An exploration of subjective well-being in children and adolescents with ADHD in South Africa during the Covid-19 pandemic

By

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Submitted in partial fulfilment of the requirements for the degree

MAGISTER EDUCATIONIS

(Educational Psychology)

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Dedication

To all children and adolescents and with ADHD.

Always remember:

"***Why fit in when you were born to stand out?***"

~ Dr Seuss

Declaration of Originality

I, the undersigned, declare that this thesis entitled '***An exploration of subjective well-being in children and adolescents with ADHD in South Africa during the Covid-19 pandemic***', which I hereby submit for the degree Magister Educationis at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

Date: 25 August 2022

Signed: 

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Abstract

This study explores self-report ratings of overall and domain specific well-being of children and adolescents with ADHD between the ages of 10 and 18 years old (n=376) during the Covid-19 pandemic in South Africa. A mixed-method, non-experimental, cross-sectional, structured survey design, using the EPOCH scale, with one additional open-ended question was done. Descriptive statistics, t-tests, ANOVA's and various post-hoc analyses were utilised for the numerical quantitative data, while the qualitative data was analysed through the creation of themed 'I-poems'. The EPOCH scale assesses the well-being domains of *engagement*, *perseverance*, *optimism*, *connectedness* and *happiness*. In this study, Cronbach's α and CFA results presented the EPOCH scale to be a reliable measure. The quantitative results further demonstrate above average well-being overall, as well as in each of the five EPOCH domains (in decreasing order): *connectedness*, *happiness*, *optimism*, *engagement* and *perseverance*. The qualitative findings showed broad categories of positive, negative and neutral feelings and experiences during the pandemic, encompassing themes of home, school, social, self-growth/reflection, change, rules, extra-murals, concern, loss, finances, new normal, emotions and experiences. Further quantitative results indicate no differences in well-being in terms of gender, between groups using medication or not and whether respondents receive therapy for ADHD or not. Results did indicate that respondents who did not receive therapy presented with higher levels of *perseverance*. Some variance occurred in the well-being levels of the different age groups, suggesting the need for nuanced understandings of well-being in this population.

Keywords: ADHD; well-being; subjective well-being; EPOCH; Covid-19; Ipoems.

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Chapter 1: Introduction and Rationale

In 2015 the worldwide prevalence of Attention-Deficit/Hyperactivity Disorder (ADHD) was said to be over 5% among children and adolescents, with South Africa's prevalence rates ranking close behind the international numbers, thus making ADHD one of the most commonly diagnosed childhood disorders (American Psychiatric Association, 2013b; Mahomedy et al., 2007; Schoeman & de Klerk, 2017). With the common symptoms and wide-ranging difficulties experienced by children and adolescents with ADHD, difficulties which are also heightened during times of adversity, the study of this population's general well-being is critical to their flourishment, quality of life, and optimal development in the early stages of life, as well as playing a significant role in later years.

There is consensus in the literature that well-being increases an individual's health, happiness, flourishing and general quality of life (Diener et al., 2009; Hall, 2010; Khaw & Kern, 2014; Minkkinen, 2013; Peterson et al., 2005; Seligman, 2011; Seligman & Csikszentmihalyi, 2000). However, minimal well-being research has been conducted with children and adolescents, particularly those diagnosed with ADHD. The majority of the few studies that have focussed on such populations have relied predominantly on parent-proxy (Herbell et al., 2020; Peasgood et al., 2016), with scant studies interested in gathering well-being information from children and adolescents themselves (Barfield & Driessnack, 2018; Peasgood et al., 2016). Further, these parent-proxy and child self-report studies found that children with ADHD have considerably lower levels of well-being than their peers without the diagnosis, and even more particularly during times of adversity. Therefore, with the outbreak of the Covid-19 pandemic and the various wide-reaching repercussions, this population of children and adolescents with ADHD, whose well-being is already at stake, have and still continue to suffer significant negative consequences (Cortese et al., 2020; Gupta et al., 2020; Navarro-Soria et al., 2021; UNICEF, 2020).

Thus, the widespread occurrence of ADHD around the world and in South Africa, the importance of well-being as contributing to flourishing in life, and the negative impact of the Covid-19 pandemic on well-being, have potentially vast implications for those individuals, specifically children and adolescents, diagnosed with ADHD (Hall, 2010; Riley et al., 2006).

Initial Literature Review

The Covid-19 Pandemic

The coronavirus disease (Covid-19) is an infectious, viral disease that came to the fore in 2019 (WHO, 2020), spreading all over the world and leaving many disruptions and ramifications to everyone's, not least children's and adolescents', well-being in its wake (Buheji et al., 2020; Cortese

et al., 2020; Imran et al., 2020; Navarro-Soria et al., 2021; UNESCO, 2020; United Nations, 2020). See chapter two for further elaboration.

Attention-Deficit/Hyperactivity Disorder

Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterised by displays of inattention and/or hyperactivity and impulsivity to a degree that it hinders an individual's development and functioning (American Psychiatric Association, 2013b). See Chapter 2 for further elaboration.

Well-being

Seligman's (2011) PERMA model of well-being denotes the elements of positive emotion, engagement, relationships, meaning and achievement as constituting general well-being. In adapting the PERMA model for use with children and adolescents in the EPOCH scale (see appendix A), the adjusted elements are *engagement*, *perseverance*, *optimism*, *connectedness* and *happiness* (Kern et al., 2016). See chapter two for further elaboration.

Studies of well-being, ADHD and the Covid-19 pandemic

The ever-increasing interest in the concept of well-being has resulted in many studies investigating this phenomenon (Coffey et al., 2016; Eloff, 2019; Eloff & Graham, 2020; M. L. Kern et al., 2015; Wilmshurst et al., 2011), with only a few studies having looked into child and adolescent well-being (M. L. Kern et al., 2015; McCormick, 2017; Patalay & Fitzsimons, 2016; Van den Berg et al., 2013), and still fewer having examined the well-being specifically of children and adolescents with ADHD (Barfield & Driessnack, 2018; Herbell et al., 2020; Peasgood et al., 2016). Moreover, the studies that have been conducted on the current research topic, have relied solely or partly on parent-report or parent-proxy (Herbell et al., 2020; Peasgood et al., 2016), and not on the purely subjective self-report nature of the children and adolescents themselves. Previous research also reports that these studies are few and far between (Barfield & Driessnack, 2018; Peasgood et al., 2016).

The few studies investigating the well-being and quality of life of both children and adolescents diagnosed with ADHD came to the same general consensus in their findings: children and adolescents with ADHD have lower well-being and quality of life than their neurotypically developing peers, with some studies seeing overall poorer levels of said constructs and others seeing domain specific dysfunctions (Barfield & Driessnack, 2018; Bastiaansen et al., 2004; Becker et al., 2011; Goulardins et al., 2011; Herbell et al., 2020; Jafari et al., 2011; Klassen et al., 2004; Limbers, Ripperger-Suhler, Boutton, et al., 2011; Limbers, Ripperger-Suhler, Heffer, et al., 2011; Matza et al.,

2004; Peasgood et al., 2016; Pongwilairat et al., 2005; Riley et al., 2006; Rocco et al., 2021; Schei et al., 2016; Varni & Burwinkle, 2006). These findings are further discussed in Chapter 2.

The novel research and literature surrounding well-being in this time of crisis and the Covid-19 pandemic reveals many varied consequences in the well-being and quality of life levels of children and adolescents living with ADHD. Positive effects were reported by some studies, citing more time spent with family, improved self-esteem and less school-related anxiety experienced by some children and adolescents during the pandemic (Bentenuto et al., 2021; Bobo et al., 2020; Sciberras et al., 2020; Shah et al., 2021). However, many negative consequences were also reported, demonstrating a significant drop in the well-being levels of countless children and adolescents with ADHD (Bobo et al., 2020; Melegari et al., 2021; Navarro-Soria et al., 2021; Sciberras et al., 2020; Shah et al., 2021; Sibley et al., 2021; Summers et al., 2021; Zhang et al., 2020). In addition, numerous studies found that many behavioural symptoms associated with ADHD, namely hyperactivity, irritability, inattention, general disruptive behaviour, opposition and restlessness, became considerably worse with the outbreak of the virus and during the subsequent lockdowns (Bentenuto et al., 2021; Bobo et al., 2020; Masi et al., 2021; Melegari et al., 2021; Shah et al., 2021; Sibley et al., 2021; Zhang et al., 2020). Emotional difficulties were also heightened during this time, manifesting as anxiety, depressed and sad moods, boredom, little enjoyment in usual interests and activities, loneliness and various emotional outbursts (Bobo et al., 2020; Melegari et al., 2021; Nonweiler et al., 2020; Sciberras et al., 2020; Sibley et al., 2021; Zhang et al., 2020). Further, issues surrounding sleep, executive functioning, motivation, the transition to online schooling and general online learning difficulties were noted (Bobo et al., 2020; Gupta et al., 2020; Navarro-Soria et al., 2021). These factors have resulted in the extensive disruption of the well-being of children and adolescents with ADHD, with possibly long-lasting effects. It is important to note that the aforementioned studies were conducted internationally, leaving the African continent and South Africa underexplored regarding studies in this field.

The current study has contributed to the limited research investigating subjective well-being in the population of children and adolescents with ADHD, and this population's well-being in the face of the Covid-19 pandemic. Gaps have been addressed in terms of the currently under-explored research conducted in South Africa on the particular topic (ADHD and subjective well-being during the pandemic), as well as in acquiring data regarding subjective well-being information from the children and adolescents themselves. Additionally, the findings of this study shed light on the emerging topic of children and adolescents with ADHD and the impact that the Covid-19 pandemic has wrought on their well-being, and lays the groundwork for possible future studies which may look into similar topics or branch into investigating questions having arisen from the study.

Purpose, Aims and Objectives

The purpose of this study was to explore and describe the subjective well-being of South African children and adolescents with ADHD during the Covid-19 pandemic. The exploration and description of overall subjective well-being as well as specific domains of subjective well-being has been investigated. In conducting this research, the findings add to the body of knowledge concerning children and adolescents with ADHD in South Africa and globally, as well as contributing to the novel research of this vulnerable population's well-being in light of the Covid-19 pandemic and its impact thereof. Potential contributions have been made to any future research on the topic and implementation of programmes aiming to enhance children's and adolescents' well-being (Climie & Mastoras, 2015; A. Kern et al., 2015; Lebowitz, 2016; Varma & Wiener, 2020; Wehmeier et al., 2010).

Research Questions

Primary research question:

1) How does subjective well-being present in children and adolescents with ADHD during the Covid-19 pandemic?

Secondary research questions:

1) How does the domain of subjective well-being *engagement* present in children and adolescents with ADHD during the Covid-19 pandemic?
2) How does the domain of subjective well-being *perseverance* present in children and adolescents with ADHD during the Covid-19 pandemic?
3) How does the domain of subjective well-being *optimism* present in children and adolescents with ADHD during the Covid-19 pandemic?
4) How does the domain of subjective well-being *connectedness* present in children and adolescents with ADHD during the Covid-19 pandemic?
5) How does the domain of subjective well-being *happiness* present in children and adolescents with ADHD during the Covid-19 pandemic?

Hypotheses

- H_0: Subjective well-being scores in children and adolescents with ADHD during the Covid-19 pandemic on the EPOCH instrument will be within normal range.
- H_a: Subjective well-being scores in children and adolescents with ADHD during the Covid-19 pandemic on the EPOCH instrument will be low.
- H_a: Scores in the domain of subjective well-being *engagement* in children and adolescents with ADHD during the Covid-19 pandemic on the EPOCH instrument will be low.

- H_a: Scores in the domain of subjective well-being *perseverance* in children and adolescents with ADHD during the Covid-19 pandemic on the EPOCH instrument will be low.
- H_a: Scores in the domain of subjective well-being *optimism* in children and adolescents with ADHD during the Covid-19 pandemic on the EPOCH instrument will be low.
- H_a: Scores in the domain of subjective well-being *connectedness* in children and adolescents with ADHD during the Covid-19 pandemic on the EPOCH instrument will be low.
- H_a: Scores in the domain of subjective well-being *happiness* in children and adolescents with ADHD during the Covid-19 pandemic on the EPOCH instrument will be low.

Concept Clarification

Well-being in its basic form encompasses an individual's state of overall happiness and contentment with regards to the emotional, psychological, social and environmental aspects of one's self and one's life, and the dynamic interplay between these aspects (Hall, 2010; Minkkinen, 2013; Westerhof & Keyes, 2010). The distinction must be made between hedonic and eudaimonic perspectives of happiness: the former being the avoidance of pain and negative feeling and the maximisation of pleasure, and the latter conceptualising a more holistic happiness where an individual accepts their virtues and flaws, is honest and true to themselves and others, and thus lives a life of deeper purpose (Coffey et al., 2016; Goodman et al., 2018; Peterson et al., 2005; Rothmann, 2013a). In the context of this study, well-being encompasses the above general definition - hedonic and eudaimonic happiness - as well as Seligman's (2011) specific elements (positive emotion, engagement, relationships, meaning and achievement) as leading contributors to well-being.

In this study, the variable of ADHD followed the definition and criteria for diagnosis as described in the DSM-V (American Psychiatric Association, 2013b). The children and adolescents who took part in this study were diagnosed with ADHD as confirmed by a health care specialist (predominantly inattentive, predominantly hyperactive/impulsive, or combined type), thus displaying the symptoms characteristic of ADHD and fulfilling the study's intended concept definition.

In the South African Bill of Rights, a child is defined as a person below 18 years old (Bill of Rights of the Constitution of South Africa, 1996). In terms of the social sciences and research in psychology, childhood is typically defined as the age after infancy and before puberty (3 to 12 years old), and adolescence as the start of puberty - the time spanning the end of childhood and the beginning of adulthood (13 to 18 years old) (Salkind, 2008). Thus, in the context of this study, a child is construed as an individual between the ages of 10 and 12 years old and an adolescent between the ages of 13 and 18 years old.

Conceptual Framework

It is important to begin with the most salient definition of subjective well-being as agreed by experts in the field, where the basis lies in an individuals' quality of life, life satisfaction and general happiness, with many varied factors contributing to these basic foundations (Diener et al., 2009; Eid & Larsen, 2008; Holder, 2012). Well-being as encompassing hedonic and eudaimonic distinctions is also significant, whereby hedonic well-being denotes the maximisation of pleasure and avoidance of displeasure, and eudaimonic well-being has a holistic inclination by which a person lives a full life of meaning and purpose in accepting both their flaws and virtues and continuously self-reflecting in order to pursue the most positive of human capacities (Rothmann, 2013a; Wissing, 2013). Along with the above theories of well-being, the main theory incorporated in this study is Seligman's (2011) PERMA model of well-being and its specific domains adjusted for developmental appropriateness for use with individuals aged 10 to 18 years old using the EPOCH, these domains being *engagement*, *perseverance*, *optimism*, *connectedness* and *happiness* (Kern et al., 2016).

Paradigmatic Perspectives

Epistemology

The lens through which the study has been viewed, analysed and interpreted is that of positivism, as well as elements of post-positivism. The foundation of the positivist paradigm lies in the assumption that the world is made up of objective truths, realities and knowledge, all of which are observable, identifiable, measurable and thus definitive (Kelly et al., 2018; Kivunja & Kuyini, 2017; Ling, 2017; Park et al., 2020). Positivism derives from the hypothetico-deductive model of inquiry, where deductive logic and rationalist inquiry guides the formulation of a research question or questions, and the formulation and testing of hypotheses and statistical analyses in the arrival of quantifiable results and ultimate conclusions (Ling, 2017; Park et al., 2020).

In an attempt to assuage some of the more staunch stances of the positivist paradigm, the post-positivist paradigm was created, often referred to as 'pluralist' in its inclusion of positivist and interpretivist approaches, and aided interpretation of the qualitative data in this study (Panhwar et al., 2017). Post-positivism aligns closely with the positivist views; however, its general stance is more 'open-minded', in that context is taken into account, subjectivity has its place, and results are seen not as absolute truths, but probable estimations of truths, and where ultimate understandings of phenomena are never fully attainable (Kivunja & Kuyini, 2017; Ling, 2017; Panhwar et al., 2017).

Objectivity is a guiding factor in positivism, where the researchers' distance from the participants, both physical and emotional, ensures that their own biases, beliefs, judgments and preconceptions do not influence the results of the research (Kivunja & Kuyini, 2017; Ling, 2017). The

context and other plausible factors contributable to this study's findings were considered during interpretation of the data, thus utilising the advantages of balancing positivism and post-positivism. In addition, this study's findings are generalisable to its specific context and tentatively to other similar contexts; however, in keeping with the post-positivist view, the results are not seen as the absolute and irrefutable truth, but as contributing to the knowledge of the topic and general understanding in the specific context of its investigation (Ling, 2017; Panhwar et al., 2017).

Methodological Approach

The methodological approach aligning with this study is mainly quantitative, however, the inclusion of one open-ended, qualitatively analysed question makes the approach mixed-method. Quantitative research is often termed the 'scientific method' of investigation, as it relies on the use of procedures, methods and measures that yield quantifiable, measurable, numerical data, which are analysed using statistical means (Daniel, 2016; Kelly et al., 2018; Sukamolson, 2007). The numerical, measurable nature of the data and the sophisticated statistical methods used to analyse it, makes respondents' answers easily comparable as well as enables the researcher to detect and interpret trends and patterns within the data, in keeping with this study's aims, purpose and research questions (Daniel, 2016; Slife & Melling, 2012; Sukamolson, 2007). Qualitative research focuses more on the descriptive nature of data, without the use of numbers. The aim in its analysis and interpretation is to understand open-ended responses, to appreciate the perception of the world through the unique eyes of each participant, thus yielding detailed, nuanced data (Neuman, 2014; Zedeck, 2014).

The objective stance and lack of flexibility underlying the quantitative approach are said to limit detailed, in-depth answers and experiences relayed by respondents and the uniqueness of each individual (Daniel, 2016; Slife & Melling, 2012). As such, the qualitative approach took the form of one open-ended question regarding perceived subjective well-being, for respondents who wished to share more detailed answers and personal experiences, therefore receiving more subjectively varied and unique views on the chosen topic.

