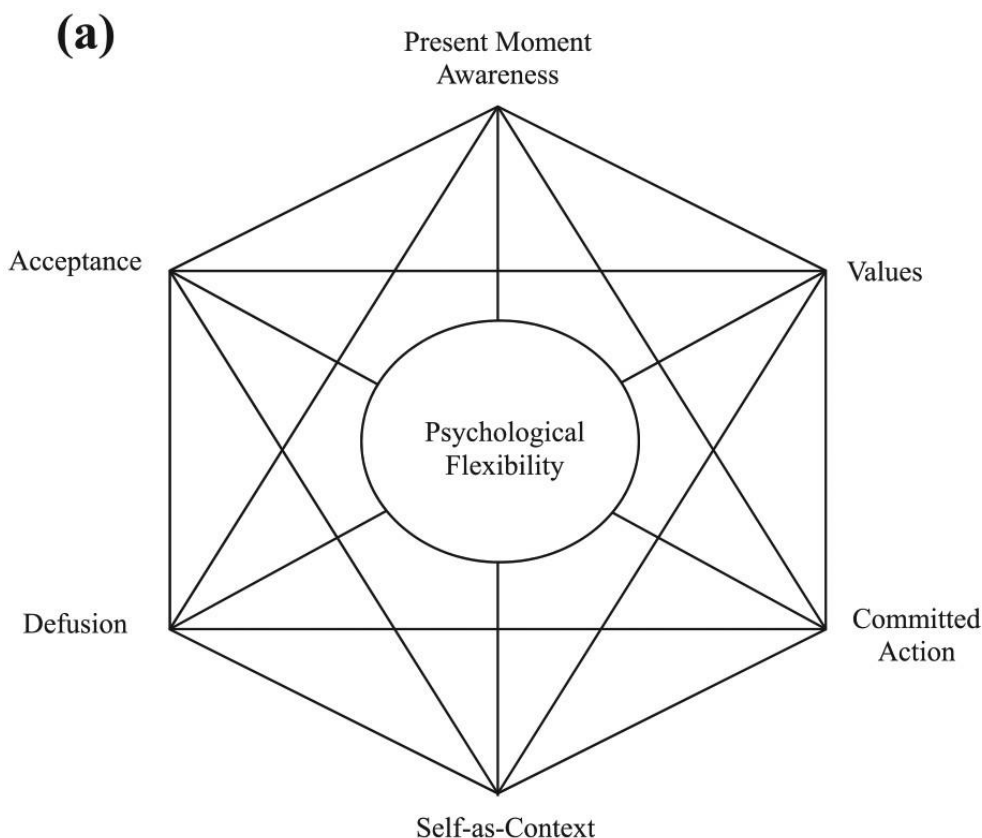


Figure 1: ACT Hexaflex Model

Note. ACT Hexaflex model. Reprinted from “Disentangling Components of Flexibility via the Hexaflex Model: Development and Validation of the Multidimensional Psychological Flexibility Inventory (MPFI,” by J. L. Rolffs, R. D. Rogge, and K. G. Wilson, 2018, *Assessment (Odessa, Fla.)*, 25(4), 458–482.

1.3.2 Benefits of ACT

ACT interventions are generally supported in the field of applied behaviour sciences, especially since they allow individuals to overcome some of the barriers (e.g., cost, time constraints, etc.) associated with traditional therapies (Gloster et al., 2020). To date, there have been over one thousand ACT randomized controlled trials conducted around the world with a wide variety of populations including individuals with HIV, patients with

various medical needs, individuals with mental health difficulties, and higher education students (Hayes, 2023). While no certification is required to administer ACT, it is an empirically supported therapy that is typically administered by highly trained individuals (Long, 2018; Dindo et al., 2017). ACT falls under the tutelage of the Association for Contextual Behavior Science (ACBS), a community of individuals (researchers, practitioners, etc.) who aim to conduct research, share the findings, and support and collaborate with new and existing members in their field (ACBS, 2017). Through this community, training sessions as well as workshops, books, and conferences are made available to those who wish to learn ACT (Long, 2018). This allows a wide variety of individuals to administer ACT, increasing the number of practitioners available to address the needs of those struggling, which should thereby decrease treatment wait times. Further, ACT can be administered in a highly flexible manner. In individual sessions, ACT therapists work one-on-one with a client to uncover areas in which they may be struggling, while group sessions are typically catered towards targeting a common goal or treating individuals with similar diagnoses (Levin et al., 2019). For example, previous research includes ACT groups for individuals suffering from chronic pain, eating disorders, and anxiety (Hughes et al., 2017; Onnink et al., 2022, Ferreira et al., 2022). By conducting group sessions, the needs of many individuals experiencing similar difficulties, like students, can be addressed at once, decreasing the wait times to receive treatment (Malhotra & Baker, 2022).

Additionally, ACT sessions can be conducted online or in-person, and range in length from single session to multi-week programs. This allows the ACT program to be highly individualized depending on the client's needs and reduces many of the barriers, particularly financial and long waiting lists, students typically face when seeking mental health treatment (Levin et al., 2016; Feliu-Soler et al., 2018). Brief ACT interventions are also becoming more common-place, and include "1-day workshops, telehealth coaching calls, and online and smartphone interventions" (Dindo et al., 2017, p. 548). For the most part, these brief interventions are administered in two to four sessions (Glover et al., 2016). The goal of these brief programs is similar to that of lengthier ACT, where participants are provided with the necessary skills and tools to effectively deal with their difficulties in the here-and-now (i.e., increase psychological flexibility). The use of brief

ACT interventions is promising, as it serves as a way to overcome issues related to treatment adherence and may be useful when working with populations who may not have the time to engage in lengthy interventions (Dindo et al., 2017). Nevertheless, the introduction of brief ACT interventions leaves room for further questions related to its effectiveness compared to lengthier ACT interventions as well as which populations this type of therapy is best suited for.

1.3.3 Critiques of ACT Research

As Acceptance and Commitment Therapy continues to evolve and find its place in the field, it has faced some criticism. An early criticism that was repeatedly mentioned in the literature is that despite the lack of empirical evidence for its effectiveness, where many studies published were non-empirical, ACT was marketed in the field as an effective therapy (Hayes et al., 2004). Corrigan (2001) argued that researchers were too quick to push their therapies, despite not having substantial evidence in support of them. As with any novel therapy, empirical validation takes time (Hayes et al., 2004). While research consumers should have proceeded with caution until enough evidence is available supporting the therapy's effectiveness, the lack of immediate evidence seems to be unjust grounds for criticism. Further, since the publication of Corrigan's article, the available research on ACT has increased and the therapy has been shown to be effective. Gloster and colleagues (2020) conducted a review of 20 ACT meta-analyses, which included a total of 133 ACT studies, and found that overall, ACT programs were effective at improving a variety of factors. Studies included in this review aimed to address a variety of issues including depression, anxiety, physical health, pain, quality of life, substance abuse, psychological flexibility, etc. (Gloster et al., 2020).

A second criticism that has been made against ACT research is that many published studies lacked replicability (Cihon et al., 2021). As there is no standardized treatment protocol for ACT, programs are often developed, and previous studies are referenced for treatment materials. However, authors do not include enough information about the treatment program, making it nearly impossible to replicate their findings (Cihon et al., 2021). While ACT is meant to be a flexible treatment that can be tailored to the

individual's needs, making the uniqueness of treatment plans a key to this therapy, the lack of transparency in the treatment as an independent variable is a major drawback.

Finally, the Association for Contextual and Behavioral Science Task Force has published a report outlining areas for improvement in the field (Hayes et al., 2021). Numerous recommendations made by the task force are related to measures and variables used to assess the effectiveness of programs. Self-report measures of outcome variables are often used but are often not the best to truly depict the means through which change occurred. Instead, they suggest objective measures (e.g., behavioural and biophysiological) be used to assess the processes of change. The issue with measures, like the Acceptance and Action Questionnaire, has also been discussed in other articles, lending to the importance of re-evaluating measures used in future studies (Bachmann et al., 2021). Further, the task force discusses the importance of bridging the gap between research and practice and ensuring research is applicable in a wide variety of settings with diverse populations, while also considering the multi-dimensional nature of human life (Hayes et al., 2021). Research should not be conducted in a vacuum-type manner where only one dimension (e.g., psychological, physical, social, etc.) is considered, but instead include multiple dimensions to truly understand the complexities of human behaviours and interactions. This report provides further details and calls for future research to address the limitations of the current state of the literature.

1.4 Purpose

In considering the use of Acceptance and Commitment Therapy to address the mental health concerns of higher education students, Howell and Passmore (2019) conducted a review on the available literature. They, however, included only randomized controlled trials, potentially limiting the volume of research included in their review. Despite this, their review suggests that ACT is an overall effective intervention for this population and may be useful in addressing some of the aforementioned barriers and concerns (Howell & Passmore, 2019). Chapter 2 of this dissertation aims to further explore the available research on the use of Acceptance and Commitment Therapy to improve the psychological and academic well-being of students pursuing higher education.

Limitations from Howell and Passmore's study will be addressed and trends in the current literature will be discussed.

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Chapter 2

2 A Scoping Review of Acceptance and Commitment Therapy in Higher Education

2.1 Introduction

Students in higher education experience an increasingly wide range of ongoing stressors, such as day-to-day academic demands, personal relationships, and financial burdens (Pascoe et al., 2019; Robotham & Julian, 2006; Stallman & Hurst, 2016). Many students are in a unique position in life, in which they must balance academic, social, and familial lives, while also potentially working to fund their education and general expenses (Karyotaki et al., 2020). While a typical or moderate level of stress, termed ‘eustress’, may be beneficial and can act as a motivator for students, high levels of stress can pose substantial risks and negative outcomes (Portoghese et al., 2019; Robotham, 2008; Robotham & Julian, 2006).

Student well-being poses a growing and pressing concern, given increases in rates of depression and suicide among students (Mofatteh, 2021). Students appear to be at especially high risk for mental health issues. For example, Evans and colleagues (2018) found that 41% of graduate students scored in the moderate to severe range for anxiety, and 39% scored in the moderate to severe range for depression. In contrast, the general population average was 6% for incidence of both the former and latter, respectively (Evans et al., 2018). Alarming rates of mental health issues are not exclusive to graduate students as similar rates have been reported amongst undergraduate students as well (e.g., Wyatt & Oswald, 2013). In short, students face mental health issues that are severe and prevalent, along with high levels of stress; which have all been associated with a poor quality of life and well-being, and negative impacts on academic achievement and engagement (Evans et al., 2018; Riberiro et al., 2018).

The most common type of support offered to students falls into the classes of cognitive/behavioral/mindfulness-based interventions (Regehr et al., 2012). An emerging and promising area of research in the above class of interventions is Acceptance and

Commitment Therapy/Training (ACT); ACT has been found to result in improvements in academic performance, psychological flexibility, and experiences of stress (e.g., Palililunas et al., 2018; Viskovich & Pakenham, 2020). ACT influences behavior change via verbal interventions “to alter the functions of private events, to increase the flexibility of perspective-taking and contact with the internal and external environment, and to develop habits and patterns of overt behavior that are guided by chosen verbal establishing stimuli that establish reinforcers intrinsic to engagement in that overt behavior” (Dixon et al., 2020, p.561). This approach assists students in being aware of, and to accept challenges they face, rather than avoid or suppress unhelpful thoughts and avoid difficult situations (Dindo et al., 2017; see Hayes et al, 2006 for a description of the model, processes, and outcomes).