Research Methodology

Research Design

This study's research design was a non-experimental, cross-sectional, survey design; specifically a structured, close-ended questionnaire (Cohen et al., 2018; Leary, 2001; Zedeck, 2014), with the exception of one open-ended question. The variables of ADHD and well-being levels disavow the establishment of causality as neither variables can be manipulated, there are no experimental or control groups, and consequently, neither was there random assignment; thus,

temporal precedence, covariation and non-spuriousness were not met, which classified this study as non-experimental (Rosnow & Rosenthal, 2013; Zedeck, 2014). A cross-sectional questionnaire survey design was utilised as information and data was both electronically and manually collected at one point from a sample representing the specific population under study, the findings of which are generalisable; a design in accordance with the research questions and purpose (Cohen et al., 2018; Groves et al., 2011). Non-experimental survey designs are beneficial for descriptive and exploratory purposes, reasonably easy to implement, relatively cost and resource effective, and allow for the detailed study of data and possible trends, which draw robust conclusions from the findings (Leary, 2001; Salkind, 2010).

Sampling

The sample of this study included 376 children and adolescents between the ages of 10 and 18 years old, who had ADHD (any type) as reported by a specialist, who understood English at a Home Language or First Additional Language level, and who were enrolled in school across any of the nine provinces in South Africa. Initially, the aim was to attain a minimum sample size of 100 to meet the criteria for the central limit theorem and normal distribution, as well as to limit threats to external validity and thus proliferate generalisability of findings (Salkind, 2018). The sampling strategy utilised was non-probability, voluntary and purposive (Laher, 2016; Salkind, 2010; Terre Blanche et al., 2006). This was the most appropriate as the sample obtained was used as a subset of the population under study, respondents and parent(s)/guardian(s)/caregiver(s) were willing to partake in the study, and respondents fitted the specific predetermined criteria as stated. This sampling strategy is useful in acquiring relatively large sample sizes whilst remaining distant from respondents (objectivity), which suited the paradigm, research questions, purpose and aims of the study (Salkind, 2010).

Data Collection

In acquiring respondents, private remedial schools, ADHD support groups (online and in-person) and educational psychologists across all nine provinces in South Africa were contacted to request that they send out invitation links to the study. This method did not guarantee that all respondents fit the criteria of having ADHD, but notably appeared to increase it. Respondents were attempted to be procured in ‘waves’, where a select few of the relevant parties as stated above were contacted, inquiring whether they would be willing to circulate the invitation link to the study. The first wave was approximately five of the bigger remedial schools in each province and online ADHD support groups as it was thought that the bigger schools would likely be more willing to circulate the links, and online platforms are useful in easily sharing digital media. Many more ‘waves’ were initiated after the first as very little interest was shown in the early stages of the project. Thus,

more schools in each province as well as educational psychologists and in-person ADHD support groups were contacted thereafter. At this later stage in the data collection phase, a couple of public remedial schools also became interested in contributing to the research and invited their students to take part (these schools did not require permission through the Department of Education, they were satisfied with a letter from Professor Irma Eloff, supervisor to this study).

At first, a digital survey method for data collection using *Google Forms* was used as it is cost-effective and fitted the research criteria; specifically, data collection was in the form of an online, structured, close-ended questionnaire, with one open-ended question (Lavrakas, 2008; Leary, 2001; Zedeck, 2014). The invitation link to participate in the study was sent via email, WhatsApp, posted on Facebook groups, and/or on schools' parent communication portals – this depended on the preference of those few parties who agreed to circulate the invitation link. However, the low response rate on the online data collection continued. Subsequently, key informants were followed up on in-person, and hard copy versions of the questionnaire for data collection was incorporated. This paper-and-pencil hard copy data collection strategy proved more effective than the online approach. Data was collected from August 2021 to April 2022. As previously stated, a total of 376 respondents completed the questionnaire online and per hard copy combined.

Demographic Information

Once parent(s)/guardian(s)/caregiver(s) signed the informed consent sheet at the start of the questionnaire, they were directed to the first part of the survey, where they were asked to confirm that their child fitted the inclusion criteria as stated above. Further, parent(s)/guardian(s)/caregiver(s) were asked to provide basic demographic information pertaining to their child, such as age, gender, ethnicity, home language, province of residence, attendance at a private, public, model C or home school, attendance at a remedial, special needs or mainstream school, average days of school attendance in the last year (this includes having school online, going to school in-person, and home-schooling), intervention/s or therapy received for ADHD symptoms/difficulties, and whether currently on medication for ADHD symptoms/difficulties (see appendix B).

Subjective Well-being

After the demographic questions, the remainder of the survey was intended to be answered by the child/adolescent themselves; thus, a checkbox was provided in affirmation that they, and not their parent(s)/guardian(s)/caregiver(s), answered this part of the survey. Levels of subjective well-being data were collected through the EPOCH scale (Kern et al., 2016), a reliable, valid, English, standardised, comprehensive, 20-item, self-report scale measuring subjective well-being in children and adolescents aged between 10 to 18 years old (see appendix A). The EPOCH scale is based on

Seligman's (2011) PERMA framework of subjective well-being, adapted to be developmentally appropriate for youth. The adjusted domains of well-being are *engagement*, *perseverance*, *openness*, *connectedness* and *happiness*, with four questions for each domain, taking the form of statements to which respondents chose options on a five-point Likert-type scale based on the extent to which they agreed or disagreed with the statement. Scoring was computed by calculating the mean for all 20 items in the scale (overall subjective well-being) and by calculating the mean of the four items in each specific domain (domain-specific well-being), with higher scores indicating greater levels of well-being (Kern et al., 2016). Thereafter, the survey included a question in the form of a statement, "I feel better than I did when the Covid-19 virus came to South Africa and everything changed". Here, respondents were given options as to the extent to which they agreed with the statement on a three-point Likert-type scale ("I feel worse", "I feel the same", "I feel better"). This question aimed to get an idea of the lasting effects of the pandemic on the well-being of the respondents; ascertaining whether the respondents' answers to the well-being scale would have been similar or vastly different had they been asked to answer the EPOCH scale during the country's hard lockdown in 2020. Lastly, an open-ended question was included which asked respondents to give any additional information they were willing to provide regarding their perceived well-being and if, how, and to what extent the pandemic had affected them.

Data Analysis and Interpretation

The numerical data were assigned codes, captured, and cleaned on an *Excel* document. The data were then analysed with the help of the Internal Statistical Consultation Service (ISCS) at the University of Pretoria and with SPSS version 27. Descriptive statistics were conducted for the categorical variables obtained from the demographic questionnaire and the second to last question, and both descriptive and inferential statistics were conducted with the numerical (interval) variables of the EPOCH scores (Field, 2018; Howell, 2014; Marczyk et al., 2005). For the last open-ended question, each response was grouped into three broad categories: positive, negative and neutral feelings and experiences. Thereafter, common themes were gleaned and 'it was/I-poems' were created for each broad category, with the same themes written in clustered stanzas. In order to analyse the reliability of the EPOCH scale in the context of the study, internal consistency (Cronbach's α) and Confirmatory Factor Analysis (CFA) were computed (Field, 2018).

Ethical Considerations

There were many ethical considerations for this study, foremost being the sensitivity of the research theme of ADHD, the pandemic, and well-being of an underage and vulnerable population. As such, this study was approached with the utmost sensitivity, and ethical standards were thoroughly considered and adhered to throughout.

Ethical clearance (EDU056/21) was obtained through both the Faculty of Education Ethics Committee at the University of Pretoria, as well as the Faculty of Health Sciences Research Ethics Committee at the same institution. Separate participant information sheets for parent(s)/guardian(s)/caregiver(s) and respondents were provided, explaining what the study was about and all relevant information (Israel & Hay, 2006). Informed consent sheets were provided for parent(s)/guardian(s)/caregiver(s) to sign, indicating understanding of what the research entailed and granting permission for their child to participate (see appendix C). Assent sheets for the respondents to sign, agreeing to partake in the study and demonstrating understanding of the study's purpose, were also provided (see appendix D) (Israel & Hay, 2006). As was stated in both participant information sheets, complete anonymity and confidentiality was guaranteed throughout the study; no identifying information was asked and all information given was used only for the intended research study, and all data was stored on a password-protected laptop accessible only by the researcher (Nortjé et al., 2019). Participation was noted to be completely voluntary, and as such, respondents and/or their parent(s)/guardian(s)/caregiver(s) had the right to withdraw from the study at any point without any negative consequences to them (Nortjé et al., 2019). There was no material benefit for participation in this study, and there was also no known direct threat or harm in participating. However, as fragility was likely heightened due to the pandemic, it is possible that the questions asked may have triggered negative emotional responses, thoughts, memories or reactions in some respondents (Israel & Hay, 2006; Kern et al., 2016; Oliver, 2010). In such cases, telephone numbers for both toll-free and private counsellors were provided (Israel & Hay, 2006). Fortunately, these contact details appeared not to be required, as no known instances of distress occurred as no cases were reported to the researcher during data collection.

Chapter 2: Literature Review

This chapter begins with a discussion on the overarching topic of ADHD; what it is, typical symptoms, associated difficulties, perceptions and stigmas, and the move towards a strength-based approach in recognising the many skills these individuals possess, because of the very criteria forming their diagnosis. The concept of well-being is discussed next, and with it the PERMA model of well-being on which the EPOCH measure is derived, the various factors that influence well-being and the numerous studies conducted on the topic, as well as on the topic of the related concept of quality of life. Discussion of the Covid-19 pandemic and the novel research thereof follows, particularly regarding the studies investigating the impact of the pandemic on children and adolescents in general and those with ADHD. Lastly, the literature highlights common risk and protective factors, as well as the positive impact of the pandemic.

Attention-Deficit/Hyperactivity Disorder

ADHD is a neurodevelopmental disorder where an individual experiences and displays symptoms of inattention and/or hyperactivity and impulsivity to the extent that their development and general functioning is compromised (American Psychiatric Association, 2013b). Inattention is primarily characterised by disorganisation, poor planning, regular forgetfulness, inability to focus on a task at hand, extreme curiosity, frequent distraction and repeated misplacement of items and belongings. Hyperactivity and impulsivity are characterised by fidgeting and restlessness, excessive talking, inability to remain quiet while engaged in an activity or task, interrupting conversations, intruding on others, and acting and speaking impulsively (American Psychiatric Association, 2013b; Davis & Braun, 2003, 2011). Moreover, deficits in the executive functions of attention, organisation, planning and inhibitory control underlie the symptoms and thus diagnosis of ADHD (Chmielewski et al., 2019; Climie & Mastoras, 2015; Meyer et al., 2020; Wehmeier et al., 2010). In particular, inhibitory control enables an individual to control their thoughts, emotions, behaviour and attention to supersede distractions or lures of an internal or external nature, and instead do what is appropriate and needed to achieve goals (Climie & Mastoras, 2015; Diamond, 2013).

The diagnosis of ADHD is either predominantly inattentive presentation, predominantly hyperactive-impulsive presentation or combined presentation – where both inattention and impulsivity-hyperactivity are equally present (American Psychiatric Association, 2013b). As part of the DSM-V diagnostic criteria, several of the aforementioned symptoms must be apparent before the age of 12 and should significantly interfere with an individual's functioning in the social, developmental and/or academic domains of a person' life. Similarly, the DSM-V states that the symptoms must be present in two or more settings, such as at home, school, with peers, family and so on (American Psychiatric Association, 2013b).

ADHD Associated Difficulties

As a result of their ADHD, individuals often experience, directly due to their symptoms or as a secondary by-product of the diagnosis, difficulties in the social, behavioural, cognitive, psychological, emotional and academic realms of their lives (Asherson, 2020; Belsham, 2012; Climie & Mastoras, 2015; Foley-Nicpon et al., 2012; Harpin, 2005; Hoza, 2007; Martin, 2014; Mikami & Normand, 2015; Seabi & Economou, 2012; Wehmeier et al., 2010). In addition, children and adolescents with ADHD experience more social difficulties than their typically developing peers, which include poor peer relationships, social isolation, peer rejection, poorer communication skills and generally poor social functioning (Belsham, 2012; De Boo & Prins, 2007; Hinshaw, 2002; Klimkeit et al., 2006; Mikami & Normand, 2015; Sibley et al., 2010; Wehmeier et al., 2010).

Children and adolescents with ADHD may also display many problem behaviours and behavioural maladjustments, as well as poorer neurocognitive and executive functioning than their typically developing peers (Belsham, 2012; Butzbach et al., 2019; Martin, 2014; Mikami & Normand, 2015). These behavioural issues and cognitive difficulties are in turn responsible for common academic underachievement and many academic difficulties faced; learners with ADHD are said to be more prone to academic risks such as academic failure, frequent suspensions, expulsions, school noncompliance, grade repetition and changing schools (Arnold et al., 2020; Belsham, 2012; Daley & Birchwood, 2010; Ek et al., 2011; Martin, 2014; Mikami & Normand, 2015).

On a psychological and emotional level, children and adolescents with ADHD have many difficulties to contend with, including but not limited to poor self-esteem and self-perception, negative behavioural self-concept, lower overall happiness, emotional maladjustment, poor emotional regulation, poor emotional processing, difficulty dealing with their anger and frustration, excessive emotional expression, and general functional impairment (Da Fonseca et al., 2009; Foley-Nicpon et al., 2012; Harpin, 2005; Hinshaw, 2002; Klimkeit et al., 2006; Lin et al., 2015; Mazzone et al., 2013; Mikami & Normand, 2015; Seabi & Economou, 2012; Wehmeier et al., 2010).

Comorbid disorders such as Oppositional Defiant Disorder, Conduct Disorder, Autism Spectrum Disorder, Tourette's syndrome, Specific Learning Disorders and mood and anxiety disorders are common in childhood and adolescence and the likelihood of other disorders developing increases into adulthood. Individuals with ADHD are also more likely to develop substance abuse disorders, depression, anxiety, bipolar, personality disorders, sleep disorders, as well as food and electronic media addictions (American Psychiatric Association, 2013a; Asherson, 2020; Franke et al., 2018; Lunsford-Avery et al., 2016; Weissenberger et al., 2017). Therefore, it stands to reason that such difficulties experienced and the possible development of comorbidities among ADHD individuals may lead to considerably lower levels of general well-being and life

satisfaction, impacting one's life negatively from an early age and continuing into one's future (Climie & Mastoras, 2015; Foley-Nicpon et al., 2012; Lin et al., 2015).

Perceptions of ADHD

Throughout history and from a global perspective, there have been negative attitudes towards those deemed mentally ill, and the same ideology has persisted for those with ADHD (Hinshaw & Stier, 2008; Martinez et al., 2011; Masuch et al., 2019; Mueller et al., 2012). Such stigma, overt discrimination and prejudices disrupt many aspects of a person's life, including family functioning, educational achievements and lower levels of employment in adulthood (Hinshaw & Cicchetti, 2000; Hinshaw & Stier, 2008; Hinshaw, 2002; Martinez et al., 2011; Mueller et al., 2012). ADHD stigma and its repercussions can seriously harm the psychology of an individual, their well-being, self-esteem and sense of identity which can result in the individual internalising the stigma held by society (Eccleston et al., 2019; Hinshaw & Stier, 2008; Lebowitz, 2016; Mueller et al., 2012). Studies illustrate that adolescents exert great effort to keep their ADHD diagnosis hidden from peers and friends, for fear of being labelled 'stupid', 'different' and even 'violent', and for fear of being socially rejected; these individuals describe their ADHD as embarrassing and something to be ashamed of (Bringewatt, 2011; Seabi & Economou, 2012; Singh et al., 2010; Varma & Wiener, 2020; Walker et al., 2008). Even from teachers the stigma is present; children and adolescents with ADHD are often treated by their teachers as 'problems' within the classroom, treatment which is seemingly imitated by the other learners in their negative attitude towards their peers with ADHD and their unwillingness to include them in activities (Hoza, 2007; Law et al., 2007; Lebowitz, 2016; Varma & Wiener, 2020).

Particularly in South African classrooms, it was found that teachers in both private and public schools have a very limited and simplistic understanding of ADHD, the symptoms and difficulties experienced by students, and how to include and manage such children in their classrooms; these same teachers frequently believe that the reason a learner has ADHD is due to a lack of discipline, inadequate parenting and poor diet (A. Kern et al., 2015; Topkin & Roman, 2015). Similarly, Lebowitz (2016) found that parents of children and adolescents without ADHD encourage their children not to be friends with and keep away from those diagnosed with the disorder, a tactic they themselves also exercise with the parents of the diagnosed learners. In addition, a phenomenon called 'courtesy stigma' is also quite common, where the family of individuals with ADHD are likewise stigmatised for their association and genetic tie with the diagnosed individual, further increasing the strain of parents and families living with a member displaying ADHD (Harpin, 2005; Lebowitz, 2016; Mueller et al., 2012; Varma & Wiener, 2020).

Moving Towards a Strength-based Approach

In the past few decades, the view of ADHD has shifted from the original and somewhat restricted biomedical and pathological view, to a more positive and holistic psychosocial view. Essentially, the view of an ADHD diagnosed individual as having a pathological disorder - as being 'abnormal' or 'defective' and in need of 'fixing' - is a view slowly being displaced; the remarkably unconventional individual whose difficulties are balanced by their strengths and their great potential given the right tools and guidance, is gradually becoming the new belief and approach towards understanding ADHD (Archer, 2015; Brady, 2014; Climie & Mastoras, 2015; Flint, 2001; Hall, 2010). The term neurodiversity underpins this strength-based approach to conceptualising individuals with ADHD. The core premise of the term neurodiverse is that there is no 'normal' level of brain function with regards to attention, sociability, learning and other cognitive functions to which all brains are compared, and thus there is no such thing as 'abnormal' brain function; there is only the belief that all brains are different and capable in their own right. This perception has thus led to the coining of the term 'neurodiversity' and its ever growing movement, where, in essence, merely differences exist, and not deficits (Armstrong, 2010, 2012; Jurecic, 2007).

The strength-based, positive psychology approach is closely linked to the view of neurodiversity, where the specific strengths, successes and assets of neurodiverse individuals are highlighted and lauded. This approach recognises that there are many aspects of an individual's life that is going well, and that it does not assist self-confidence, resilience and motivation to focus only on the challenges experienced. The strength-based approach does not see deficits, but challenges that are typical to specific neurodiverse individuals; challenges that can be worked with and whose effects can be ameliorated and seen in a more positive light (Climie & Mastoras, 2015; Climie et al., 2013; Lopez et al., 2018). With regards to individuals with ADHD, these challenges referred to would be the three main criteria of inattention and/or impulsivity and hyperactivity and their specific accompanying symptoms as stated in the DSM-V (American Psychiatric Association, 2013b). The strength-based approach does not aim to ignore or disavow these challenges, but rather to acknowledge them and place them on equal par with each individual's particular strengths; thus leading to the development of essential facets of well-being, positive coping skills and overall resilience. Conversely, these challenges can also be the very source or contributing factor/s to an individual's strengths and successes, when channelled effectively (Climie & Mastoras, 2015; Rhee et al., 2001). Thus, within this approach, ability, not disability, must be recognised and capitalised upon. Further, the application of a positive psychology lens and strength-based approach is essential to encourage children and adolescents with ADHD to build their strengths, as well as a sense of optimism and achievement and to learn to manage their challenges effectively, which enables an

attitude, environment and grounding where well-being can flourish (Climie & Mastoras, 2015; Levine, 2012; Lopez et al., 2018; Seligman & Csikszentmihalyi, 2000).

Supporting this positive psychology and holistic approach towards viewing and understanding ADHD, the overwhelming evidence points towards individuals with ADHD as possessing pronounced cognitive creativity, skills borne through the very symptoms that make up the criteria of their diagnosis, with such talents expressed and honed in areas such as art forms, languages, sport and technology, among many others (Archer, 2015; Flint, 2001; Fugate et al., 2013; Gonzalez-Carpio et al., 2017; Honos-Webb, 2010; Ten et al., 2020; White & Shah, 2011). In its most basic form, cognitive creativity is the ability and inclination to think outside the box of conventionality, to find and revel in the novel of information and one's ideas and thoughts, and being driven by curiosity (Armstrong, 2012; Fugate et al., 2013; Gonzalez-Carpio et al., 2017; Sedgwick et al., 2019). This creativity requires a level of ingenuity, originality, uninhibited imagination and divergent thinking that appears to be heightened in individuals with ADHD (Archer, 2015; Sedgwick et al., 2019; White & Shah, 2011). Indeed, in framing the very criteria by which ADHD diagnoses are made into a more positive light, the results demonstrate enviable and expedient abilities, whereby distractibility or inattention can be reframed as divergent mental capabilities, hyperactivity can be reframed as vitality, and impulsivity can be reframed into spontaneity, adventurousness and general exuberance for life (Armstrong, 2010, 2012; Honos-Webb, 2010; Sedgwick et al., 2019).

Studies by Fugate et al. (2013) and Gonzalez-Carpio et al. (2017) corroborate this greater level of overall creativity in ADHD children, with the latter detailing specific creative abilities of creative originality and creative fluency. Ten et al. (2020) too found ADHD children as possessing superior creative capacity compared to their neurotypical peers; however, this creativity was more pronounced when the children in question were not on medication for their ADHD symptoms. The same trend of heightened creative abilities is also apparent in adults with ADHD (Sedgwick et al., 2019; White & Shah, 2011).

Honos-Webb (2010) advocates other strengths of individuals with ADHD, such as heightened ecological consciousness (an affinity with and respect towards the natural world), heightened emotional sensitivity and intensity, and heightened interpersonal intuition which enables greater understanding of human interactions – although individuals need to learn how to manage this effectively as it can be construed as a disregard for others' personal boundaries. Other assets of ADHD individuals as explored by Sedgwick et al. (2019) were grouped into the main themes of courage, cognitive dynamism, transcendence, humanity and energy, encompassing sub themes including nonconformity, self-acceptance, curiosity, and humour. Wiklund et al. (2017) investigated

the relationship between the specific criteria of impulsivity in ADHD and entrepreneurial skills. They found that lack of premeditation, a desire for autonomy, hyperfocus in specific areas of interest, and sensation seeking tendencies all positively influence entrepreneurship and the likelihood of starting one's own business (Wiklund et al., 2017).

It is evident that the strengths in individuals with ADHD combine with other factors and personal characteristics in grounding their propensity for resilience, given the appropriate tools and resources (Archer, 2015; Hai & Climie, 2022; Litner & Mann-Feder, 2009; Sedgwick et al., 2019). Archer (2015) describes individuals with ADHD as experiencing almost constant drawbacks and consequences in daily life due to the very symptoms making up the diagnosis, such as forgetfulness, making impulsive decisions, not paying attention to important information and so on. Dealing with varying degrees of one crisis after another on a daily basis that individuals without ADHD do not typically experience, individuals with ADHD are virtually required to practise constant resilience in order to conform, survive and succeed in a non-ADHD society. Thus, dealing with challenges and adapting can almost be seen as second nature to individuals with ADHD (Archer, 2015). Multiple studies have investigated the presence of resiliency in individuals with ADHD as opposed to the lack thereof, and have found it ample among these individuals (Chan et al., 2022; Hai & Climie, 2022; Schei et al., 2018; Sedgwick et al., 2019; Wilmshurst et al., 2011). Wilmshurst et al. (2011) found that, compared to the control group of college students who did not have ADHD, the group with ADHD presented with high resiliency. Similarly, Chan et al. (2022) found that the parents of children between the ages of 5 and 13 years old diagnosed with ADHD, perceived their children as resilient, as did the teachers of said children. In addition, Sedgwick et al. (2019) found the shared pronounced feature of resilience in successful adults diagnosed with ADHD. Other studies have corroborated these findings, demonstrating various factors which are more exclusive to ADHD individuals such as above average social skills and social competence, as key factors in enabling and fostering resilience in children and adolescents with ADHD (Hai & Climie, 2022; Schei et al., 2018).

Individuals with ADHD also have the ability to concentrate so fully and become so wholly absorbed in something, that they completely tune out everything else. This is an ability that can last for hours at a time and is referred to as hyperfocus – an ability steadily being seen in a positive light, rather than an added hazard of having an ADHD diagnosis. This hyperfocus state, however, is generally only reserved for those activities, topics and environments in which the individual's interests resonate, leaving less interesting topics to the side lines of their attention (Archer, 2015; Brown, 2014; Jurecic, 2007; Sedgwick et al., 2019). This state is similar to the happiness inducing 'state of flow' coined by Csikszentmihalyi (1999), as well as to Seligman's (2006) element of 'engagement' as described in his PERMA model of well-being, both of whom are prominent

proponents of the Positive Psychology movement. In recognising, understanding and capitalising on the strengths that children and adolescents diagnosed with ADHD possess, so optimism, happiness and belief in oneself is fostered and nurtured, giving these young people solid roots of well-being that is proving so vital for life flourishment (Archer, 2015; Climie & Mastoras, 2015; Flint, 2001; Hall, 2010; Seligman, 2011; Seligman & Csikszentmihalyi, 2000).

Well-being

Well-being has been a concept of interest for many decades and has gained renewed attention with Seligman's model of subjective well-being, known as the PERMA model. Well-being as a concept, as well as a state of being, has many overlapping layers and complex hallmarks. Constructs associated with well-being are life satisfaction, happiness, authentic happiness, quality of life and flourishing, among others, all of which have positive psychology as an approach and belief at their core (Diener, 2009; Khaw & Kern, 2014; Peterson et al., 2005; Seligman & Csikszentmihalyi, 2000). Thus, in its most basic form, well-being comprises an individuals' overall contentment, happiness and fulfilment with regards to the psychological, emotional, environmental and social domains of their personal and collective lives, and the dynamic interplay between these domains (Hall, 2010; Minkkinen, 2013; Westerhof & Keyes, 2010).

When exploring the construct of well-being, one should consider the two differing views from which all well-being definitions and literature originate: hedonic and eudaimonic well-being. Hedonic well-being dates back to the ancient Greek philosophy of 'hedonism', a word which directly translated means 'pleasure'. This notion of well-being advocates a focus on maximising pleasure in immediate gratification of sensual experiences, while simultaneously avoiding pain and displeasure of all kinds. Here, happiness is seen to be derived from the sum of one's hedonic experiences minus experiences of displeasure (Peterson et al., 2005; Ryan & Deci, 2001; Seligman, 2004; Sirgy, 2012a; Westerhof & Keyes, 2010). The Greek philosopher, Aristotle, saw hedonism as a poor excuse for humans to ever seek and indulge in their desires, which granted only momentary pleasure and thus required endless pastures of pleasure to be sought. Aristotle's concept of eudaimonia was thus born, as a direct response to thwart hedonism. Aristotle advocated the essential need for humans to be virtuous, to be true to and live by their inner selves and values, and in this, so happiness and general well-being will follow. Eudaimonic well-being emphasises self-realisation and striving to grow one's potential and talents, with the necessary aim to live a life of purpose by contributing to the greater good of humankind and the world (Peterson et al., 2005; Ryan & Deci, 2001; Seligman, 2004; Sirgy, 2012a). The hedonic view of well-being is being increasingly criticised, as this pursuit of happiness often ends up in what is termed the 'hedonic treadmill'. Here, the experience of pleasure is inevitably taken for granted with time, which leads to a rise in expectations of good experiences,

expectations which cause increasing disappointment if not met. Hedonism is thus seen as an essentially unmaintainable endeavour. By contrast, eudaimonic well-being is a more holistic and essentially, a sustainable type of well-being and pursuit of authentic, lasting and ever-growing happiness (Michalos, 2014; Ryan & Deci, 2001; Seligman, 2004; Sirgy, 2012b).

The World Health Organisation (WHO) asserts well-being as a precondition for mental health and effective functioning in life, stating that mental health is:

> *"a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community*" (WHO, 2005, p. 11).

The above definition evidently leans more towards the eudaimonic view of well-being as the ideal to strive for in attaining positive mental health and well-being.

Specifically looking at subjective well-being and the measures thereof, Diener (2009) stipulates three essential criteria. Firstly, the experience of well-being is subjective and thus resides within the individual themselves and their specific experience. Secondly, the inclusion of experiences and measures that are positive are necessary, and thirdly, the experiences and measure pertain to all aspects of an individual's life.

The PERMA Model of Well-being

Seligman (2011; 2018) advocates that well-being is a construct – something that is undefinable – but which has contributing elements that are in themselves definable and measurable. These elements are Positive emotion, Engagement, Relationships, Meaning and Achievement, thus coining the mnemonic PERMA (Seligman, 2011). *Positive emotion* encompass all the good emotions an individual feels, such as joy, pleasure, happiness, comfort, hope, peace, general life satisfaction and so on. The act of being truly interested and completely absorbed in an activity or cause is what Seligman (2011) termed *engagement*. An individual's single minded, total absorption on a task creates a person's own world where time and surroundings fade and the individual enters a state of flow fuelled by this optimal state of immersion and concentration, and which results in the feeling of positive emotion (Coffey et al., 2016; Khaw & Kern, 2014; Seligman, 2011). *Relationships* encompass exactly what the word implies – people. One of the most fundamental propensities of being human is the desire to find, form and maintain positive, mutually satisfying relationships, be it personal, familial, community oriented and so on (Coffey et al., 2016; Seligman, 2011). The reciprocal feelings of appreciation, love, support, comfort and joy that accompanies positive relationships is a vital contributor to an individual's state of well-being (Seligman, 2011). The element of meaning refers to an individual as having a sense of true purpose in life, and as possessing a feeling of connection to something higher than the self which fulfils them. The source of this sense of meaning varies with

each person, encompassing but not limited to religion, spirituality, relationship/s and family (Coffey et al., 2016; Seligman, 2011). *Achievement* is the purposeful, persistent drive to accomplish one's goals and master challenges life presents (Coffey et al., 2016; Seligman, 2011). Seligman (2011) makes clear that this element of achievement is the attitude of perseverance and consistent drive, rather than the accomplishment itself.

In adapting the PERMA model for use with children and adolescents in the EPOCH scale, the adjusted elements are *engagement*, *perseverance*, *optimism*, *connectedness* and *happiness* (Kern et al., 2016). The act of being truly interested and completely absorbed in an activity or task is what Seligman (2011) termed *engagement*. *Perseverance* refers to the completion of tasks and goals, even as one encounters obstacles. *Optimism* encompasses the feelings and attitude of positivity about the future, believing that adverse events and experiences are merely temporary (Kern et al., 2016). Feeling loved, cared for and appreciated and providing this to others, demonstrates the element of *connectedness*. Regarding *happiness*, a state of positive feeling and mood is experienced as steady, in lieu of being fleeting (Kern et al., 2016; Seligman, 2011). Thus, the EPOCH model of well-being is formed, derived directly from Seligman's (2011) PERMA model.

Factors Influencing Well-being

Literature shows many varied factors that influence and determine societies', families' and individual's well-being, life satisfaction and quality of life; among these factors are individual character strengths (Peterson et al., 2007; Wagner et al., 2020), income, employment and socioeconomic status (Bookwalter & Dalenberg, 2004; Cramm et al., 2014; Higgs, 2007; Møller & Saris, 2001; Neff, 2007; Posel & Casale, 2011), living conditions and basic infrastructure (Bookwalter & Dalenberg, 2004; Møller & Saris, 2001), education (Bookwalter & Dalenberg, 2004; Cramm et al., 2014), health (Bookwalter & Dalenberg, 2004; Higgs, 2007; Khaw & Kern, 2014), relationships with others (Cramm et al., 2014; Higgs, 2007; Patalay & Fitzsimons, 2016), bullying (Patalay & Fitzsimons, 2016; Varela et al., 2020), and religiosity (Compton, 2001; Khaw & Kern, 2014), among others.

Wagner et al. (2020) explored the relationship between self-reported well-being, specifically related to the PERMA elements of well-being, and self-reported character strengths. The character strengths of hope, zest for life and curiosity were most highly correlated to positive well-being. Specific facets of the PERMA construct of well-being that correlated with specific character strengths included engagement with persistence, relationships with teamwork, meaning with spirituality and accomplishment with persistence (Wagner et al., 2020). Similarly, Peterson et al. (2007) found that Swiss and American sample populations showed love, curiosity, hope and zest for life as linking most highly to life satisfaction and well-being. In the study, gratitude predicted life satisfaction most highly in the American sample, whereas in the Swiss sample, it was the character strength of

perseverance that was the most robust forecaster of well-being and life satisfaction (Peterson et al., 2007).

Studies have also vetted religiosity, or any kind of faith or spirituality, and found the belief in a higher power correlated positively with states of well-being (Compton, 2001; Goodman et al., 2018; Khaw & Kern, 2014). Particularly in relation to children and youth, bullying is a major factor that influences well-being, and victims of bullying report consistently lower levels of well-being (Patalay & Fitzsimons, 2016; Varela et al., 2020). Additionally, a substantial amount of literature indicates that in South Africa, income and living standards are two of the most significant factors influencing well-being, where higher income and better living standards equate to higher levels of well-being and life satisfaction in the population (Bookwalter & Dalenberg, 2004; Higgs, 2007; Møller & Saris, 2001; Neff, 2007; Posel & Casale, 2011). Bookwalter and Dalenberg (2004) concluded that housing and transportation play the most important roles in influencing well-being for the poorest population quartile. For the richest population quartile, water, sanitation, energy, health and education play the roles that most influence positive well-being. Similarly, Higgs (2007) deemed basic infrastructure and health as contributing factors to well-being, and noted social networks, employment, dignity and self-esteem, optimism, and a life of diverse activities as additional factors determining well-being and quality of life among South Africans. Furthermore, Cramm et al. (2014) found that the well-being of youth, specifically those with disabilities, was improved by the factors of social support, education and employment. Similarly, Van den Berg et al. (2013) found that social support encompassing that of family, friends, church and community, strongly related to and cultivated well-being in South African adolescents and youths.

Well-being Studies

The concept of well-being has spurred many varied studies on the topic (Adams & Savahl, 2017; Cabrera, 2015; Carmack, 2015; Coffey et al., 2016; Eloff, 2019; Eloff & Graham, 2020; M. L. Kern et al., 2015; Kuykendall et al., 2018; Repke et al., 2018; Savahl, Adams, et al., 2015; Savahl, Malcolm, et al., 2015; Watkins et al., 2018; Wilmshurst et al., 2011; Wissing, 2013). Of particular interest, various studies evaluating well-being and the related constructs of quality of life and life satisfaction, have been conducted on children and adolescents in general (M. L. Kern et al., 2015; McCormick, 2017; Patalay & Fitzsimons, 2016; Van den Berg et al., 2013), several on children and adolescents with neurodevelopmental and other disorders (Al-Yagon, 2010; Hall, 2010; Herbell et al., 2020; Kuhlthau et al., 2010; Matteucci et al., 2019; Ritzema et al., 2018), and only a handful on the specific topic of interest – children and adolescents with ADHD (Barfield & Driessnack, 2018; Herbell et al., 2020; Peasgood et al., 2016).

Well-being of Children and Adolescents with Neurodevelopmental Disorders

Specifically looking at children and adolescents with neurodevelopmental disorders such as Specific Learning Disorder (Matteucci et al., 2019), Autism Spectrum Disorder (Kuhlthau et al., 2010), general learning difficulties (Al-Yagon, 2010; Hall, 2010), and other neurodevelopmental and mood disorders (Herbell et al., 2020; Ritzema et al., 2018), studies assert the overall lower levels of well-being, flourishment and quality of life in these children and their families.

Well-being of Parents, Families and Siblings of Children and Adolescents with ADHD

There is a fairly large body of research exploring the well-being, quality of life and psychological functioning of the families, siblings and parents – as well as mothers and fathers specifically – of children and adolescents diagnosed with ADHD and other neurodevelopmental disorders. Moen et al. (2016) and Peñuelas-Calvo et al. (2021) found similar results in their research regarding adverse family functioning, lesser sense of family coherence, and increased psychological distress and quality of life in the family members of children with ADHD. Reportedly, mothers experienced poorer well-being than the fathers in the former study (Moen et al., 2016), and the low levels of quality of life being more severe when the said ADHD child was diagnosed as predominantly inattentive or combined presentation in the latter study (Peñuelas-Calvo et al., 2021).

Stress levels and depression are said to be more common in parents who have one or more children with ADHD and/or Autism Spectrum Disorder, and is further compounded by one or both parents having the same disorder (Van Steijn et al., 2014). Similarly, Greek parents of children with developmental disorders, including ADHD, have increased levels of depression and anxiety, as well as mental ill-health, poor social functioning and overall reported lower well-being and quality of life (Karaivazoglou et al., 2019). Investigations into phenotypes and parenting stress in Italy was carried out with three separate parent groups: namely, parents whose children had ADHD, parents whose children had dyslexia, and parents of typically developing children (Bonifacci et al., 2019). Group differences indicated that the parents with ADHD children exhibited significantly higher levels of stress than those parents whose children had dyslexia and those whose children were considered to be typically developing (Bonifacci et al., 2019). Additionally, studies conducted in Tunisia (Khemakhem et al., 2017) and Hong Kong (Xiang et al., 2009) found that parents of children with ADHD reported lower overall quality of life, particularly in the domains of bodily pain, mental health, vitality and social functioning in the former study, and in the physical, social, psychological and environmental domains in the latter study. Mofokeng and van der Wath (2017) also noted that parents living with their ADHD child in South Africa experienced extreme negative stigmatisation from their family and community, impaired social, emotional and occupational functioning, as well as heavy burdens related to general care and their child's learning and school difficulties. A ten year

Danish cohort study following parents of children with and without ADHD found that parents of children with ADHD experience incredible strain on their relationship and are thus 75% more likely to divorce or end their relationship compared to their counterparts with typically developing children. Furthermore, the added stress of having a child with ADHD and the said child's ill health due to their ADHD diagnosis, reduces the labour supply of these parents, ultimately lowering their income and their overall socioeconomic status (Kvist et al., 2013).