ACT is based on six core processes through which change occurs. The first of the six is *acceptance*, which involves allowing difficult thoughts and feelings to be present without avoiding them. By no longer engaging in experiential avoidance and accepting thoughts and feelings for what they are, this allows people to willingly experience difficulties and continue to live fulfilling lives (Harris, 2006; Hayes et al., 2013). The second core process is *cognitive defusion*, which involves recognizing that “thoughts are nothing more or less than transient private events” that should be evaluated objectively rather than getting “caught up in [them]” (Harris, 2006, p. 6). By engaging in cognitive defusion, difficult thoughts have less of an impact on one’s daily life because they are not taken literally. The third process is *present moment awareness*, in which people are encouraged to focus on the here-and-now and “meaningfully connect with life as it happens” (Harris, 2006; Kelly & Kelly, 2022, p. 48). The fourth process is *self as context*, in which people are encouraged to view themselves flexibly. Through this process, people learn that while they have a variety of experiences, thoughts, and feelings, these do not define who they are as a person (Godbee & Kangas, 2020). The fifth process, *values*, encourages people to identify directions in life that are important to them. Through value-based exercises, individuals “[define] areas of life that are important that one is willing to work toward,” and in turn live a more fulfilling life by acting in ways that align with their values (Twohig & Crosby, 2010, p.2; Harris, 2006). Finally, the sixth process is *committed action*, in which individuals can use the tools they have learned in the previous principles

to set goals that align with their values and the ways in which they wish to live their lives, and engage in behavior toward those ends (Harris, 2006). While instances of using ACT to deal with a particular challenge may differ depending on the individual and the situation, a simple example of applying ACT to test anxiety would include encouraging the student to reflect on their thoughts and feelings towards the exam. The student is encouraged to be present and aware of how their body is reacting to those thoughts and feelings and accept that while those thoughts and feelings are there, they do not define who they are. The student would reflect on what they believe the possible outcomes of writing the exam would be, and how that would impact them. Finally, the student is encouraged to reflect on their goals and what is most important to them in relation to the exam and come up with a plan on how they can accomplish their goals. While this example offers a simplistic picture of the ACT process being applied to test anxiety, and ACT interventions are often more elaborate, it nonetheless makes use of the six core processes central to these interventions.

A past systematic review of ACT in higher education was conducted by Howell and Passmore (2019); in this review, the authors focused on the use of ACT to promote well-being in students enrolled in higher education. Five studies were identified; the findings indicated that the effectiveness of ACT interventions seemed promising. Howell and Passmore (2019) aggregated the data and found a small but positive effect on outcomes used throughout the five studies, indicating an overall improvement in the well-being of the university students that participated in the five studies. This review, while also being the only previous published systematic review of ACT in higher education (to the authors knowledge), was, unfortunately, limited in scope. The review included only randomized controlled trials (RCT); this potentially excludes many research articles that may have opted for an alternate research design. Furthermore, the authors were solely interested in well-being as an outcome. Research on the use of ACT in higher education has focused on other outcome variables; for example, academic performance, psychological flexibility, and time management skills are all outcomes that have been measured in recent research (e.g., Paliliunas et al., 2018; Katajavuori et al., 2021). The authors also found a mix between in-person and online program modalities; 3 out of 5 of the studies included in-person ACT interventions (Howell & Passmore, 2019). The use of online

programming and education continues to increase and is ever-more prevalent in the wake of the COVID-19 pandemic, hence, the proportion of online vs. in-person programming in research may have shifted (Pettigrew & Howes, 2022). Thus, further research is necessary to understand the state of the broad applications of ACT in higher education.

The purpose of the current review is to examine the volume of peer-reviewed literature on ACT interventions in higher education to improve academic performance and/or psychological well-being. We will review supporting evidence and identify patterns/trends in the publication of literature on ACT interventions for students in higher education. We will also identify gaps in the research that require further investigation and provide recommendations for future research in this area.

2.2 Method

2.2.1 Eligibility criteria and search strategy

We included peer-reviewed journal articles available in English, regardless of year of publication. The search was conducted using the following four electronic databases: Proquest's PsycINFO, Academic Search Ultimate (EBSCOhost), Proquest's Education Database, and Psychology and Behaviour Sciences Collection Database. The search was conducted on February 21st, 2022. Searches were conducted using the following terms: "Acceptance and commitment" AND "University OR College OR "Higher education" OR Post-secondary OR postsecondary OR "post secondary" OR graduate OR undergraduate". These terms were determined by consulting the university librarian who has experience in conducting reviews, and with the thesis supervisor who has education, training, and experience in ACT research and practice. As studies conducting ACT interventions were of the primary interest and knowing that Acceptance and Commitment Therapy and Training were used in literature, we opted to use "Acceptance and commitment" as a general all-encompassing term. Further, a wide range of variations of terms that would include different types of higher education students were used to ensure we were capturing the breadth of the literature available. Book chapters, conference proceedings, dissertation abstracts, grey literature (e.g., policy literature, newsletters,

government documents, etc.), study protocols, systematic reviews and meta-analyses were excluded as they did not coincide with the purposes of this review.

2.2.2 Study selection

This scoping review used the PRISMA guidelines to conduct the search and screen articles (Tricco et al., 2018). Specific screening guidelines were set in place to ensure rigorous methods were used to sort through the literature.

Results of the electronic database searches were imported to Covidence, a systematic review management site. The Covidence system flagged and eliminated duplicate articles from the screening. The initial title and abstract screening was conducted by two independent reviewers. Following the initial screening, full-text papers of all remaining articles were retrieved, and the inclusion criteria were re-applied by two independent reviewers.

Reviewers accepted only articles that mentioned the use of an intervention that applied at least one ACT process to target academic performance and/or psychological well-being amongst students enrolled in higher education. The articles that focused on academic performance measured variables such as grades, procrastination, study habits and motivation; while articles that focused on psychological well-being measured variables such as stress, anxiety, psychological flexibility (see Lamas, 2015 for a review on school performance). The articles that were included must have justified the inclusion of higher education students within the purpose of the study, with the aim of influencing academic performance or psychological well-being, either directly or indirectly via the use of an ACT intervention. We excluded studies that included higher education students as a convenient sample because these ACT programs may not have been tailored specifically to the needs of these students and their purpose was to advance ACT research in general, and not specifically in higher education. Research studies were excluded from the review if participants were students with a specified diagnosis, and the intended outcomes were strictly related to the disorder. For example, studies that targeted their program at students diagnosed with generalized anxiety disorder with the purpose of reducing anxiety were excluded (i.e., a reduction only in anxiety, rather than a focus on anxiety

and variables related to higher education). The purpose of excluding participants with a particular diagnosis was to ensure that samples of studies included in this review offered the best representation of higher education students in general. While the introduction of this review has exemplified that higher education students are struggling with mental health difficulties, students diagnosed with depression or anxiety do not make up the entire student population. Therefore, including studies who explicitly sought to recruit students with a particular diagnosis would not have provided a representative sample of the general student population. Despite our exclusion, we recognize that studies that focus on students with a diagnosis would likely be an area of interest in the field and a possible topic for future research.