Specifically assessing mothers of children who have ADHD and other neurodevelopmental disorders, the compounding results show that mothers experience meagre quality of life and impaired well-being (Bourke-Taylor et al., 2012; Carpenter & Austin, 2007; Chu & Richdale, 2009). Carpenter and Austin (2007) assert that motherhood and the necessary and expected roles thereof, are more challenging and place an extra heavy burden on those mothers whose children have ADHD, which often leads to the marginalisation of these mothers and their forced or chosen silence regarding such challenges. Further, Chu and Richdale (2009) cite that the behavioural and sleep problems experienced by children with developmental disabilities, including ADHD, in turn affect their mother's general well-being, manifesting in increased rates of maternal depression and anxiety, as well as maternal sleep disturbance. Likewise, Bourke-Taylor et al. (2012) saw mothers of children with ADHD and other neurodevelopmental disorders experience compromised mental health and significantly high stress levels, with the participation of health empowering activities and positive emotional functioning of their child acting as predictors of improved mental health. Conversely, findings from a rare study exploring the well-being of fathers of children with ADHD, showed no differences in well-being between the fathers with ADHD diagnosed children and their comparative controls (Neff, 2010).

Research gauging the well-being of siblings of ADHD children, found the same general conclusions as the aforementioned studies concerning parents and families as a whole (Gettings et al., 2015; Jones et al., 2006; Kendall, 1999; Peasgood et al., 2016). One study intended to mitigate the psychological distress felt by siblings of ADHD children through group intervention aiming to improve quality of life, with satisfactory efficacy (Gettings et al., 2015). A study comparing siblings of ADHD children with equal controls, showed no differences between groups on all domains of psychological functioning save one: siblings of children with ADHD had significantly higher levels of anger (Jones et al., 2006). Additionally, Kendall (1999) conducted a study assessing the general views and experiences of children whose siblings had ADHD. The derived themes described these siblings as almost constantly feeling victimised by their ADHD siblings, with this victimisation being disregarded or minimised by their parents. Pervasive disruption of all aspects of life was a core theme, with various types of disruptive behaviour, including family conflicts, aggression (verbal,

physical and passive), uncontrollable hyperactivity, and social and emotional immaturity. Overall, these siblings felt a great sense of sadness, worry and anxiety, as well as a great sense of loss at the impossibility of experiencing any normalcy in life, caused wholly or by implication, by the ADHD diagnosed siblings' symptoms and associated behavioural and other challenges. Together, these experiences demonstrate the lesser quality of life experienced by siblings of children with ADHD (Kendall, 1999).

Well-being of Children and Adolescents Themselves with ADHD

There are few studies examining the well-being of the children and adolescents themselves who have been diagnosed with ADHD, and the majority of those that have been conducted have obtained their data from parent-report well-being measures (Herbell et al., 2020; Peasgood et al., 2016), with only a few that have focused on patient-report methods of procuring data (Barfield & Driessnack, 2018; Peasgood et al., 2016). Comparably, there are many further studies looking more specifically at the quality of life of children and adolescents with ADHD, and these too shall be examined as the concepts of well-being and quality of life are indeed closely related.

The studies exploring ADHD children and adolescents' well-being saw the same general conclusion in that their well-being was poorer than their neurotypically developing peers (Herbell et al., 2020; Peasgood et al., 2016). The specifics of the studies did vary however. Herbell et al. (2020) found that only 6.3% of children with mental, emotional and behavioural disorders (54.4% of whom were diagnosed with ADHD), were flourishing optimally and that this was positively influenced by positive habits of parental coping and negatively affected by parental aggravation, often stemming from their child's difficulties. Using the Child Health Utility (CHU-9D) with the EuroQol-5 Dimensions for Youth (EQ-5D-Y), Peasgood et al. (2016) found that, compared to matched controls, children and adolescents with ADHD have significantly poorer outcomes and difficulty in school, have sleeping issues, often feel worried and sad, are perpetrators as well as victims of sibling bullying, and have a negative overall view of their life and family.

Barfield and Driessnack (2018) carried out an interesting study whereby 20 children between the ages of 7 and 11 with a diagnosis of ADHD, were asked to draw a picture and tell a story about what makes them happy and what makes their life 'really good'. The results garnered themes of connectedness – particularly with family – , fun, action-related activities and nature/the outdoors (Barfield & Driessnack, 2018). These compelling findings tell us, although implicitly, what children themselves feel contribute towards their sense of happiness and subsequent well-being, findings that contribute to limited knowledge on the topic.

All of the above studies looking specifically at the well-being of children and adolescents with ADHD were conducted internationally, two in the United States (Barfield & Driessnack, 2018;

Herbell et al., 2020) and the other in the United Kingdom (Peasgood et al., 2016), thus leaving the African continent and South Africa in particular, underexplored with regards to related research.

Quality of Life of Children and Adolescents Themselves with ADHD

Compared to studies looking specifically at the well-being of children and adolescents diagnosed with ADHD, research investigating the quality of life of said sample is much more expansive. The results of all this research, however, aligns with those described in the aforementioned well-being studies, where children and adolescents who have ADHD have significantly worse quality of life than neurotypically developing children and teenagers, with each study displaying various results as to the severity of specific domains affected (Bastiaansen et al., 2004; Becker et al., 2011; Goulardins et al., 2011; Jafari et al., 2011; Klassen et al., 2004; Limbers, Ripperger-Suhler, Boutton, et al., 2011; Limbers, Ripperger-Suhler, Heffer, et al., 2011; Matza et al., 2004; Pongwilairat et al., 2005; Riley et al., 2006; Rocco et al., 2021; Schei et al., 2016; Varni & Burwinkle, 2006). The majority of these quality of life studies used the American developed Pediatric Quality of Life Inventory (PedsQL) as the measure assessing ADHD children and adolescents' health related quality of life, which contains the domains of physical, school, social and emotional functioning (Bastiaansen et al., 2004; Goulardins et al., 2011; Jafari et al., 2011; Limbers, Ripperger-Suhler, Boutton, et al., 2011; Limbers, Ripperger-Suhler, Heffer, et al., 2011; Pongwilairat et al., 2005; Varni & Burwinkle, 2006).

Although all the studies came to the same general conclusion in that children and adolescents with ADHD have poorer quality of life, some studies found that some domains were more severely affected than others. Limbers, Ripperger-Suhler, Boutton, et al. (2011) found that children and adolescents with ADHD being treated in a psychiatric clinic had lower quality of life than those treated in a general paediatric clinic, however, both former samples suffered substantially worse in the domain of social functioning when compared to 'healthy' controls. Bastiaansen et al. (2004) noted similar and additional results in that the domains of social as well as school functioning were the most impaired factors of quality of life in their sample group of children and adolescents with ADHD, compared to the samples of children and adolescents with other psychiatric disorders. Both Klassen et al. (2004) and Pongwilairat et al. (2005) found that the lowest quality of life scores for children and adolescents with ADHD fell within the domain of psychosocial functioning, accompanied by equally low scores in the physical functioning domain in the latter study.

Five of these quality of life studies found that more severe ADHD symptoms reported by parents were correlated with even poorer quality of life scores for children and adolescents with ADHD between the ages of 5 to 18 years old (Klassen et al., 2004; Limbers, Ripperger-Suhler, Heffer, et al., 2011; Matza et al., 2004; Riley et al., 2006; Rocco et al., 2021). Conversely, Becker et al. (2011)

concluded that, according to both parent and child-report, overall quality of life scores were poor regardless of symptom severity, thus raising the question of parent versus child/adolescent-report agreement, comparability and reliability. In a similar vein, Jafari et al. (2011) stated that discrepancies lay in the results of the parent-report and self-report forms of the PedsQL, whereby children and teenagers rated their overall quality of life as higher than did their parents.

Along with the target population of children and adolescents with ADHD, Varni and Burwinkle (2006) included matched samples of typically developing children and adolescents, as well as children and adolescents suffering from physically manifested illnesses of cerebral palsy and newly diagnosed cancer. Their data evidenced the quality of life scores of children with ADHD as being lower even than the groups with newly diagnosed cancer and cerebral palsy, in all domains bar physical health and functioning. Limbers, Ripperger-Suhler, Heffer, et al. (2011) compared their sample of children and adolescents who had ADHD as well as at least one comorbid psychiatric disorder, to two matched population groups, one with cancer and one with type one diabetes. In parallel to Varni and Burwinkle's (2006) research and also using the PedsQL, they found that the ADHD sample had worse quality of life scores in all domains save for physical functioning (Limbers, Ripperger-Suhler, Heffer, et al., 2011). These two studies comparing the quality of life of children and adolescents diagnosed with ADHD, which has a neurological basis, to those paediatric populations with acute biologically and physically based illnesses, demonstrated just how profoundly ADHD can negatively affect an individual's quality of life from a young age (Limbers, Ripperger-Suhler, Heffer, et al., 2011; Varni & Burwinkle, 2006).

Along with the diagnosis of ADHD, a couple of studies found that additional comorbidities and other difficulties add extra burden to the already compromised quality of life of children and adolescents with ADHD (Becker et al., 2011; Schei et al., 2016). Evaluating the relationship between quality of life and psychopathological profile of children and teenagers with ADHD, Becker et al. (2011) found that higher self- and parent-report conduct-related problems were associated with poorer quality of life, according to the KINDL, a German quality of life instrument. Similarly, Schei et al. (2016) aimed to evaluate the impact of additional conduct and/or emotional difficulties on the quality of life and family functioning of adolescents aged 13 to 18 years old with ADHD. The use of the Strengths and Difficulties Questionnaire (SDQ) aided in dividing the sample of 194 Norwegian adolescents with ADHD into four categories, namely those with no emotional or conduct problems, those with emotional problems, those with conduct problems, and those with both emotional and conduct problems (Schei et al., 2016). The study's results demonstrated that additional conduct and emotional problems indeed further exacerbated the poor quality of life of this population of teenagers with ADHD, but that interestingly, family functioning remained the same in all four

categories according to parent-proxy. Along with conduct-related difficulties, findings from Riley et al. (2006) also highlighted other specific factors that negatively affect the quality of life of children and adolescents with ADHD in a wide-scale study including participants from 10 European countries. Such factors included poor peer relationships, motor co-ordination problems, having somatic and asthma-related health issues, maternal smoking during pregnancy, one or both parents as having mental or physical health issues and the child or adolescent not living with both parents (Riley et al., 2006).

Some of these quality of life studies relied on parent proxy (Klassen et al., 2004; Matza et al., 2004; Riley et al., 2006; Rocco et al., 2021), with two relying on child/adolescent-report alone (Goulardins et al., 2011; Varni & Burwinkle, 2006), the majority on both parent and child/adolescent-report (Becker et al., 2011; Jafari et al., 2011; Limbers, Ripperger-Suhler, Boutton, et al., 2011; Limbers, Ripperger-Suhler, Heffer, et al., 2011; Pongwilairat et al., 2005; Schei et al., 2016), and one on parent, child/adolescent and clinician-report (Bastiaansen et al., 2004).

Similarly to the scarce studies investigating the well-being of children and adolescents with ADHD, these quality of life studies discussed were all conducted internationally, with the majority stemming from the United States (Klassen et al., 2004; Limbers, Ripperger-Suhler, Boutton, et al., 2011; Limbers, Ripperger-Suhler, Heffer, et al., 2011; Matza et al., 2004; Varni & Burwinkle, 2006) and Europe (Bastiaansen et al., 2004; Becker et al., 2011; Riley et al., 2006; Rocco et al., 2021; Schei et al., 2016), and one a piece in Asia (Pongwilairat et al., 2005), South America (Goulardins et al., 2011), and the Middle East (Jafari et al., 2011). This leaves a disproportionate gap as no similar research could be found within an African continent, nor in South Africa specifically, during the literature review for the current study.

The Covid-19 Pandemic

The coronavirus disease (Covid-19) was first detected in Asia in 2019, and rapidly spread to every country in the world, leading the WHO to officially classify the outbreak as a pandemic (WHO, 2020). The ramifications of this pandemic are intricate and wide-reaching, affecting people on all levels, including but not limited to impacting their financial, physical, social, psychological and emotional well-being, and not least children and adolescents and particularly those with ADHD (Bobo et al., 2020; Buheji et al., 2020; Cortese et al., 2020; Imran et al., 2020; Magson et al., 2021; Navarro-Soria et al., 2021; Sciberras et al., 2020; Singh & Singh, 2020; UNESCO, 2020; UNICEF, 2020; United Nations, 2020; Zhang et al., 2020). Within the short space of time of the pandemic's existence, many studies assessing the pandemic's impact on child and adolescent mental health, psychological functioning, quality of life and well-being have been investigated, with the majority finding worsened levels of the aforementioned states (Bourion-Bédès et al., 2021; Caputi et al.,

2021; Chen et al., 2020; Duan et al., 2020; Garcia de Avila et al., 2020; Hou et al., 2020; Magson et al., 2021; Orgilés et al., 2020; Ravens-Sieberer et al., 2021; Saurabh & Ranjan, 2020; Tang et al., 2021; Tso et al., 2020; Vogel et al., 2021; Yeasmin et al., 2020; Zhou et al., 2020).

Impact of the Pandemic on Children and Adolescents

Studies specifically looking at anxiety and depressive symptoms in children and adolescents during the pandemic found significant increases in both (Chen et al., 2020; Duan et al., 2020; Hou et al., 2020; Magson et al., 2021; Tang et al., 2021; Yeasmin et al., 2020; Zhou et al., 2020). Chen et al. (2020) found that of their sample of 1036 adolescents in China, 196 were classified as having anxiety, 112 fell into the threshold of having depression, and 68 as having both anxiety and depression. Similarly, in a sample of 8079 Chinese adolescents, the prevalence of combined depressive and anxiety-related symptoms was 31.3%, and depressive and anxiety symptoms presented percentages of 43.7 and 37.4 respectively (Zhou et al., 2020). Two other Chinese studies by Tang et al. (2021) and Hou et al. (2020) found that 24.9% and 54.5% of their sample experienced symptoms of anxiety and that 19.7% and 71.5% experienced symptoms of depression, respectively; the former finding that 15.2% of their sample experienced significantly increased levels of stress and 85.5% of the latter's sample reporting symptoms of Post-traumatic Stress Disorder (PTSD). Additionally, the latter study also found that 31.3% of their sample reported suicidal ideation and 7.5% attempted suicide during the government enforced lockdown (Hou et al., 2020). Further, clinically depressive symptoms were seen in 22.28% of participants in a study by Duan et al. (2020), while Garcia de Avila et al. (2020) found a 21.8% prevalence rate of anxiety symptoms in young Brazilian children, and results from Bourion-Bédès et al. (2021) regarding anxiety levels found that 9.8% and 15.2% of French students experienced severe anxiety and moderate anxiety respectively during the imposed lockdown in France. Converse results by Jolliff et al. (2021) comparing a pre-pandemic group of adolescents to a matched pandemic group in the United States, found that there was no difference between the two groups with regards to anxiety-related symptoms, while the pandemic group did show higher scores of depression; the difference, however, was not statistically significant.

The psychological distress of having to quarantine was analysed in two matched groups of children and adolescents along with their parents in India, one group having had to quarantine following exposure to the virus and the other group not having been required to quarantine (Saurabh & Ranjan, 2020). Psychological distress was greater in the quarantined group, with 68.59% of the quarantined sample experiencing increased worry, 66.11% helplessness, and 61.98% fear. Insomnia caused by anxiety, boredom, sadness and isolation was also common (Saurabh & Ranjan, 2020). With regards to well-being more specifically, a longitudinal study found that children and

adolescents experienced a significant decrease in psychological and physical well-being during the pandemic when compared to pre-pandemic levels (Vogel et al., 2021). Similar parent-reported studies by Caputi et al. (2021) and Orgilés et al. (2020) investigated the effect of the lockdown on the emotional states and behaviour of children and adolescents. Caputi et al. (2021) found that 21% of children presented with borderline and 12% with severe behavioural and emotional difficulties, which were further predicted by low child resilience, novelty seeking and harm avoidance behaviour, adverse childhood experiences and parents' experience of negative emotion in parent-child conflicts. Similarly, Orgilés et al.'s (2020) results found 85.7% of parents witnessing adverse changes in their children's psychological and emotional states as well as in their behaviour during Italy and Spain's lockdowns, 39% of whom reported these problems manifesting in their children as irritability, 38% as nervousness, 30.4% as uneasiness, 76.6% as difficulty concentrating, 38.8% restlessness, 30.1% as worry, 52% as boredom, and 31.3% as feelings of loneliness.

Studies exploring the quality of life of children and adolescents during the pandemic versus matched data from before the existence of Covid-19 saw varying results: Ravens-Sieberer et al. (2021) found that 66% of children and adolescents reported an extreme increase in burden due to the pandemic, and compared to pre-Covid-19 controls, these children and adolescents experienced 24.9% worsening in quality of life, 9.2% higher anxiety, and 7.9% poorer mental health-related issues. Vallejo-Slocker et al.'s (2020) sample of children and teenagers living in foster or residential care in Spain during the pandemic and subsequent lockdown, versus pre Covid-19 data on a matched sample, found comparatively diverse results to Ravens-Sieberer et al.'s (2021) study; although the Covid-19 group had worse psychological well-being compared to the pre Covid-19 group, there was no significant difference in the groups' quality of life scores, thus suggesting that the pandemic had no adverse effects on quality of life (Vallejo-Slocker et al., 2020).

In specifically exploring parents and their children's psychological state and well-being during the pandemic and after lockdown, findings have reported overall worse scores for both parents and children in both constructs (Gassman-Pines et al., 2020; Patrick et al., 2020; Spinelli et al., 2020), with many families having reported job loss, caregiving burdens and illness as associated factors for such scores (Gassman-Pines et al., 2020). Patrick et al. (2020) noted that worse mental health and emotional well-being were reported in one in four parents, and that worse behavioural issues were reported by parents in one in seven children. Lastly, Spinelli et al. (2020) found that children's emotional and behavioural difficulties were either aggravated or assuaged by parents' dyadic, as well as individual stress, and the manner in which they coped with it.

Impact of the Pandemic on Children and Adolescents with ADHD

UNICEF (2020), as well as a fair few studies on the topic, have emphasised that the obstacles brought about by the Covid-19 pandemic and the multitude of adverse effects thereof, are not only more likely but have been proven to be worse in individuals with disabilities, including for children and adolescents with ADHD; children and adolescents with ADHD already experience various difficulties that those without the diagnosis do not, leaving this population more vulnerable and susceptible to distress and the negative ramifications of the pandemic (Cortese et al., 2020; Gupta et al., 2020; Navarro-Soria et al., 2021). Studies looking specifically at the population of children and adolescents with ADHD have generally found the pandemic as having had an adverse effect on their well-being and mental health (Korpa et al., 2021; Navarro-Soria et al., 2021; Sciberras et al., 2020; Shah et al., 2021; Sibley et al., 2021; Zhang et al., 2020). Many studies reported the worsening of ADHD symptoms during the pandemic and government implemented lockdowns (Bobo et al., 2020; Melegari et al., 2021; Shah et al., 2021; Sibley et al., 2021; Zhang et al., 2020).

According to Shah et al. (2021), lockdown caused increased hyperactive and disruptive behaviour and increased irritability, and Zhang et al. (2020) found that children and adolescents' as well as their parents' negative mood and emotional states due to the pandemic, were associated with worsened ADHD symptoms. Melegari et al. (2021) conducted a study with a sample of 992 parents of children and adolescents with ADHD in Italy, specifically investigating six emotional or mood states (irritability, sadness, little enjoyment/interest, boredom, anxiety and temper tantrums), and five disrupted behaviours (argumentativeness, restlessness, verbal and physical aggression, and opposition) based on frequency of each per week. Their findings reported that the emotional and behavioural states of those children and adolescents with low severity of ADHD symptoms had worsened during lockdown. Paradoxically, children and adolescents with high and moderate ADHD symptom severity demonstrated improved emotional states and behaviours during lockdown (Melegari et al., 2021). Sciberras et al. (2020) saw poor functioning in behaviour due to child stress related to the pandemic, as well as increases in negative emotional states including sadness, depressed mood and loneliness, while Korpa et al. (2021) also found worsened overall mental and physical health among ADHD children and adolescents. Furthermore, stress related to Covid-19 among this population was associated with increased nervousness, irritability, anxiety, fatigue, fidgety behaviour, worry, distractibility, diminished enjoyment in activities, and negative thoughts (Sciberras et al., 2020).

Similarly, significantly higher anxiety levels, sleep problems and executive functioning issues were seen in a study by Navarro-Soria et al. (2021), which compared children and adolescents with ADHD to matched controls without the diagnosis. Bobo et al. (2020) found interesting results, in that

34.71% of their sample of children and teenagers with ADHD had worsened reported well-being during the pandemic, 34.33% showed no changes in well-being, and 30.96% displayed improvements in well-being. Worsened well-being was associated with heightened displays of ADHD symptoms, oppositional and defiant behaviour and attitudes, emotional outbursts, sleep problems, anxiety, and struggles with home and online schooling. Save for the study by Sibley et al. (2021) which was both parent and child-report, all these studies were based on parent-proxy (Bobo et al., 2020; Korpa et al., 2021; Melegari et al., 2021; Navarro-Soria et al., 2021; Sciberras et al., 2020; Shah et al., 2021; Zhang et al., 2020).

Risk and Protective Factors

The studies conducted with children and adolescents with ADHD as well as those without, all pointed to varying risk and protective factors associated with children and adolescents' mental health, psychological and emotional well-being, quality of life, life satisfaction and overall well-being. Risk factors included living in a home with limited space (Ravens-Sieberer et al., 2021), having no direct access to the outdoors (Bourion-Bédès et al., 2021) and less time spent outdoors (Navarro-Soria et al., 2021), partaking in minimal exercise (Navarro-Soria et al., 2021), living in an urban area (Duan et al., 2020), living in single-parent families and having a mother with a mental illness (Tso et al., 2020), increased parent-child and family conflict (Korpa et al., 2021; Magson et al., 2021), tension in the home environment (Bourion-Bédès et al., 2021), having a tendency towards emotion-focused coping style (Duan et al., 2020), worry related to Covid-19 (Korpa et al., 2021; Magson et al., 2021), having a family member or friend with Covid-19 (Bourion-Bédès et al., 2021; Duan et al., 2020), school closure (Korpa et al., 2021; Navarro-Soria et al., 2021), reduced learning time and final examination delays (Bourion-Bédès et al., 2021), requiring special educational needs that were not met (Tso et al., 2020), increased screen time (Duan et al., 2020), and increased age (Zhou et al., 2020). The four most common risk factors cited by many of the studies were difficulties with online learning (Bobo et al., 2020; Korpa et al., 2021; Magson et al., 2021; Navarro-Soria et al., 2021; Sibley et al., 2021), difficulty socially isolating (Bourion-Bédès et al., 2021; Korpa et al., 2021; Magson et al., 2021; Navarro-Soria et al., 2021; Sibley et al., 2021), low family socioeconomic status (Jolliff et al., 2021; Tso et al., 2020; Vogel et al., 2021), and being female (Duan et al., 2020; Magson et al., 2021; Vogel et al., 2021; Zhou et al., 2020).

A theme that piqued in multiple studies was the fact that children and adolescents were not concerned about contracting the virus themselves; instead, their worry stemmed from the possibility of family members and friends contracting the virus and the health effects and implications thereof (Bourion-Bédès et al., 2021; Magson et al., 2021; Vogel et al., 2021). Girls were also reported to worry more than boys about family, friends, their community and the world regarding the pandemic

(Vogel et al., 2021). Not being able to see and socialise with friends and family was found to be another theme, whereby children and adolescents reported this measure by their governments as being the most difficult rule to comply with, with Vogel et al. (2021) reporting that 80% of their adolescent sample stated how much they missed in-person contact with friends (Magson et al., 2021; Saurabh & Ranjan, 2020; Vogel et al., 2021).

Along with the many risk factors reported, there were too a handful of protective factors cited in these studies. Protective factors against the deterioration of mental health in children and adolescents included having friend and family support and feeling emotionally and socially connected to others (Bourion-Bédès et al., 2021; Magson et al., 2021), as well as the tendency towards a more problem focused coping style (Duan et al., 2020). Hou et al. (2020) found that a specific protective factor against suicidal ideation and attempts among adolescents and children included having one or more siblings.

Specifically concerning the abrupt change to online learning, difficulties with the new mode of learning was evident (Bobo et al., 2020; Magson et al., 2021; Sibley et al., 2021) with some of the most common difficulties experienced by children and adolescents being technology-related issues (Magson et al., 2021), confusion regarding learning materials (Magson et al., 2021), lack of motivation to do school work and attend online lessons (Magson et al., 2021; Sibley et al., 2021), having no direct way of asking teachers for help or clarification (Magson et al., 2021), and lastly, parents reported that teachers appeared to have forgotten the learning accommodations necessary for some students (Bobo et al., 2020).

The Positive Side of the Pandemic

Along with the myriad adverse consequences of the pandemic, there too have been many positive aspects. Tang et al. (2021) found that, overall, children and adolescents perceived home quarantine more positively than negatively. The authors found that the majority of the sample perceived no change in life satisfaction, and 21.4% reported becoming more satisfied with life during the lockdown (Tang et al., 2021). This is in line with the previously mentioned 30.96% of children and adolescents specifically with ADHD whose well-being improved during the lockdown in France (Bobo et al., 2020), and the Spanish sample of children and teenagers whose quality of life remained the same during the pandemic (Vallejo-Slocker et al., 2020). Further, various countries enforced lockdowns which resulted in many studies reporting the increased time spent with family as a chief benefit (Arnout & Al-Sufyani, 2021; Bentenuto et al., 2021; Fegert et al., 2020; Sciberras et al., 2020; Shah et al., 2021; Tang et al., 2021). Parents reported enjoying the opportunity to spend more time with (Bentenuto et al., 2021) and care for their children (Lades et al., 2020), and children reported enjoying spending more time with their parents and families (Sibley et al., 2021; Tang et al., 2021)

and liking that their parents were available to help with their schoolwork (Sciberras et al., 2020). Shah et al. (2021) found that there was a 72.9% increase in parents spending time with their children and a 67.6% increase in parents praising their children, and Bobo et al. (2020) found increased self-esteem in their sample of children and adolescents with ADHD during this time.

A few studies have highlighted how school closures have assisted in lessening school-related-anxiety and school pressures among children and adolescents (Bobo et al., 2020; Fegert et al., 2020; Masi et al., 2021; Sciberras et al., 2020). Staying home from school eased anxiety and worry associated with school, and created more calm in many learners (Masi et al., 2021). Being less busy, more relaxed (Sciberras et al., 2020), having a flexible schedule (Bobo et al., 2020), and having more time for interests, hobbies and personal activities (Tang et al., 2021) were cited as principal benefits of the Covid-19 pandemic restrictions. In a study with adults, Lades et al. (2020) found that positive emotion and increased well-being inducing activities included going for walks, exercising, gardening and engaging in hobbies. Arnout and Al-Sufyani (2021) saw greater gratitude, improved personal relationships, more spiritual connection, and heightened resilience and emotional strength in their sample of adults in Saudi Arabia.

Thus, the importance of the strength-based approach when viewing and understanding individuals with ADHD is emphasised, as are the many nuances of the concept of well-being. The wide-ranging impact of the Covid-19 pandemic on the population of children and adolescents, and specifically those with ADHD, highlights the significance of this study's purpose.

Chapter 3: Methodology

The following chapter outlines the methodology of the current study, beginning with a description of the sampling method used, and the descriptive statistics and characteristics of the sample in question. The research design is addressed next, then a detailed account of the procedure followed in acquiring the data and the various adjustments that took place. The demographic questions and the EPOCH measure of child and adolescent well-being utilised by the study is described, followed by a necessary discussion of the advantages and disadvantages of well-being measures, as well as suggested recommendations for the process of selecting well-being measures to be used in research. The chapter ends with an account of the method of data analysis and interpretation used, including a brief description of 'I-poems' for the qualitative data, as well as the necessary ethical features considered throughout the study.

Sample and Sampling

The sampling strategy used for this study was volunteer, non-probability and purposive (Laher, 2016; Salkind, 2010; Terre Blanche et al., 2006). This strategy was regarded as the most appropriate method for the current study as the children/adolescents and their parent(s)/guardian(s)/caregiver(s) partaking in the study volunteered and thus were willing to do so, and the sample was a subset of the specific population under study with specific criteria that were met by all the respondents (Salkind, 2010). This strategy was ideal in that it ensured the aim, purpose and research questions as well as the paradigm of the study were aligned and met, in procuring a relatively large sample size and guaranteeing researcher objectivity (Salkind, 2010).

The sample's demographic make-up is shown in Table 1 and 2 below. The sample was made up of 376 children and adolescents between the ages of 10 and 18 years old, with a confirmed diagnosis of ADHD, attending school in South Africa, and who understood English at a Home Language or First Additional Language level. Exclusionary criteria were children and teenagers older or younger than the 10 to 18-year-old age range, those without a confirmed diagnosis of ADHD, those not living and attending school in South Africa, and those who did not understand English at a Home Language or First Additional Language level. The age group representing the majority of the sample were 12-year-olds at 16.5%, with 18-year-olds representing the minority age group at 5.3%. Further, 64.8% of the sample were male, 34.4% were female, and three individuals identified as non-binary. The ethnic group most represented in the study at 65% was White, followed by African at 20.2%, Coloured at 8.9%, Indian at 4.6%, and the remaining minority included a variety of other and mixed ethnicities. The sample's home language was varied; English was the most common home language (61.4%), followed by Afrikaans (16.5%). Further languages most commonly represented was IsiZulu (4.8%) while the two least represented were IsiNdebele (0.3%) and Xitsonga (0.3%).

There were also numerous respondents who had two or three home languages. Gauteng was the province that boasted the vast majority of respondents at 72.7%, after which was KwaZulu-Natal at 13.9% and Western Cape at 8.3%. Neither the North West nor the Northern Cape were represented in the current study, and the least represented province was Limpopo at 0.3%.

Detailed demographic information pertaining to the sample's school-related information is in Table 2 below. The category of school most highly represented was public schools (48.5%), closely followed by private schools (42.9%), with the lowest representation being home schooling (2.2%). The vast majority of the sample attended remedial schools (64.9%), while 13.5% attended assisted learning schools, 13% attended mainstream schools and 5.1% attended special needs schools. There were also a handful of other school types attended, such as schools for gifted children and online learning schools. Further, 51.5% of the sample attended school 200 out of 200 school days, 30.5% attended 199-170 days while three respondents attended less than 19 out of 200 school days.

In the case of missing values for the entire study's data, the pairwise deletion method was used, whereby data was excluded only for the analyses for which that specific data was missing. This method was deemed the most appropriate as it maximises all the data received and increases the strength of the analyses while ensuring reliability (Field, 2018).

Table 1

Descriptive Statistics (Frequencies and Percentages) for the Sample's Demographic Information, Excluding *School-Related Information*

Measures	***Freq***	***%***	***Valid %***	***Missing values freq***
Age				1
10 years old	55	14.6	14.7	
11 years old	53	14.1	14.1	
12 years old	62	16.5	16.5	
13 years old	49	13.0	13.1	
14 years old	40	10.6	10.7	
15 years old	31	8.2	8.3	
16 years old	34	9.0	9.1	
17 years old	31	8.2	8.3	
18 years old	20	5.3	5.3	
Gender				1
Female	129	34.3	34.4	
Male	243	64.6	64.8	
Non-binary	1	.3	.3	
Identifies as non-binary, biologically female	1	.3	.3	
Identifies as non-binary, biologically male	1	.3	.3	
Ethnic Group				5
African	75	19.9	20.2	
Asian	2	.5	.5	
Asian & White	1	.3	.3	
Coloured	33	8.8	8.9	
Coloured & Indian	1	.3	.3	
Indian	17	4.5	4.6	
Mixed Ethnicity	1	.3	.3	

White	241	64.1	65.0	
Home Language				0
Afrikaans	62	16.5	16.5	
Afrikaans & English	16	4.3	4.3	
English	231	61.4	61.4	
English & Italian	1	.3	.3	
English & French	1	.3	.3	
English, IsiXhosa & IsiZulu	1	.3	.3	
English & IsiZulu	6	1.6	1.6	
English & Portuguese	1	.3	.3	
English & Sesotho	1	.3	.3	
English & Setswana	1	.3	.3	
English & Siswati	1	.3	.3	
English & Tshivenda	2	.5	.5	
Filipino	1	.3	.3	
IsiNdebele	1	.3	.3	
IsiXhosa	6	1.6	1.6	
IsiXhosa & IsiZulu	1	.3	.3	
IsiZulu	18	4.8	4.8	
IsiZulu & Sesotho	2	.5	.5	
IsiZulu, Sesotho & Sepedi	1	.3	.3	
Korean	1	.3	.3	
Sepedi	6	1.6	1.6	
Sesotho	6	1.6	1.6	
Setswana	5	1.3	1.3	
Shona	1	.3	.3	
Siswati	2	.5	.5	
Xitsonga	1	.3	.3	
Province				3
Eastern Cape	5	1.3	1.3	
Free State	2	.5	.5	
Gauteng	271	72.1	72.7	
KwaZulu Natal	52	13.8	13.9	
Limpopo	1	.3	.3	
Mpumalanga	11	2.9	2.9	
Northern Cape	0	0	0	
North West	0	0	0	
Western Cape	31	8.2	8.3	
Medication for ADHD				1
No	87	23.1	23.2	
Yes	288	76.6	76.8	
Intervention/therapy for ADHD				6
No	132	35.1	35.7	
Yes	238	63.3	64.3	

Note. $N = 376$

World prevalence rates for ADHD in children and adolescents for most cultures are estimated to be between 5% (American Psychiatric Association, 2013b), 7.2% (Thomas et al., 2015), and 14% (Xu et al., 2018) with the prevalence rates increasing each year. Specifically regarding gender, the most recent North American data from 2015 to 2016 showed a prevalence of 14.0% in males and 6.3% in females (Xu et al., 2018), a gender difference broadly mirrored by the 2:1 male to female ratio reported by the DSM-V (American Psychiatric Association, 2013b). These gender

differences are too reflected in the current study's sample, with an almost 2:1 male (64.8%) to female (34.4%) ratio.

Table 2

Descriptive Statistics (Frequencies and Percentages) for the Sample's School-Related Demographic Information

Measures	*Freq*	*%*	*Valid %*	*Missing values freq*
Category of School				17
Home School	8	2.1	2.2	
Lockdown learning	1	.3	.3	
Model C School	16	4.3	4.5	
Private School	154	41.0	42.9	
Public School	174	46.3	48.5	
Remedial School	2	.5	.6	
Semi-private School	1	.3	.3	
Special Needs School	2	.5	.3	
Trade School	1	.3	.3	
Type of School				6
Assisted Learning School	50	13.3	13.5	
British Curriculum Think Digital On-line	1	.3	.3	
Educational Support School	1	.3	.3	
Home school	2	.5	.5	
Home school through a tutoring institution	1	.3	.3	
Independent-supporting learning difficulties	1	.3	.3	
Individual Tutoring	1	.3	.3	
LSEN	1	.3	.3	
Mainstream School	48	12.8	13.0	
Mainstream with assisted learning	1	.3	.3	
Private School	1	.3	.3	
Radford House-for gifted children	1	.3	.3	
Remedial School	240	63.8	64.9	
School specialised for gifted children	1	.3	.3	
Small classes private school	1	.3	.3	
Special Needs School	19	5.1	5.1	
Average School Attendance (days)				38
200 out of 200 school days	174	46.3	51.5	
199-170 out of 200 school days	103	27.4	30.5	
169-140 out of 200 school days	36	9.6	10.7	
139-110 out of 200 school days	12	3.2	3.6	
109-80 out of 200 school days	4	1.1	1.2	
79-50 out of 200 school days	5	1.3	1.5	
49-20 out of 200 school days	1	.3	.3	
Less than 19 out of 200 school days	3	.8	.9	

Note. N = 376

Research Design

The research design for this study was a cross-sectional, non-experimental, survey design, whereby the survey was in the form of a questionnaire with all questions, save one, being close-ended (Cohen et al., 2018; Leary, 2001; Zedeck, 2014). There was no random assignment as there were no experimental nor control groups, and neither variables of ADHD nor well-being allowed for

manipulation, thus, disallowing causal relations. As such, non-spuriousness, covariation and temporal precedence were not met, which placed this study in the category of non-experimental (Rosnow & Rosenthal, 2013; Zedeck, 2014). The data contained multiple variables and, as data was collected only at one point in time, the study was deemed as cross-sectional which provided insights only at a specific point in time. Data was collected both electronically and in hardcopy paper-and-pencil format via a questionnaire survey (Cohen et al., 2018; Groves et al., 2011). The advantages of this research design were seen in the descriptive and exploratory data collected, allowing for detailed analysis of data trends and robust conclusions which in turn have a generalisable nature of interpretation (Leary, 2001; Salkind, 2010). The biggest disadvantage of this study's design was that the behaviour of the sample under investigation could not be captured.