The following information was extracted from the remaining articles and entered in a Microsoft Excel file: (1) authors names, (2) publication year, (3) article title, (4) journal source, (5) demographic information (gender, age, race, sexual orientation etc.), (6) information about the intervention (group or individual, modality, dosage, follow-ups, exercise details), (7) study design, (8) outcomes measured, and (9) treatment effectiveness. A table summarizing this data can be found in the supplementary materials.

2.2.3 Inter-rater agreement

Inter-rater agreement for study inclusion was calculated by dividing the total agreements by the total number of articles and multiplied by 100%. In the pre-screening, the percentage of agreement between the two reviewers was 98.4%. Any disagreements were resolved by a conversation between the two reviewers and the re-application of the inclusion criteria. A third reviewer (the second author) was present for the conversation and acted as a tie breaker in cases where the two reviewers did not agree. For the full-text review, the two reviewers sorted through the first 20 articles before reconvening with the third reviewer to discuss any conflicts. Within these first 20 articles, there were 5 conflicts. The reviewers met to clarify the inclusion criteria and subsequently restarted the full-text screening process. The final agreement for the full-text review between the two reviewers was 90.9%. Again, disagreements were dealt with through conversation between the three reviewers until a decision was made.

To carry out data extraction, an initial reviewer (primary author) extracted all data included in the supplementary material. Following this, a secondary reviewer was randomly assigned 12 articles and extracted data for exercise details, study design, and treatment fidelity. Inter-rater agreement for each of these categories was calculated by dividing the number of agreements between raters on those articles by twelve. Disagreements between raters were then discussed with a third reviewer present who acted as a tiebreaker. Agreement for these categories ranged from 83.3% to 100% ($M = 91.7\%$). Table 1 provides further information regarding individual category agreements.

Table 1. Inter-rater agreement for each category

Category	English
	Inter-rater agreement (%)
Exercise details	83.3
Study design	91.7
Treatment fidelity	100

2.3 Results and Discussion

A total of 3221 articles were retrieved across all four databases and imported into Covidence. After identifying duplicates ($n = 1234$) and applying the inclusion criteria ($n = 1953$), 3187 articles were excluded. 34 articles met the inclusion criteria and were included in the scoping review. Figure 2 outlines the selection process for articles included in this review.

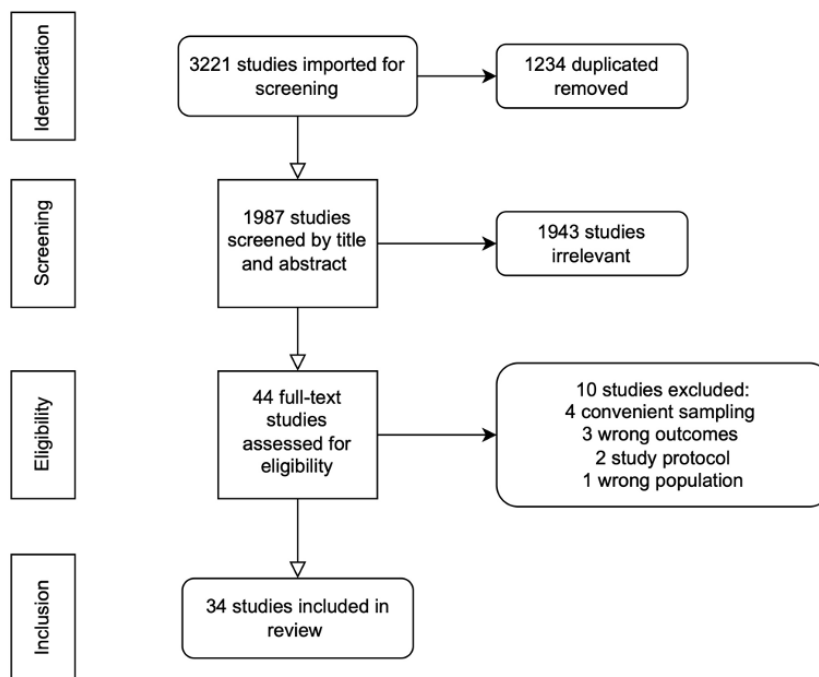


Figure 2: Article Identification and Screening Process

An increase in the publications on the use of ACT in higher education in the past five years was observed; 61.8% of the articles included in this review were published between January 2017 and February 2022 ($n = 21$). Similarly, 91.2% of the articles included in this review were published in the last decade (January 2012 - February 2022; $n = 31$). Since the review conducted by Howell and Passmore (2019), that included articles published between 1980 and May of 2018, a relatively large increase in ACT-related publications was observed - 14 additional studies. Figure 3 outlines the cumulative number of articles published.

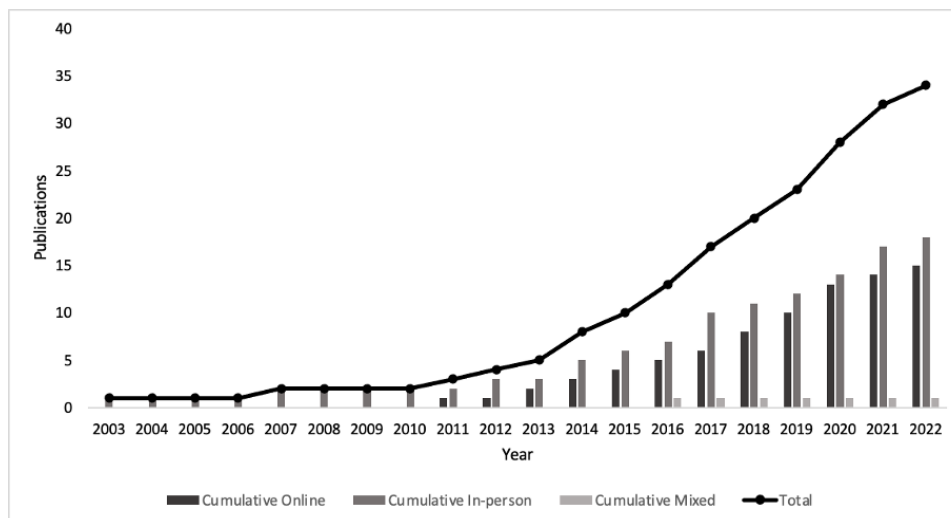


Figure 3: Cumulative peer-reviewed publications on Acceptance and Commitment Therapy interventions