Procedure and Data Collection

From August 2021 to April 2022, private remedial schools, ADHD support groups (in-person and online), and educational psychologists in all nine South African provinces were contacted in acquiring potential respondents. These parties were asked to circulate the invitation link to the study to their respective students, members and clients. This method appeared to increase the likelihood that those contacted fitted the criterion of having an ADHD diagnosis. The aforementioned parties were contacted in 'waves', where the first wave included online ADHD support groups and approximately five of the bigger remedial schools in each province. Many more 'waves' were initiated after this as little interest was piqued and few data entries were gained. Resultantly, more private remedial schools, in-person ADHD support groups and educational psychologists were contacted. Efforts were further increased by following up with key informants. In total, between 80 and 100 private remedial schools, approximately 10 ADHD support groups, and between 150 and 180 educational psychologists were contacted in procuring respondents for this study.

Data collection was in the form of a structured, online, close-ended questionnaire with one open-ended question (Lavrakas, 2008; Leary, 2001; Zedeck, 2014). The initial means of data collection was a digital survey method using *Google Forms*, ideal in its ease of use, cost-effectiveness, and easily distributable link, as well as its alignment with the research criteria. As soon as ethical clearance was granted by both the Education and Health Sciences Ethics Committees (EDU056/21) at the end of July 2021, the first wave of contact was initiated. After garnering few responses, the second and consequent waves were initiated soon afterwards, in around October 2021. In an effort to procure more responses and upon the researcher's request, the Education Ethics Committee granted approval in October 2021 on the amendment to include private mainstream schools in this study's data collection method. Unfortunately however, no mainstream schools were interested or willing to take part. Initial contact to private remedial schools was done

via email by the researcher (see appendix E for email template), after which follow-up contact included further emails and/or telephone calls, where contact details were solicited from the schools' official websites and/or Facebook pages. With regards to educational psychologists and professionals running in-person ADHD support groups, they too were contacted by the researcher via email, where their contact details were obtained from their practice websites, or they were messaged directly on LinkedIn. The administrators of various ADHD Facebook support groups were contacted on Facebook by the researcher, after which acceptance into the group was granted, and permission to post about this study and request respondents was given. Many private remedial schools' principals and heads of support teams requested in-person meetings with the researcher in order to discuss the aims, procedures and other details of the study before deciding on whether or not they would be willing to partake in the study. One school requested that the researcher attend their parent assembly morning and act as a guest speaker to discuss the study and request participation, as well as be available for questions afterwards. Similarly, an educational psychologist running an in-person support group for parents of ADHD children in the Western Cape, requested that the researcher make a video explaining the study and requesting participation, which was later shown in one of the group's monthly meetings.

Depending on the preference of the parties involved, the invitation link to participate in the study was sent via WhatsApp, email, posted on Facebook groups and/or loaded on schools' parent communication portals. However, after approximately five to six months of countless requests – in the forms of emails and phone calls – circulations and sharing of the invitation link, less than a quarter of the final number of 376 responses were obtained; approximately 30 responses short of the initial aim to receive 100 responses. Around this time one school asked to rather share the questionnaire to their eligible parent and student bodies in paper format. This proved to be valuable, and garnered many more responses than the original method of the online questionnaire; therefore, the data collection method was adapted for those schools and educational psychologists who were willing to receive paper-based surveys. A couple of public remedial schools also became interested in helping procure respondents at this later stage of data collection, in March and April of 2022. A hard copy pdf version of the *Google Forms* questionnaire was created for those schools and other parties who preferred and were willing to distribute paper copies to their parent body and clients (see appendix F). For those schools and parties who were in Gauteng, the researcher printed and distributed the hard copies and collected them again once they had been returned. For the schools and parties who were in other provinces other than Gauteng, the pdf version of the questionnaire was emailed to them by the researcher. The parties then printed the questionnaires themselves (and very kindly declined remuneration for printing costs), after which the completed

questionnaires were either scanned and emailed to the researcher (in the case of minimal questionnaires completed), or couriered to the researcher, who personally paid for the transport costs.

As soon as the hard copy questionnaires were received from the various schools and other parties, the data was manually entered into the original *Google Form*, so that all the data was digitalised. Thereafter, the data was exported into an *Excel* spreadsheet. The hard copy questionnaires were stored in a locked filing cabinet, and all digital data for the study was saved on a password protected laptop, of which both the cabinet and laptop were accessible only by the researcher.

Low response rates is a typical limitation of this data collection method, hence the method of circulating the study's invitation through multiple avenues (Jones et al., 2013). In addition to the usual constraints in online surveys, the study also contended with the pressures regarding the time of potential respondents during the global Covid-19 pandemic. In order to mediate this, all nine provinces in South Africa were included as the geographical region of this study to expand its reach. Furthermore, the questionnaire was kept short (taking 10-20 minutes to complete) as this is a significant factor in determining a respondent's willingness to partake in a study, and thus a big determiner of response rates (Lavrakas, 2008). Nonetheless, this method of data collection was practical, allowed for anonymity of respondents, enabled somewhat quick data compilation, was relatively easy to develop and implement, and relatively cost and resource-effective (Lavrakas, 2008; Wright, 2005). Although the adapted paper-and-pencil data collection format considerably increased cost and time resources for the researcher, it was deemed worthwhile as the sample size was substantially higher than expected and the results of the study have added significant knowledge on the chosen topic.

Instruments

Demographic Information

Parent(s)/caregiver(s)/guardian(s) were asked to answer some open-ended and forced choice demographic questions (see appendix B) about their child/teenager. The questions asked about the respondent's age, gender, ethnicity, home language/s, province of residence, attendance at a private, public, model C or home school, attendance at a remedial, mainstream or special needs school, average number of school days attended in the last year (including home-schooling, going to school in-person and having school online), intervention/therapy received for ADHD difficulties/symptoms, and whether currently on medication for ADHD.

Subjective Well-being

The main information of the research regarding subjective well-being was collected using the EPOCH, an instrument for non-commercial assessment and research use and freely available after registering (Kern et al., 2016). The EPOCH is a standardised, comprehensive, psychometrically sound, self-report, English battery which assesses subjective well-being according to the adjusted dimensions of Seligman's (2011) PERMA model of well-being for children and adolescents between the ages of 10 and 18 years old (Kern et al., 2016). The 20-item questionnaire assesses well-being with four questions to each of the five domains of *engagement*, *perseverance*, *optimism*, *connectedness* and *happiness*. Each question is posed in the form of a statement, to which respondents choose the extent to which they agree with the statement on a 5-point Likert-type scale: 1) "almost never/not at all like me", 2) "sometimes/a little like me", 3) "often/somewhat like me", 4) "very often/mostly like me", 5) "almost always/very much like me". Example questions for each domain are as follows: "When I do an activity, I enjoy it so much that I lose track of time" (*engagement*), "I finish whatever I begin" (*perseverance*), "In uncertain times, I expect the best" (*optimism*), "When something good happens to me, I have people who I like to share the good news with" (*connectedness*), and "I love life" (*happiness*) (Kern et al., 2016). Overall well-being scores were computed by calculating the mean for all of the twenty EPOCH items, while means were calculated for the four items in each domain in order to determine domain-specific scores, of which higher scores indicate better well-being.

The second to last question included the statement "I feel better than I did when the Covid-19 virus came to South Africa and everything changed", to which respondents had three Likert-type options based on the extent to which they agreed or disagreed with the statement: 1) "I feel worse", 2) "I feel the same", and 3) "I feel better". This question was included to ascertain the long-lasting adverse effects of the pandemic on the respondents' well-being; whether, if asked to complete the EPOCH in the height of South Africa's lockdown, the respondents' well-being scores would have been relatively similar or infinitely different in either a positive or a negative direction. The EPOCH's psychometric properties of validity and reliability have been established by Kern et al. (2016), with Cronbach α values as follows in six different samples: .87; .94; .85; .91; .90; .89. The last question was in the form of an open-ended question, asking the respondents to give any additional information that they felt comfortable sharing regarding how living in a pandemic had made them feel.

Advantages and Disadvantages of Well-being Measures

There are many ongoing debates regarding well-being measures and their validity, reliability and general utility adequacy (Cooke et al., 2016; Helliwell & Wang, 2012). A particular concern

among many is the seeming interchangeability of the terms 'happiness' 'well-being', 'quality of life', 'life satisfaction' and 'wellness', which is evident in the definition of various measures used, and contributes to the proliferation of these constructs and mesh of similar items used in all, thus further complicating their delineation. This leaves well-being specific measures as often difficult to distinguish and as dependent on advanced theoretical frameworks in their construction and interpretation (Cooke et al., 2016; Diener; Fernandes et al., 2012).

Well-being and similar construct measures, do not typically contain items or take into account the factors of familial financial security, an individual's sense of safety and security, basic needs being taken care of, and family functioning or lack thereof (Cooke et al., 2016; Webb & Wills-Herrera, 2012). Cromhout et al. (2022) found that well-being measures and the operationalisation and results thereof, could differ across age groups, suggesting that some well-being measures are more suitable for individuals of certain developmental stages than others, and thus garnering varying degrees of reliability and validity in the results. Similarly, it is argued that well-being measures cannot always be reliably used across cultures, posing a disadvantage for the accuracy of data for those measures which are not developed in the context in which they are used (Cummins; Rothmann, 2013b).

Further, Pavot (2018) describes some salient issues in measuring subjective well-being, citing transient factors as having the most effect on individuals' responses on items. Factors such as an individual's current mood influencing results, perhaps based on weather, as well as the specific situation surrounding the assessment of well-being, are such transient factors mentioned. In their own research, however, both Eid and Diener (2004) and Lucas and Lawless (2013) disregard such factors as current mood states as having a less than significant impact on the results obtained by subjective well-being measures. Factors that influence the specific situation of the assessment include factors that can be mitigated and cancelled out, depending on the research design, methodology and the researcher's purpose. For example, social desirability of 'being happy' is mitigated in anonymous survey designs as compared to face-to-face interviews, and ensures larger sample sizes to further allay the influence of such transient factors, which are both characteristics of the current study (Pavot, 2018).

In the 2012 World Happiness Report, Helliwell and Wang (2012) discuss the intricate challenges that measuring 'well-being' or 'happiness' presents. Firstly, a crucial distinction to consider is that of cognitive life evaluations versus emotional reports, and which of the two a well-being scale purports to measure and how the items are phrased in this aim (Helliwell & Wang, 2012). Cognitive life evaluations generally ask 'as a whole' questions, such as how happy or satisfied an individual is with their life as a whole. Cognitive evaluations are just as the name suggests, mental

judgments made with the help of reasoning and weighing up of pros and cons. On the other hand, emotional reports are descriptions of feeling states, with little influence from the mind (Helliwell & Wang, 2012). Secondly, the distinction between remembered and experienced well-being is also necessary to consider, where the first refers more to a memory of having experienced well-being in the past, and the latter is a well-being experienced moment-by-moment, usually in the present. Lastly, Helliwell and Wang (2012) distinguish between experienced well-being as being a momentary emotional state, where remembered well-being relates to the average feeling encompassing a longer period of time. Therefore, measures of well-being and those who utilise them need to be mindful of these three considerations when being developed and used, and they need to very distinctly layout their purposes in measuring well-being (Helliwell & Wang, 2012).

The importance of thorough tests of reliability, validity, fairness and other psychometric properties in establishing psychological measures is emphasised as a necessity for the advancement of this area of social and other sciences (Barrington-Leigh, 2022; Helliwell & Wang, 2012). Helliwell and Wang (2012), and Barrington-Leigh (2022) state that well-being measures, and thus the very necessity of measuring well-being, have progressed considerably in the last decades, and that their importance is seen in all sectors of life – including but not limited to education, social and economic supports, healthcare and public policy – which make them crucial to these sectors and to improving the very thing they aim to measure: individual human well-being. Another advantage advocated by Jahedi and Méndez (2014) in their study, is the necessity, and oftentimes outright preference, of subjective over objective measures in measuring the unobservable and personal in individuals, despite the systemic biases and influences that subjective measures reportedly have.

Selecting Well-being Measures

VanderWeele et al. (2020) suggest recommendations regarding the selection of subjective well-being measures, stating that the specific purpose for which the measures are to be used and in what context, are the two main factors driving the selection of well-being measures to be utilised. The authors assert that for studies with the purpose of measuring general psychological subjective well-being specifically, four factors need to be considered in deciding on which measure to utilise (VanderWeele et al., 2020). First, scales that measure multiple dimensions of well-being are suggested, such aspects being positive affect, relationships, mastery, life purpose, engagement, personal growth, autonomy, optimism, life meaning, and life satisfaction, among others. Second, each of these well-being dimensions should include multiple items, to corroborate answers given to each item. Third, the use of two or more scales designed to measure the construct of well-being is recommended in ensuring the robustness of conclusions drawn. Lastly, it is recommended that the

psychometric properties of the measures chosen are statistically acceptable (VanderWeele et al., 2020).

This study's well-being measurement of the EPOCH meets three recommendations outlined by VanderWeele et al. (2020): multiple dimensions of well-being were measured (*engagement*, *perseverance*, *optimism*, *connectedness* and *happiness*), each dimension has four items to its name, and the EPOCH's psychometric properties have been proven to be reliable, valid and fair (Kern et al., 2016). Further, this study did not utilise more than one measure of child and adolescent well-being along with the EPOCH, due to the amount of time it would have taken for respondents to answer another scale; time that could have led to more pronounced distractibility, inattention and impulsivity, thus possibly compromising results.

Data Analysis and Interpretation

The numerical data were downloaded from the *Google Form* as an *Excel* spreadsheet, after which they were assigned codes and cleaned before being analysed using *SPSS* version 27, with the help of the Internal Statistical Consultation Service (ISCS) at the University of Pretoria. Descriptive statistics were conducted for the variables obtained from the demographic questions (categorical), the EPOCH scores (numerical), and the second to last question (categorical), in order to analyse and determine frequencies and percentages, while inferential statistics were further conducted with the EPOCH scores (Field, 2018; Howell, 2014; Marczyk et al., 2005). Internal consistency (Cronbach's α) and Confirmatory Factor Analysis (CFA) were computed in order to analyse the reliability of the EPOCH scale in the context of South Africa and relevant to the specific population under study (Field, 2018).

The one open-ended question asking respondents how it was like living in a pandemic, was analysed using a combination of the 'I-poems' and 'it was poems' method (Edwards & Weller, 2015; Gilligan, 1982). The poem gets its name from the fact that each line in an I-poem typically begins with 'I'. To incorporate the varied responses given in answer to the open-ended question, I-poems were combined with 'it was-poems' (Edwards & Weller, 2015; Gilligan, 1982). These methods allow the researcher to create poems with the respondents' voices and experiences, thus engaging with the data in a more emotional and creative manner, as well as producing results of a qualitative nature that provide a different level of insight that quantitative analysis and objective data cannot produce (Edwards & Weller, 2015; Koelsch, 2015; Kucan, 2007). Here, each respondents' answer to the question "How has living in a pandemic made you feel?", was ordered into one of three broad categories: 1) positive experiences and feelings, 2) negative experiences and feelings, and 3) neutral experiences and feelings. Following this, common themes were established and 'I' and 'it was'

combination poems were created for each category, with the various themes clustered together in stanzas.

The quantitative data analysis method and interpretation have its limitations in the lack of detailed, nuanced and contextual information available (Salkind, 2018). However, this limitation is mediated in this study as the open-ended question and the contextual and raw responses it garnered as seen in the 'it was/I-poems', acts as a means of mitigating these disadvantages. This method is helpful for larger samples and enables the researcher to observe, analyse and explore data and any possible trends, findings that are relatively generalisable; thus aligning with the purpose, research questions and paradigm of the current study (Lavrakas, 2008; Leary, 2001; Salkind, 2010). The predominantly quantitative data in the current study is supplemented through the use of the qualitative 'I-poem' method for data analysis of the open-ended question. The 'it was/I-poems' give an element of the personal and emotional subjective contexts of participants, as well as provide more nuanced information that is lacking in the quantitative data analysis method (Edwards & Weller, 2015; Koelsch, 2015).

Ethical Considerations

Conducting research with the underage population of children and adolescents is always a matter requiring great sensitivity, as is the theme of ADHD and well-being during the pandemic. Thus, strict ethical standards were considered and applied throughput the study.

Ethical clearance (EDU056/21) was obtained through two of the University of Pretoria's ethics committees, the Faculty of Education Ethics Committee and the Faculty of Health Sciences Research Ethics Committee. Explanation of the study and other relevant information was provided in separate participant information sheets for respondents and their parent(s)/guardian(s)/caregiver(s) (Israel & Hay, 2006). Parent(s)/guardian(s)/caregiver(s) were also provided with consent forms on which indication of understanding and permission for their child to participate was requested as an initial first step to being part of the study. Similarly, assent forms were provided for respondents to indicate their understanding of the study's purpose and their willingness to partake in it (Israel & Hay, 2006).

Complete anonymity and confidentiality was guaranteed throughout the study, as stated in both participant information sheets (see appendix C and D) (Protection of Personal Information Act, 2013). No identifying information was asked, all data was stored on a password-protected laptop accessible by the researcher only, and all information and data obtained were used only for the purposes of this study (Nortjé et al., 2019).

There was no material gain offered to respondents or their parent(s)/caregiver(s) for being part of the study, and there was no known direct harm in participating. This time of the pandemic

has, however, been challenging and thus fragility may have been heightened in some respondents, where certain questions could possibly have triggered negative thoughts, memories or emotional responses (Israel & Hay, 2006; Kern et al., 2016; Oliver, 2010). In order to minimise harm in the event of such possibilities, telephonic numbers for private and toll-free counsellors were provided in the questionnaire (Israel & Hay, 2006). Fortunately, as far as the researcher is aware, these contact details were not utilised as respondents did not require the support that was offered. It was made clear that respondents and their parent(s)/guardian(s)/caregiver(s) had the right to withdraw from the study any time before submission of the questionnaire without any negative consequences to them, as the study was completely voluntary (Nortjé et al., 2019).