The proportion of studies that used an online modality ($n = 15$, 44.1%) was almost equal to those that delivered in-person program design ($n = 18$, 52.9%). One study had a hybrid modality ($n = 1$, 2.9%), where part of the program took place in-person and part of it took place online. 14 of the 15 online-based interventions were delivered asynchronously, in which participants were able to complete the sessions and modules at their own pace. The remaining study that used an online program as well as the study that relied on a hybrid modality approach offered a synchronous program, in which participants took part in the online sessions in real-time with a coach or instructor (Browning et al., 2022; Räsänen et al., 2016). The majority of the studies that were conducted online or had an online component were delivered individually ($n = 15$, 93.8%), while most in-person studies were delivered in group-based formats ($n = 15$, 83.3%).

The measures used varied across studies. Figure 4 depicts a tally of measures used most frequently. The Acceptance and Action Questionnaire¹ (Bond et al., 2011), one of the

¹ Variations of the Acceptance and Action Questionnaire (AAQ) were used across studies [AAQ (e.g., Hayes & Strosahl, 2004; Bond & Bunce, 2003; etc.); AAQ-II (Bond et al., 2011); Chinese version of AAQ – II (Cao et al., 2013)], they will all be referred to as AAQ for simplicity, given their similarity and construct measured.

most widely used measures of psychological flexibility, was used in 17 of the 34 articles (50%). The Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995) was used in 13 studies to measure participants' psychological well-being (38.2%). While these two measures were used most often, there are a several of other measures that were commonly used, including the Five Facet Mindfulness Scale ($n = 8$, 23.5%), the Cognitive Fusion Questionnaire ($n = 7$, 20.6%), and the Personal Values Questionnaire ($n = 6$, 17.6%) (Williams et al., 2014; Gillanders et al., 2013; Ciarrochi et al., 2006). Fewer studies measured academic performance; this was done directly through grade point averages (GPA), achievement test scores, or indirectly with questionnaires with a focus on a variety of facets of academic performance, such as procrastination, study habits, engagement, and motivation to study ($n = 9$, 26.5%).

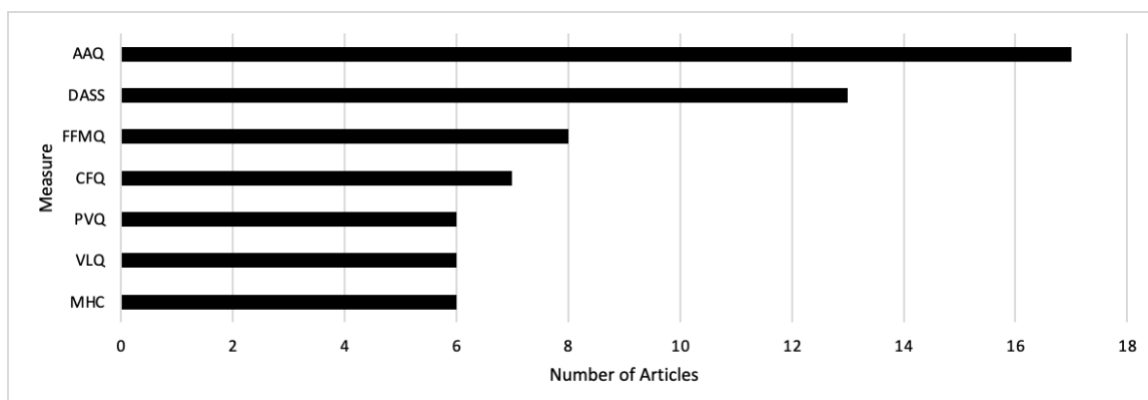


Figure 4: Tally of measures used in articles

There was a wide variation in dosage; the number and duration of sessions varied across studies. Studies ranged from using a single 5-hour session design to a 12-week program in which participants met weekly for 3 hours.

Only 16 of the 34 articles included in this review followed up with participants to examine if the ACT program had long-lasting impacts. Those that did include follow-up measures ranged between 2 weeks and 12 months following the completion of the program or treatment, with follow-ups most often occurring at 1-month post-program ($n = 4$, 25%).

Finally, authors coded each study based on the amount of detail they included regarding their program and the activities and metaphors used. Articles were categorized into one of the following: 1) no detail provided about the sessions or modules; 2) information about the ACT processes used in the program was included, but insufficient for study replication; and 3) the ACT processes and details about the exercises and metaphors included in the program were described with sufficient detail for study replication. No studies fell into the first category, 16 studies included information about programs implemented, but not enough for replication, and 18 studies provided sufficient details for replication. Procedural detail to support replication is imperative in future descriptions of ACT research, this should be provided either within the body of a manuscript or as supplementary material; ideally both. Doing so will address the finding that nearly 50% of the research included in this review did not provide sufficient detail to allow for replication. Since there is no standardized ACT program for use in higher education, systematic replication will allow researchers to refine procedures across varying populations, this will ultimately enhance support for students.

Information regarding treatment effectiveness was also extracted for all studies included in this review. Using a process similar to Curiel and colleagues (2022), key findings were extracted and coded as being either positive (“the independent variable had an advantageous effect on the dependent variable (i.e., increased or decreased behavior as the intervention was intended), as described by the study authors”), negative (“the independent variable had a detrimental effect on the dependent variable”), or neutral (“the independent variable had no effect on the dependent variable”). In line with the Curiel et al. (2022) review, we only took the main findings into account and not effect sizes.

All studies included in this review had at least one positive outcome attributed to an ACT intervention. These positive outcomes varied based on the behaviors addressed in the programs, but intended changes in psychological well-being or academic factors were often observed. One study included in this review discussed a negative outcome. Study participants were students studying clinical psychology and they expressed that participation in the program resulted in an increase in stress related to difficulties faced

by their clients (Pakenham, 2015). Of the 34 studies included in this review, 20 included outcomes that were neutral, where the outcomes of ACT intervention did not show any significant changes. In the entire sample, when studies included multiple measures of outcomes, the total number of outcomes analyzed was 130. Of the 130 outcomes discussed throughout all articles, 86 were coded as positive, 1 was coded as negative, and 43 were coded as neutral. Further details regarding these changes can be found in the supplementary materials.

Treatment fidelity was also analyzed, and the following labels were assigned to articles: 1. Yes – treatment fidelity/integrity was measured, 2. No – treatment fidelity/integrity was not measured, and 3. N/A – study included online asynchronous ACT modules, and therefore, treatment fidelity/integrity was not relevant. Only two articles included measures of treatment fidelity; one study had a high treatment fidelity (Xu et al., 2020), and the other had mixed results (Juncos and Markman, 2016). While it may not have been possible to evaluate the integrity of online asynchronous ACT interventions, it is important that future studies include measures of treatment fidelity sessions are conducted in-person or synchronously online. Further, while no standardized ACT intervention exists, it is important that ACT programs that are created by researchers are peer-reviewed to ensure they are consistent with ACT core processes and program goals. This may help combat the lack of measures for treatment fidelity of online asynchronous programs and strengthen the believability of findings in these studies.

Study designs were examined and coded based on author descriptions of the design used. For example, Grégoire and colleagues (2018) described their study as a RCT and were therefore coded as such. In cases where authors did not explicitly categorize their study design, reviewers used the definitions provided by Aggarwal and Ranganathan (2019) to categorize articles into one of the following categories: randomized controlled trials, non-randomized controlled trials, crossover study design, cluster randomized design, interventional study without concurrent controls, and before-after (pre-post) studies. If the study design did not align with any of the definitions provided by Aggarwal and Ranganathan (2019), they were coded as ‘other’. Of the 34 articles included in this review, 17 were categorized as randomized controlled trials. This is a substantial increase

from the five articles identified in the review conducted by Howell and Passmore (2019), who only included randomized controlled trials (RCT). As RCTs only make up half the articles included in this review, the remaining articles may shed greater insight into the state of the research not included in previous review. 10 articles were categorized as pre-post studies, including 8 as pre-post, one as using a semi-experimental method with a pre-post design and control group (Googhari et al., 2022), and one as a pre-post open trial design (Levin et al., 2015). Two articles were categorized as mixed-methods designs; one was simply a mixed-methods study (Browning et al., 2022) and the other was described by authors as a mixed-methods pre-post study (Katajavuori et al., 2021). Two articles were categorized as non-randomized controlled trials. Finally, one article fell into each of the following categories: within-person research design (Grégoire et al., 2020), single-subject design (Juncos and Markman, 2016), and other (Lewin et al., 2021).

Additionally, a majority of the studies relied on the Acceptance and Action Questionnaire (AAQ) as a measure of psychological flexibility. While the construct of psychological flexibility is central to the use of ACT, alternative measures should be investigated; the AAQ measure may not predict the most important outcomes for students in higher education, given that the AAQ is limited in scope, as it only measures processes related to experiential avoidance (Bachmann et al., 2021). Further studies focusing on both academic and psychological well-being outcomes should be conducted to gain a better understanding of the issues students in higher education may experience.

The transportability of supports must also be considered. Students may benefit from interventions carried out both online and in-person. Both treatment modalities have been widely used and appear to be effective. That being said, there is a lack of systematic comparison between treatment modalities. Future research should conduct comparisons on efficacy, including nuanced comparisons on profiles of students most likely to benefit from variations in modalities. Further, the research studies varied in their dosage; some studies offered single sessions and others offered multi-week programs. Although most studies were effective regardless of dosage, none of the studies compared dosage effects within a single study. Again, investigations regarding student profiles that may benefit from variation in dosage are recommended in future research.

It is important to consider our findings in light of the ACBS Task Force report on the strategies and tactics of contextual behavioral science research (Hayes et al., 2021). Firstly, less than half of the studies in this review included follow-up measurements, and most occurred within three months of program completion. In line with the task force's fifth recommendation, future studies should use longitudinal designs to better understand trends in behaviors and outcomes, especially as they relate to situational contexts that may change over time. Furthermore, recommendation nine suggests the use of measures other than self-report. The studies identified in this review relied mostly on self-report measures (i.e., the AAQ). Further, recommendation 7, suggests the need for applied behavioral research to identify processes of change; given the limited scope of the AAQ, little progress toward this end has been made in this line of research. Future research should continue to include objective measures of academic performance and consider the inclusion of task-based measures or biophysiological measures that shed light on processes of change and objective behavior change in general.

Additionally, the task force recommends that “researchers should actively pursue working in groups with diverse backgrounds to prevent biases going unnoticed and detrimentally influencing outcome” (Hayes et al., 2021). Sources of bias were defined as including “gender, language, race, ethnicity, sexual orientation, identity, class, economics, country of origin” (Hayes et al., 2021, p.174). We extracted demographic information as part of this review from each article to examine the breadth of diversity in the samples included. Most studies included at least some demographic information about their sample ($n = 31$, 91.2%). However, more than half of the studies included information that was limited to participants' gender and age ($n = 18$, 52.9%). Of the 31 articles that did include information about gender, most included samples that were predominately female ($n = 30$, 96.8%), and of the 16 articles that included information about race, most samples included predominately white participants ($n = 13$, 81.3%). While this may be due to the populations from which researchers recruited their samples, the task forces recommendation to conduct research with diverse samples still applies. In terms of the language used in ACT programs, most interventions were conducted in English ($n = 28$, 82.4%). That being said, this review only included articles that were published in English; therefore, additional articles that used non-English interventions,

published in other languages, would have been excluded. Despite our inclusion criteria, we found six studies that conducted interventions in other languages (French: $n = 4$, 11.8%; Mandarin: $n = 1$, 2.9%; Japanese: $n = 1$, 2.9%). Furthermore, only one study in our sample included information about the sexual orientation ($n = 1$, 2.9%). Without adequate demographic information, it is difficult to assess the profiles of students included in these studies, for whom ACT was effective; this limits external validity. Future studies should recruit participants in a manner that aims to address issues related to equity, diversity, and inclusion (EDI) by recruiting individuals from marginalized and/or underrepresented groups.