The methodology of the study and the details thereof are discussed, including the sampling method, characteristics of the sample, research design, procedure and data collection. The self-report subjective well-being measure used (EPOCH) is discussed, as is the debate of how to go about selecting the most appropriate well-being measure to suit one's particular research purposes. The various advantages and disadvantages of well-being measures and related constructs was also necessarily considered. Further, the data analysis utilised in this study was discussed, as well as the ethical considerations pertaining to participants.

Chapter 4: Results and Discussion

The following chapter encompasses the quantitative analyses and discussion of the results, qualitative analysis, and a discussion of the open-ended question. In terms of the quantitative analyses, the statistical results of the Confirmatory Factor Analysis (CFA), the results of the reliability analysis tests that evaluated the reliability of the EPOCH scale in the context of South Africa and with the specific population under study, are addressed and discussed first. Correlations of the EPOCH scale are discussed briefly, after which the statistical results of the main and secondary research questions are presented and discussed in relation to other studies. Results from further statistical investigations encompassing analysis of variance (ANOVA) and t-tests are then presented and the findings discussed. The qualitative analysis follows, beginning first with the presentation of the 'it was/I-poems', and ending with relevant discussion of the findings in relation to those of previous studies on the same population and context of this study.

Quantitative Analysis

Confirmatory Factor Analysis

CFA is part of the family of structural equation modelling methods and is crucial in measuring models, where the relationship between latent variables (factors, which are typically unobservable) and indicators (observed measures), are examined (Brown, 2015; Mueller & Hancock, 2001). CFA is also an essential tool which assists in analysing psychometric properties of measures and instruments, particularly scale reliability and construct validation (Brown, 2015). In the present study, CFA was used to ascertain the suitability of the EPOCH instrument in the context of South Africa and with the population of children and adolescents with ADHD.

CFA using the lavaan package was performed on the EPOCH scale to determine the model's goodness of fit. Various goodness of fit indicators were used to triangulate the information from each indicator and to ascertain whether each indicator converged on similar findings. The indicators used were: Cmin/df , Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error Approximation (RMSEA), and Standardised Root Mean Square Residual (SRMR) (Brown, 2015). A summary of the CFA results can be found in Table 3. The Chi-square value (264.514) divided by the degrees of freedom (160), resulted in a value of 1.653, and according to Kline (2016), a Cmin/df value of between 1 and 5 indicates good model fit. CFI and TLI values were 0.941 and 0.930 respectively, both values greater than or equal to 0.9, and closer to 1, again indicating good fit (Kline, 2016). Further, RMSEA was 0.047, and SRMR was 0.058, where less than or equal to 0.08 indicates good fit (Hooper et al., 2008; Kline, 2016). Thus, all five indicators used corroborated with each other in validating the EPOCH scale as having good model fit.

Table 3

Goodness-of-Fit Indicators of the EPOCH Scale

	Chi-square	df	Cmin/df	CFI	TLI	RMSEA	SRMR
One factor Model	264.514	160	1.653	0.941	0.930	0.047	0.058

Table 4 below shows the factor loadings of each EPOCH domain (with a factor loadings diagram seen in Figure 1), the results of which further corroborated the goodness of fit results that the EPOCH scale is indeed a good one. The table reveals that all items of each domain load significantly ($p < 0.000$), indicating that all items are significantly related to each factor being measured in the scale. Looking at the standardised factor loadings of each domain in turn, it is evident that specific items in each domain are better indicators of said domains than other items. Overall, however, all items correlate well, and indicate strong relationships between each other and their specific factor. Item E1 ("when I do an activity, I enjoy it so much that I lose track of time") indicated the strongest relationship with the *engagement* factor (0.719), and E4 ("when I am learning something new, I lose track of how much time has passed") the weakest (0.449). With the *perseverance* domain, both P3 ("once I make a plan to get something done, I stick to it") and P4 ("I am a hard worker") were the best measures of the factor of *perseverance* (0.720) while P1 ("I finish whatever I begin") was the worst (0.579). O4 ("I believe that things will work out, no matter how difficult they seem"), and O2 ("in uncertain times, I expect the best"), respectively demonstrate the items with the strongest (0.737) and weakest (0.576) relationship with the factor of *optimism*. The best indicator for *connectedness* (0.686) was C3 ("there are people in my life who really care about me"), and the poorest indicator (0.441) was C4 ("I have friends that I really care about"), while *happiness* saw its best indicator (0.809) in item H1 ("I feel happy") and it's poorest (0.639) in item H4 ("I am a cheerful person").

Table 4

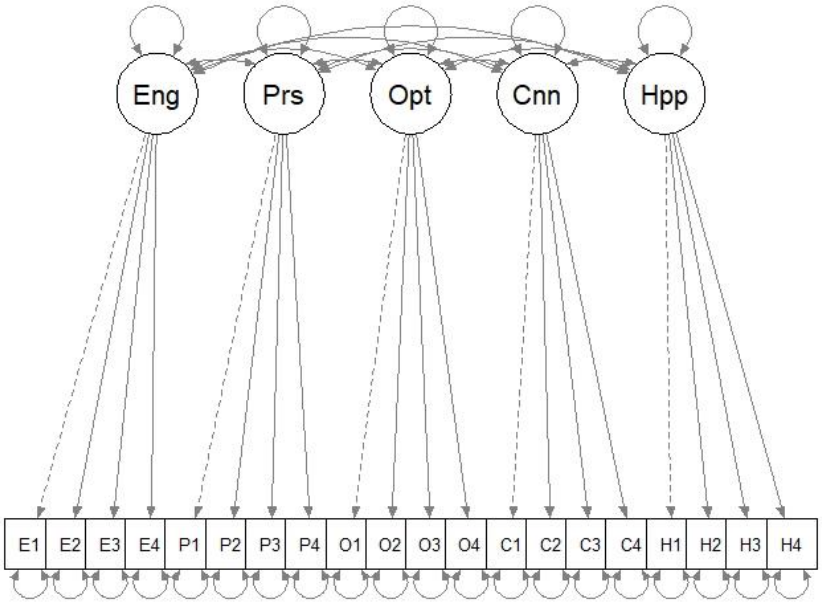
Factor Loadings for Each Domain of the EPOCH Scale

	Estimate	Std. Err	z-value	P(>|z|)	Std. lv	Std. all
Engagement						
E1	1.00				0.898	0.719
E2	0.751	0.102	7.389	0.000	0.674	0.528
E3	0.899	0.112	8.054	0.000	0.808	0.652
E4	0.594	0.093	6.390	0.000	0.533	0.449
Perseverance						
P1	1.000				0.663	0.579
P2	1.389	0.134	10.381	0.000	0.921	0.718
P3	1.362	0.139	9.795	0.000	0.904	0.720
P4	1.300	0.136	9.544	0.000	0.863	0.720
Optimism						
O1	1.000				0.733	0.593
O2	0.951	0.108	8.772	0.000	0.697	0.576
O3	1.159	0.105	11.015	0.000	0.849	0.718
O4	1.278	0.120	10.622	0.000	0.936	0.737

Connectedness						
C1	1.000				0688	0.527
C2	1.186	0.151	7.849	0.000	0.816	0.657
C3	0.821	0.118	6.942	0.000	0.565	0.686
C4	0.728	0.119	6.121	0.000	0.501	0.441
Happiness						
H1	1.000				0.926	0.809
H2	0.850	0.058	14.721	0.000	0.787	0.708
H3	1.000	0.054	18.379	0.000	0.926	0.765
H4	0.782	0.063	12.476	0.000	0.724	0.639

Figure 1

CFA Factor Loadings Diagram for EPOCH Scale



Reliability Analysis

The composite reliability and average variance extracted (AVE) scores were computed to ascertain the following: the inherent consistency of the scale, the amount of variance due to measurement error, and variance captured by the construct itself (Raykov, 1997). The composite reliability value of the EPOCH domains ranged from 0.670 (*connectedness*) to 0.822 (*happiness*), which meet the requirements of 0.60 or more and 0.70 or more, as per recommendations by Fornell and Larcker (1981), and Hair, Hult, et al. (2017) respectively (see Table 5). This indicates that the internal consistency of the EPOCH scale in general is good, and the particular domains are satisfactory (*engagement* and connectedness) to very good (*perseverance, optimism*, and *happiness*). The constructs as described by each EPOCH domain relate well, are sound and accurately measured, and the scale items consistently measure the specified constructs (Hair, Hult, et al., 2017).

The AVE of each EPOCH domain ranged from 0.344 (*connectedness*) to 0.537 (*happiness*) (see Table 5), where Fornell and Larcker (1981) recommend an AVE of greater than 0.5. Thus, the domain of *happiness* (0.037) was the only domain which qualified, with the other domains falling short of the >0.5 recommended value. These results indicate that 34.4%, 35.6%, 43.6%, and 47.2% of the variance in the domains of *connectedness*, *engagement*, *optimism* and *perseverance*, respectively, are due to error in the measurement items, a slightly higher percentage than desired (Fornell & Larcker, 1981; Hair, Matthews, et al., 2017).

Table 5

Composite Reliability and Average Variance Extracted for Each EPOCH Domain

	Composite reliability	Average Variance Extracted
Engagement	0.681	0.356
Perseverance	0.780	0.472
Optimism	0.753	0.436
Connectedness	0.670	0.344
Happiness	0.822	0.537

Cronbach's α for the whole EPOCH scale and each EPOCH domain was computed to further analyse the internal reliability of the measure. Further, examination of the whole scale and each domains' item total statistics showed more detailed reliability evaluations. Particularly, when looking at the Cronbach's α values if each item were to be deleted in turn, any problematic items in the overall scale and in each domain can be identified (Field, 2018). The Cronbach's α of the EPOCH measure consisting of 20 items was .865, indicating excellent reliability (see Table 6) (Field, 2018; Tavakol & Dennick, 2011). The Cronbach's α if item deleted ranged from .852 (H3; "I love life") to .864 (E3: "I get so involved in activities that I forget about everything else", C4: "I have friends that I really care about", H1: "I feel happy"), indicating that there were no problematic items and no items which substantially increased the Cronbach's α of the EPOCH scale (see Table 7). This suggests that each item has its necessary place in the scale, and all contribute to the scale's overall reliability.

Table 6

Cronbach's α Reliability Results for the EPOCH Scale (Overall Well-being)

	Cronbach's α	N of items
EPOCH scale	0.865	20

Table 7

Item-total Statistics for the EPOCH Scale (Overall Well-being)

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
E1	67,20	149,083	0,339	0,863
E2	67,48	147,651	0,377	0,862
E3	67,43	149,836	0,317	0,864
E4	67,49	148,565	0,380	0,862

P1	67,89	150,110	0,340	0,863
P2	67,64	145,152	0,459	0,859
P3	67,57	144,655	0,489	0,858
P4	67,12	145,436	0,489	0,858
O1	67,33	143,986	0,522	0,856
O2	67,78	146,078	0,459	0,859
O3	67,02	143,157	0,580	0,854
O4	67,42	142,351	0,561	0,855
C1	67,12	148,000	0,355	0,863
C2	66,75	147,659	0,390	0,861
C3	66,22	150,182	0,502	0,859
C4	66,61	150,720	0,322	0,864
H1	67,41	143,233	0,600	0,854
H2	67,17	144,340	0,577	0,855
H3	67,08	141,513	0,625	0,852
H4	66,99	145,098	0,535	0,856

With 4 items for each domain, the domain of *connectedness* showed satisfactory reliability (α = .630), and the domain of *happiness* showed excellent reliability (α = 0.807), with *engagement* (α = .662), *optimism* (α = .739) and *perseverance* (α = .774), following in order of reliability strength, the former demonstrating satisfactory reliability and the latter two demonstrating very good reliability (see Table 8) (Field, 2018; Tavakol & Dennick, 2011). These results corroborate those of the composite reliability scores as discussed above.

Table 8

Cronbach's α Reliability Results for Each Domain of the EPOCH Scale

	Cronbach's α	**N of items**
Engagement	.662	4
Perseverance	.774	4
Optimism	.739	4
Connectedness	.630	4
Happiness	.807	4

Table 9 shows the results of the *engagement* scale, where the Cronbach's α would not improve if any items were to be deleted, and therefore suggesting that none of the items are particularly problematic. Items E1 ("when I do an activity, I enjoy it so much that I lose track of time") and E3 ("I get so involved in activities that I forget about everything else") show Cronbach's α levels if deleted to be low at .534 and .549, indicating that these two items are important in holding together the *engagement* part of the scale. The *perseverance* domain also did not have any items which were poor enough to be deleted, thus improving the scale's Cronbach's α, however, P2 ("I keep at my schoolwork until I am done with it") did prove to be an essential item as the overall domain's Cronbach's α would have decreased to .695 if P2 had been deleted. With regards to the

optimism domain, no problematic items were identified while both items O3 ("I think good things are going to happen to me") and O4 ("I believe that things will work out, no matter how difficult they seem") would have substantially lowered the domain's Cronbach's α to .659 and .627 respectively, suggesting these two items as particularly necessary to the success of the domain. As seen with the results and discussion thus far, the *connectedness* domain showed the lowest inter-item reliability of the EPOCH domains. Item C2 ("when I have a problem, I have someone who will be there for me") proved to be quite a poor item in terms of reliability as its Cronbach's α if it were deleted would have been .492. With regards to the *happiness* domain, no one item was revealed to be particularly essential to the domain's reliability over any other items, and no one item decreased the domain's overall Cronbach's α.

Table 9

Item-total Statistics for Each Item of Each EPOCH Domain

	Items	Scale Mean if Item Deleted	Scale Variance if Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Engagement	E1	9.85	7.222	.529	.534
	E2	10.10	7.955	.395	.628
	E3	10.04	7.360	.509	.549
	E4	10.08	8.597	.346	.656
Perseverance	P1	10.03	9.227	.530	.744
	P2	9.79	8.201	.623	.695
	P3	9.74	8.549	.575	.721
	P4	9.28	8.762	.581	.718
Optimism	O1	10.13	8.914	.448	.727
	O2	10.59	8.717	.495	.700
	O3	9.87	8.326	.569	.659
	O4	10.23	7.721	.620	.627
Connectedness	C1	12.73	5.726	.414	.563
	C2	12.39	5.474	.496	.492
	C3	11.84	7.208	.471	.545
	C4	12.20	6.941	.309	.630
Happiness	H1	11.05	7.997	.700	.720
	H2	10.82	8.480	.614	.762
	H3	10.68	8.034	.624	.757
	H4	10.65	8.627	.556	.789

The EPOCH scale of child and adolescent well-being is therefore a reliable measure according to the various goodness of fit indicators; Confirmatory Factor Analysis and factor loadings results, composite reliability, average variance extracted, and internal reliability using Cronbach's α. The measure consistently and accurately measures what is purports to measure; that is, it measures overall and domain specific well-being according to the five domains of *engagement*, *perseverance*, *optimism*, *connectedness* and *happiness*, age adjusted domains based on Seligman's (2011) PERMA model of well-being. The results further indicate that the EPOCH can successfully and reliably be used in the South African context, as well as with the specific population under study, children and adolescents with ADHD.

EPOCH Correlations

Pearson's Product Moment correlations (*r*) were conducted between the five EPOCH domains of well-being in order to ascertain their relationship with each other, as seen in Table 10 below (Field, 2018). The results of the correlations show that all five well-being domains of the EPOCH measure (*engagement*, *perseverance*, *optimism*, *connectedness*, *happiness*) are positively and significantly related at the 0.05 level of significance. Both *happiness* and *optimism*, and *happiness* and *connectedness* showed the highest correlation with each other (0.537), followed by *optimism* and *perseverance* (0.527), indicating overall moderate positive linear relationships. *Connectedness* and *perseverance* showed the weakest relationship of all the domains (0.141), with the other domain pairs falling in between 0.537 and 0.141. The results of the correlations show that the well-being domains are positively and linearly related to each other, which is expected as they are related constructs all contributing to the one overall construct of well-being. However, the relationships are not strong, but range between moderate and weak, indicating that, as is ideal and desired, each domain measures distinctly different constructs.

Table 10

Pearson's Correlations for the Five EPOCH Domains

	Engagement	Perseverance	Optimism	Connectedness	Happiness
Engagement	-				
Perseverance	.210**	-			
Optimism	.297**	.527**	-		
Connectedness	.254**	.141**	.370**	-	
Happiness	.339**	.365**	.537**	.537**	-

**Significant at $p < .05$ (two-tailed)

Main and Secondary Research Questions

In answering the main research question "How does subjective well-being present in children and adolescents with ADHD during the Covid-19 pandemic?", Table 11 shows the descriptive statistics according to the age groups of the sample. Every age group demonstrated above average well-being levels, with a total mean for all ages being 3.5386. The youngest age group of 10-year-olds indicated the highest overall well-being levels (3.8036), followed by the oldest age group of 18-year-olds (3.7408), after which came 11-year-olds (3.5984), 13-year-olds (3.5849), and 12-year-olds (3.5766). The age groups showing the lowest overall well-being levels were 16-year-olds (3.2333), followed by 15-year-olds (3.3524), 14-year-olds (3.3860), and 17-year-olds (3.4049).

Table 11

Descriptive Statistics of Overall Well-being for Each of the Samples' Age Groups

					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Min	Max
10 years old	55	3.8036	0.56767	0.07654	3.6501	3.9571	2.25	4.85

11 years old	53	3.5984	0.51629	0.07092	3.4561	3.7407	2.40	4.65
12 years old	62	3.5766	0.57863	0.07349	3.4297	3.7235	2.25	4.75
13 years old	49	3.5849	0.65693	0.09385	3.3962	3.7736	2.05	4.60
14 years old	40	3.3860	0.66814	0.10564	3.1723	3.5997	1.50	4.80
15 years old	31	3.3524	0.59211	0.10635	3.1352	3.5696	2.35	4.55
16 years old	34	3.2333	0.70093	0.12021	2.9887	3.4778	1.85	4.50
17 years old	31	3.4049	0.70899	0.12734	3.1449	3.6650	1.85	4.80
18 years old	20	3.7408	0.49423	0.11051	3.5095	3.9721	2.55	4.55
Total	375	3.5386	0.62706	0.03238	3.4750	3.6023	1.50	4.85

The results addressing the secondary research questions – "How each domain of well-being presents in the population of children and adolescents during the Covid-19 pandemic" – are shown in Table 12. The domain showing the highest mean was *connectedness* (4.1033), followed by *happiness* (3.6002), *optimism* (3.3841), *engagement* (3.3413), and lastly, *perseverance* (3.2575). With each domain of the EPOCH allowing a minimum score of 1 and a maximum score of 5, the samples' means of between 3.2575 and 4.1033 for each domain leans towards the positive maximum values as opposed to the minimum negative values. These results thus indicate failure to reject the null hypotheses as both overall well-being and each individual well-being domain showed above average scores, where average is a mean score of 2.5.