Further, the inclusion of additional demographic details can be utilized to determine student profiles, clearly reporting who took part in the ACT interventions and any contexts that may have an influence on their participation and the outcomes (e.g., income, support systems, diagnoses, etc.). This information can then be used to compare student profiles and discover which modes of ACT interventions are most useful to each student profile. For example, a student with greater social and familial supports might benefit from a standard group-based ACT intervention, while a student coming from a lower socioeconomic background with little outside support might require more intensive support. Alternatively, a student with greater psychological flexibility might require minimal intervention (e.g., self-study, bibliotherapy, etc.), while a student with lower psychological flexibility may require more intensive supports (e.g., psychotherapy). The creation of these student profiles can be used to support a tiered model where the needs of students can be met with varying levels of support.

2.4 Limitations

While the current review aimed to be as extensive as possible, there are some limitations that may be addressed in future research. First, the search terms used in this review are relevant at this time but may become less relevant in the future. Future research might develop new terms and procedures that need to be accounted for in future reviews. Therefore, search terms in a review may need to be expanded. The inclusion of other outcome measures, like relationships, physical well-being, and common risky behaviours amongst students (e.g., substance abuse, promiscuity, etc.) may also be of interest to

future researchers. Further, a limited number of databases were used in this review, which may have resulted in fewer articles being included. Future research should strive to include a greater number of databases in the initial search to ensure a larger scope of articles are reviewed. It is possible that our review missed some literature, due to our inclusion criteria - only peer-reviewed literature was included in this review. This limits our findings, since there may be studies that were rejected by peer-reviewed journals or grey literature that were not included, that may provide some additional insight. Finally, this review did not examine the participants' perceptions of program acceptability. Despite programs being mostly effective, further information regarding the participants' experiences of these programs would be beneficial as it may provide a well-rounded picture supporting the use of these interventions.

In sum, the increase in the use of ACT in higher education, especially since 2019, is promising, especially given the recent increased prevalence of student mental health difficulties (Santomauro et al., 2021). Researchers and practitioners may use the growing literature to inform future programs to address the issues facing students; ideally, with a minimal research-to-practice gap, to keep pace with growing demand.

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Chapter 3

3 Considerations and the Future of ACT Research in Higher Education

Acceptance and Commitment Therapy aims to guide participants to accept difficult thoughts and feelings as they occur rather than avoiding them, and becoming more mindful about their own actions and the ways in which they impact their daily living (Zhang et al., 2018). As such, this widely used therapeutic strategy has been greatly successful in reducing negative thoughts and feelings and allowing participants to lead more fulfilling lives (Dindo et al., 2017; Gloster et al., 2020). In reflecting particularly on the use of ACT in higher education and the research available thus far, there are many gaps that need to be filled, providing further opportunities for research. The review conducted by Howell and Passmore (2019), as well as this current scoping review, have provided an in-depth overview of the available research and have also shed light on some of these gaps in both the research and ACT in itself as a therapeutic strategy. This chapter will focus on other areas of research related to the use of ACT in higher education, the future of ACT as a therapeutic strategy, and concerns related to the administration and validation of ACT.

3.1 Beyond Psychological Well-Being

While the current review aimed to examine the available literature on the use of ACT to improve academic performance and psychological well-being in higher education students, few studies actually included measures of academic performance, suggesting that this area continues to be understudied (see Paliliunas et al., 2018; Chase et al., 2013; and Viskovich & Pakenham, 2020 for examples of studies that included direct measures of academic performance). Given that one of the primary stressors for higher education students is concerns with academic performance (e.g., exam stress, fear of failing, difficulties meeting deadlines, etc.), future studies should place a greater importance on examining these areas by including measures of GPA, test performance, and class participation (Deng et al., 2022; Ngcobo & Pillay, 2010).

Another stressor faced by many students enrolled in higher education is difficulties with personal relationships. For some students, pursuing their studies away from home may bring on added stress related to maintaining previously formed relationships with friends back home while trying to establish new friendships at school (Alharbi & Smith, 2018). For others, simply balancing social relationships with academic demands and other responsibilities may be a source of stress (Sprung & Rogers, 2021). As such, there is a need to examine ways in which these stressors can be mitigated, and the use of ACT may be relevant. Beyond this, while difficulties with personal relationships in and of themselves can serve as a stressor, the inverse is also true, where relationships are often at risk when students face high levels of stress (Osborn et al., 2022). This duality suggests that personal relationships are an important part of a young student's life, and measures should be taken to preserve the potentially fragile nature of these relationships. While samples included individuals that were not higher education students, research has been conducted on the use of ACT to improve social phobias and social anxiety and these programs were found to be quite effective (Ossman et al., 2006; Dalrymple & Herbert, 2007). These programs placed an importance on addressing both the psychological and the social aspects impacted by the social phobias and anxiety. Given the duality between psychological distress and personal relationships, and the available research, ACT seems like a promising therapeutic intervention that may help students work through their difficulties and prevent breakdowns in their relationships.

3.2 The Future of ACT Research

There are additional factors to consider when discussing the use of ACT as a therapeutic intervention. First, when considering the recently published literature and the context of COVID-19, there are many studies that facilitate ACT modules online and rely heavily on the use of technology (e.g., Levin et al., 2017; Fauth et al., 2022; Viskovich & Pakenham, 2020). Although it may be too premature to determine whether there has been a change in the prominent delivery method, as studies conducted during the COVID-19 pandemic continue to be published, this review has shown that online ACT programs are common.

As we continue to develop the world of telehealth, there are many factors such as convenience, accessibility, and privacy that must be considered (Siegel et al., 2021). While online sessions may be more convenient for both program administrators and participants as they offer room for flexibility, there is a lack of research directly comparing the effectiveness of online ACT interventions to in-person interventions, and therefore this transition must be made with caution until future research can compare the two modalities. Further, online programs may be more accessible since barriers related to accessing in-person treatment are eliminated. Despite this, some may not have the technological resources, or the technical literacy required to take part in virtual treatment sessions or complete online modules, and therefore options to participate in in-person ACT programs should still remain available (Triana et al., 2020). Considering the recommendations from the ACBS task force related to ensuring research includes participants from diverse backgrounds, it is important to consider both the needs of and resources available to these individuals when deciding whether to conduct online or in-person programs (Hayes et al., 2021). Finally, privacy continues to be a concern as therapeutic interventions are conducted online (Hewitt et al., 2020). Issues related to privacy and confidentiality must be discussed with the client prior to the start of the intervention to ensure that they are aware of the risks associated with telehealth. While continuous research is being conducted on ways to make telehealth more secure, there still exists, although low, risks related to data leaks, where confidential patient information may be accidentally leaked to third party individuals, and this must be considered when deciding whether to proceed with online ACT programs (Gajarawala & Pelkowski, 2021). It is up to the individual to weigh the benefits and risks associated with taking part in ACT sessions online and make an informed decision about their participation.

There is also the aspect of preference that has yet to be considered. While many studies have conducted either in-person or online ACT sessions, no study, to our knowledge, has asked participants to take part in both online and in-person sessions and share their preferences. Future research should consult ACT users and inquire about their preferred program delivery mode, whether that be online, in-person, or hybrid. For example, students may find online sessions to be preferable while working professionals

may prefer in-person sessions. This information may be insightful when trying to tailor ACT programming to different populations, further exemplifying the flexible nature of ACT.

Another promising area of research is the use of ACT to address the rising mental health needs of individuals around the world. As we continue to adapt to post-pandemic life, it is important to reflect on the services available to those struggling with their mental health. Despite the growing need for these services, most are inaccessible due financial and geographic constraints (Moroz et al., 2020). The use of ACT serves to remove some of these barriers, as it can be a low-cost alternative to traditional psychotherapies. ACT can be administered as an asynchronous online program where individuals' complete modules at their own pace, and this tends to be more cost effective than in-person therapeutic interventions (van de Graaf et al., 2023; Ly et al., 2012). This ensures that more individuals will be able to access mental health services, especially considering the growing need for these services.

Furthermore, the ability to conduct sessions online, whether synchronously or asynchronously, allows individuals from remote areas, where mental health resources are typically scarce, to access services (van de Graaf et al., 2023; Benavides-Vaello et al., 2013). While no studies, to our knowledge, have administered ACT to improve mental health in remote communities, an ACT-based smartphone application has been distributed to help rural populations quit smoking (Santiago-Torres et al., 2022). This ACT-based program had more positive results than the standard smoking cessation smartphone application distributed by the government. This review has also outlined that in general, online ACT programs to improve psychological well-being in higher education students have been effective (e.g., Levin et al., 2017; Viskovich & Pakenham, 2020), and studies with other populations have rendered similar results (Brown et al., 2016).

3.3 A Consistent and Validated Therapy

When considering ACT as a therapeutic intervention, it is important that researchers and facilitators assess the effectiveness of the program. One way in which researchers do so is

by measuring specific processes, like acceptance. The Acceptance and Action Questionnaire (AAQ), as well as the updated version (AAQ-II), has often been used as a tool to measure improvements in acceptance. However, more recent research has suggested that there may be some shortcomings when using this tool, specifically concerning its validity (Arch et al., 2022; Tyndall et al., 2019). While experiential avoidance, the opposite of acceptance, is often seen as the intended process measure of the AAQ, recent research suggests it may touch on other variables such as neuroticism and psychological distress (Arch et al., 2022; Tyndall et al., 2019). As such, it is important that other measures be explored in order to accurately measure the six core processes of ACT. In the meantime, while process measures should continue to be included, as they allow us to explore the means in which overall improvements are made, researchers should outline the shortcomings of these measures and place greater importance on the outcome measures, which will vary depending on the target areas of their research. In doing so, researchers will also adhere to recommendations made by the ACBS task force, where they outline the importance understanding the mechanisms of change but also call for more objective measures, like behavioural and biophysiological measures, to be included in research. By understanding the mechanisms that contribute to the effectiveness of these interventions, the transition from research to practice is likely to run smoother and the delivery of such interventions can be done at a larger scale.

A final point of consideration is the consistency between ACT programs. As there is no standardized ACT program, researchers either create their own modules or adapt modules and programs from other studies. The Association for Contextual Behavioral Science offers examples of protocols that have been used to address different issues but cautions readers that these protocols should be used as guidelines and programs should be tailored to the specific needs of the population (Hayes, 2017). As such, there are often variations in ACT programming, both in research and in practice, making it difficult to truly assess the effectiveness of ACT as a whole. This also makes it difficult for researchers and practitioners to administer programming, as they are often tasked with piloting their own ACT program or intervention. While the core concepts of ACT remain the same across programs, focusing on the six core principles, there are multiple approaches that can be used to teach these principles. Program components that can vary

include the number and frequency of sessions, the modality in which the therapy is administered, and the setting, all of which can be tailored to meet the needs of the intended population (Dindo et al., 2017). In order to keep the integrity of ACT as a whole intact, it is important that there remains room for flexibility, which means no one standardized ACT programming would be appropriate. However, as all of the aforementioned factors can have an impact on the effectiveness of the program, it is important that protocols be published and that researchers are transparent when describing their programs. Sufficient details need to be provided so programs can be used by other researchers or practitioners that are working with similar populations, while also leaving room to tailor the program to the various needs of the intended audience.

Overall, the use of Acceptance and Commitment Therapy to improve the lives of individuals with varying needs is on the rise, as seen in the Chapter 2 scoping review. A closer look into the use of ACT to address the psychological and academic well-being of higher education students has shown that it is an effective intervention, but also highlighted shortcomings of the available research as well as the therapy itself. Continued research in this field will only serve to establish ACT as a viable therapeutic option.

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