Table 12

Descriptive Statistics for the Five EPOCH Domains

	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis
Engagement	3.3413	.88352	1.25	5.00	-.153	-.649
Perseverance	3.2575	.94509	1.00	5.00	-.103	-.766
Optimism	3.3841	.92644	1.00	5.00	-.343	-.458
Connectedness	4.1033	.79438	1.25	5.00	-.887	.190
Happiness	3.6002	.92777	1.25	5.00	-.219	-.837

The results to question B, "I feel better than I did when the Covid-19 virus came to South Africa and everything changed", are displayed in Table 13. The results show that 42% of respondents said they felt the same, 31.4% said they felt better, and 26.6% said they felt worse.

Table 13

Frequencies and Percentages for the Samples' Answer to Question B: "I feel better than I did when the Covid-19 virus came to South Africa and everything changed"

	Frequency	Percent	Valid Percent
I feel worse	98	26.1	26.6
I feel the same	155	41.2	42.0
I feel better	116	30.9	31.4
Total	369	98.1	100.0
Missing	7	1.9	
Total	376	100.0	

The results reveal that, contrary to the majority of the literature citing children and adolescents with ADHD as having lower general well-being and quality of life as discussed in chapter

two (Bastiaansen et al., 2004; Becker et al., 2011; Goulardins et al., 2011; Herbell et al., 2020; Jafari et al., 2011; Klassen et al., 2004; Limbers, Ripperger-Suhler, Boutton, et al., 2011; Matza et al., 2004; Peasgood et al., 2016; Pongwilairat et al., 2005; Riley et al., 2006; Rocco et al., 2021; Schei et al., 2016; Varni & Burwinkle, 2006), this study found the opposite. Specifically relating to the prior research looking at well-being, quality of life, mental health, and psychological functioning conducted with children and adolescents with ADHD during the pandemic, this study's findings went against the grain of the majority of the findings (Korpa et al., 2021; Navarro-Soria et al., 2021; Sciberras et al., 2020; Shah et al., 2021; Sibley et al., 2021; Zhang et al., 2020); this sample had above average overall well-being as well as above average well-being in each of the EPOCH domains. This study's results links to those of Bobo et al. (2020), which saw that some children and adolescents with ADHD demonstrated improved levels of well-being according to their parents, during the Covid-19 lockdown in France. Melegari et al. (2021) too found that positive emotional states were heightened, and behaviour improved in children with high and moderate ADHD symptom severity during the lockdown in Italy, as compared to those with low symptom severity, whose emotional and behavioural states worsened. More discussion with regards to the answers to the open-ended question will follow later in this chapter.

A possible explanation as to these above average well-being results which are so divergent from the majority of other study's results as mentioned, could be the self-report nature of this study's data collection method. Most previous studies as discussed in chapter two, collected well-being data for the sample via parent-proxy (Bobo et al., 2020; Korpa et al., 2021; Melegari et al., 2021; Sciberras et al., 2020; Shah et al., 2021; Zhang et al., 2020), with only a couple incorporating child-report alongside parent-report (Navarro-Soria et al., 2021; Sibley et al., 2021), and no known studies utilising child report only, as was this study's chosen method. A hypothesis as to these disparate results could be that parents may perceive and thus rate their child's well-being as lower than is their child's true experience. This was the case in a study by Klassen et al. (2004), where parent's report of their child with ADHD's quality of life was lower in four out of five domains, as compared to the children's self-report rating of their own quality of life using the same measure. Jafari et al. (2011) too found that Iranian children with ADHD rated their quality of life higher than did their parents on three of the four domains of the Persian version of the PedsQL. Similarly, Australian parents reported lower quality of life levels with regards to their children with ADHD as compared to their child's self-report ratings (Sciberras et al., 2011). Other studies found poor agreement existed between parent- and child-report ratings of the same construct on various psychological measures (Grills & Ollendick, 2003; Van der Meer et al., 2008).

None of the other studies as discussed in chapter two utilised the EPOCH measure of child and adolescent well-being, and this too could be a contributing factor as to the opposing results of this study in comparison to others. These are merely two possible explanations for the differing results between this study and previous studies researching similar queries with the same population; there are likely any number of other possible factors at play, underlying the results.

Similar to the study by Barfield and Driessnack (2018) which saw themes of connectedness, particularly with family, as aspects that make the lives of children with ADHD happy, this study's highest scoring domain of well-being through all ages was that of *connectedness*. The domain with the lowest mean was *perseverance*, with the domain of *engagement* showing the second lowest mean; these results could be due to many possible explanations. One hypothesis refers to the very nature of the population under study, such that a combination of inattention, lack of inhibitory control, poor planning, forgetfulness, low frustration tolerance, distraction and/or procrastination among other factors, contribute to lower levels of perseverance and engagement, or at least lower than populations without ADHD (Barkley, 2014). Similarly, an important factor necessary, or at least very helpful, in piquing task engagement and thus perseverance in children and adolescents with ADHD, is that of interest. As discussed with the strength-based approach in chapter two, individuals with ADHD may lack appropriate levels of attention in many situations, however, their ability to hyper-focus on content that interests them is remarkable (Archer, 2015; Brown, 2014; Jurecic, 2007; Scime & Norvilitis, 2006; Sedgwick et al., 2019). Thus, if the task content is not interesting to them, children and adolescents (more so children) struggle to focus, which in turn can affect their perseverance and engagement levels on tasks (Climie & Mastoras, 2015; Scime & Norvilitis, 2006). Therefore, this could possibly explain this study's results with regards to the EPOCH *perseverance* and *engagement* domains as being those with the lowest means.

Additional Statistical Analysis and Discussion

Once the main and secondary research questions were answered, further investigation was sought. The aim was to verify whether, and if so, where, there were differences between the means of each age group according to overall well-being, each EPOCH domain, gender, whether or not the respondents were on medication for their ADHD, and whether or not the respondents had received therapy and/or intervention for their ADHD.

A one-way between subjects analysis of variance test (ANOVA) was conducted to ascertain whether there was a significant difference between age groups with regards to overall well-being (Howell, 2014). Results of the ANOVA in Table 14 indicates that a significant difference in means was present; $F(8, 366) = 3.624$, $p = 0.000$. As homogeneity of variance was met for the overall well-being data (see appendix G for homogeneity of variance Table 15), a Bonferroni post-hoc test was

conducted, the results of which are presented in Table 16 (see appendix H for full version of Table 16) (Field, 2018). The Bonferroni post-hoc analysis revealed that 10-year-olds (n = 55, *M* = 3.8036, *SD* = 0.56767) had significantly higher overall well-being than the 14-year-olds (n = 40, *M* = 3.3860, *SD* = 0.66814), the 15-year-olds (n = 31, *M* = 3.3524, *SD* = 0.59211), and the 16-year-olds (n = 34, *M* = 3.2333, *SD* = 0.70093) (descriptive statistics stated found in Table 11 above).

Table 14

Results of ANOVA for Overall Well-being and Age Groups

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10,794	8	1,349	3,624*	0,000
Within Groups	136,263	366	0,372		
Total	147,056	374			

Significant at *$p < .05$

Table 16

Bonferroni Post-hoc Test Results for Overall Well-being (Shortened Table)

(I) Age	(J) Age	Mean Difference (I-J)	(I) Age	(J) Age	Mean Difference (I-J)
10 years old	11 years old	0,20523	**14 years old**	15 years old	0,03357
	12 years old	0,22699		16 years old	0,15271
	13 years old	0,21866		17 years old	-0,01894
	14 years old	.41761*		18 years old	-0,35480
	15 years old	.45118*	**15 years old**	10 years old	-.45118*
	16 years old	.57031*		11 years old	-0,24595
	17 years old	0,39867		12 years old	-0,22419
	18 years old	0,06281		13 years old	-0,23252
11 years old	10 years old	-0,20523		14 years old	-0,03357
	12 years old	0,02176		16 years old	0,11913
	13 years old	0,01342		17 years old	-0,05251
	14 years old	0,21237		18 years old	-0,38837
	15 years old	0,24595	**16 years old**	10 years old	-.57031*
	16 years old	0,36508		11 years old	-0,36508
	17 years old	0,19344		12 years old	-0,34332
	18 years old	-0,14243		13 years old	-0,35166
12 years old	10 years old	-0,22699		14 years old	-0,15271
	11 years old	-0,02176		15 years old	-0,11913
	13 years old	-0,00834		17 years old	-0,17164
	14 years old	0,19062		18 years old	-0,50751
	15 years old	0,22419	**17 years old**	10 years old	-0,39867
	16 years old	0,34332		11 years old	-0,19344
	17 years old	0,17168		12 years old	-0,17168
	18 years old	-0,16419		13 years old	-0,18001

13 years old	10 years old	-0,21866		14 years old	0,01894
	11 years old	-0,01342		15 years old	0,05251
	12 years old	0,00834		16 years old	0,17164
	14 years old	0,19895		18 years old	-0,33587
	15 years old	0,23252	**18 years old**	10 years old	-0,06281
	16 years old	0,35166		11 years old	0,14243
	17 years old	0,18001		12 years old	0,16419
	18 years old	-0,15585		13 years old	0,15585
14 years old	10 years old	-.41761*		14 years old	0,35480
	11 years old	-0,21237		15 years old	0,38837
	12 years old	-0,19062		16 years old	0,50751
	13 years old	-0,19895		17 years old	0,33587

Significant at *$p < .05$

A one-way between subjects ANOVA was also conducted with the EPOCH domains of *engagement*, *perseverance*, *optimism*, and *happiness*, and the different age groups, as homogeneity of variance was met (see appendix I for homogeneity of variance Table 17). The domains of *engagement*, *optimism* and *happiness* showed significant differences between group means at the 0.05 level of significance, as seen in Table 18 (*engagement*: F (8, 366) = 2.691, p = 0.007; *perseverance*: F (8, 366) = 0.971, p = 0.458; *optimism*: F (8, 366) = 2.635, p = 0.008; *happiness*: F (8, 366) = 4.085, p = <0.001).

Table 18

Results of ANOVA for EPOCH Domains of Engagement, Perseverance, Optimism and Happiness, and Age Groups

		Sum of Squares	df	Mean Square	F	Sig.
Engagement	Between Groups	16.240	8	2.030	2.691	.007
	Within Groups	276.051	366	.754		
	Total	292.291	374			
Perseverance	Between Groups	6.943	8	.868	.971	.458
	Within Groups	327.020	366	.893		
	Total	333.963	374			
Optimism	Between Groups	17.469	8	2.184	2.635	.008
	Within Groups	303.281	366	.829		
	Total	320.751	374			
Happiness	Between Groups	26.096	8	3.262	4.085	<,001
	Within Groups	292.264	366	.799		
	Total	318.360	374			

As variances were not equal for the *connectedness* domain (see appendix J for homogeneity of variance Table 19), a Welch robust test of equality of means was conducted for this domain (Field, 2018). The results in Table 20 display that the domain of *connectedness* too showed a significant difference between the means of the age groups; F (8, 128.219) = 3.726, p = <0.001.

Table 20

Results of Welch Robust Test of Equality of Means for the Connectedness Domain

	Statistic[a]	df1	df2	Sig.
Welch	3.726	8	128.219	<,001

a. Asymptotically F distributed.

Post-hoc tests were thus conducted for the EPOCH domains that showed significant differences in means, namely *engagement*, *happiness*, *optimism* and *connectedness*. The necessary descriptive statistics too were conducted for the EPOCH domains and the age groups, as seen in Table 21 (see appendix K for the full version of Table 21). A parametric Bonferroni post-hoc test was conducted for the domains of *engagement*, *happiness* and *optimism* as seen in Table 22 (see appendix L for Table 22), the data of which met homogeneity of variance as mentioned (see appendix I for homogeneity of variance Table 17). The analysis showed that 14-year-olds (n = 40, *M* = 3.0188, *SD* = 0.95975) had significantly lower levels of *engagement* than the 18-year-olds (n = 20, *M* = 3.7958, *SD* = 0.80044). The *optimism* domain revealed that 10-year-olds (n = 55, *M* = 3.6758, *SD* = 0.92110) had significantly higher *optimism* than both 14-year-olds (n = 40, *M* = 3.0500, *SD* = 0.93747) and 16-year-olds (n = 34, *M* = 2.9632, *SD* = 1.04107). With regards to the *happiness* domain, results indicated that 10-year-olds (n = 55, *M* = 4.0136, *SD* = 0.83530), had significantly higher levels of *happiness* than did 15-year-olds (n = 31, *M* = 3.2930, *SD* = 0.97275), 16-year-olds (n = 34, *M* = 3.1863, *SD* = 0.96554), and 17-year-olds (n = 31, *M* = 3.3306, *SD* = 1.06534). Another noteworthy result revealed that 18-year-olds (n = 20, *M* = 4.0500, *SD* = 0.76348) had significantly higher levels of *happiness* than did 16-year-olds (n = 34, *M* = 3.1863, *SD* = 0.96554).

Table 21

Descriptive Statistics of the EPOCH Domains for Each of the Samples' Age Groups

		N	Mean	Std. Dev
Engagement	10 years old	55	3.4470	.84732
	11 years old	53	3.5393	.80124
	12 years old	62	3.4637	.83260
	13 years old	49	3.3282	.86626
	14 years old	40	3.0188	.95975
	15 years old	31	3.0941	.87208
	16 years old	34	3.1250	.97361
	17 years old	31	3.1774	.88316
	18 years old	20	3.7958	.80044
	Total	375	3.3396	.88404
Perseverance	10 years old	55	3.4212	1.04790
	11 years old	53	3.1101	.99044
	12 years old	62	3.3024	.99912
	13 years old	49	3.3044	.91105
	14 years old	40	3.2833	.98471
	15 years old	31	3.1613	.81136
	16 years old	34	3.0172	.86961
	17 years old	31	3.1694	.81237
	18 years old	20	3.5375	.84789
	Total	375	3.2549	.94496
Optimism	10 years old	55	3.6758	.92110
	11 years old	53	3.4009	.90848
	15 years old	31	3.2930	.83939
	16 years old	34	2.9632	1.04107
	17 years old	31	3.4032	1.00349
	18 years old	20	3.5375	.74018
	Total	375	3.3869	.92608
Happiness	10 years old	55	4.0136	.83530
	11 years old	53	3.6588	.77921
	12 years old	62	3.5820	.84291
	13 years old	49	3.7194	.93629
	14 years old	40	3.4625	.92430
	15 years old	31	3.2930	.97275
	16 years old	34	3.1863	.96554
	17 years old	31	3.3306	1.06534
	18 years old	20	4.0500	.76348
	Total	375	3.6058	.92262
Connectedness	10 years old	55	4.4576	.53884
	11 years old	53	4.2925	.64810
	12 years old	62	4.1129	.72666
	13 years old	49	4.0204	.82890
	14 years old	40	4.1146	.67270
	15 years old	31	3.9167	.93095
	16 years old	34	3.8652	.96356

12 years old	62	3.4247	.86572	17 years old	31	3.9597	.95981
13 years old	49	3.5561	.87836	18 years old	20	3.7875	.85176
14 years old	40	3.0500	.93747	Total	375	4.1082	.78964

A non-parametric Games-Howell post-hoc test was conducted for the *connectedness* domain, the results of which are shown in Table 23 (see appendix M for Table 23) (see appendix J for homogeneity of variance Table 19) (Field, 2018). The analysis revealed that 10-year-olds (n = 55, *M* = 4.4576, *SD* = 0.53884) had significantly higher *connectedness* than did 16-year-olds (n = 34, *M* = 3.8652, *SD* = 0.96356). The means of the other age categories were not significantly different from each other regarding the domain of *connectedness*.

There emerged a definite theme from the results whereby the younger age group (10-year-olds) revealed significantly higher levels than the other age groups in various well-being domains and overall well-being (10-year-olds had significantly higher overall well-being than 14, 15 and 16-year-olds; 10-year-olds had significantly higher *optimism* than 14 and 16-year-olds; 10-year-olds had significantly higher *happiness* than 15, 16 and 17-year-olds; 10-year-olds had significantly higher *connectedness* than 16-year-olds). During the literature review for the current study, comparative studies for children within this age range were not found. With regards to these differences in overall well-being levels and domain specific levels in relation to age, various principles could assist in explaining the results.

Adolescence is a time of transition from childhood to adulthood, falling roughly between the ages of 11 and 19 years old. It is a period in an individual's life where many crucial behavioural, neurological, cognitive, social, physical and emotional changes occur (Gilmore & Meersand, 2015; Sawyer et al., 2018). With these multiple changes comes increased uncertainty, self-awareness and self-judgement. Adolescents are in search of autonomy and independence, whereby peer influence and peer evaluations take precedence, and risk taking, novelty seeking, self-consciousness and mood variability, among other factors, are heightened (Blakemore, 2018; Blakemore & Mills, 2014; Gilmore & Meersand, 2015; Steinberg, 2004). Mental and psychological health disorders often emerge and peak during adolescence, further contributing to the multitude of risks and stresses accompanying this stage of life (Paus et al., 2008; Sharp et al., 2018; Sharp & Wall, 2018). Such changes and uncertainty, as well as pressure and critique from self and others to conform, and many other factors surrounding the phase of adolescence, could impact an individual's well-being negatively, and thus possibly account for the results of the youngest age group of 10-year-olds having significantly higher overall well-being and higher well-being in specific domains compared to many of the other age groups, particularly those between the ages of 14 to 17 years old.

This study's results also showed that 18-year-olds had both higher levels of *engagement* than 14-year-olds, and higher levels of *happiness* than 16-year-olds. Here again, the turbulent time

of adolescence could have influenced the samples' well-being, whereby the 14 and 16-year-olds are still in the turbulent throes of adolescence, and the 18-year-olds are slowly emerging into more stable adulthood, acceptance of themselves and autonomy; thus their well-being, specifically in the domains of *engagement* and *happiness*, is likely increased (Gilmore & Meersand, 2015; Sawyer et al., 2018). A thorough search on various databases, namely *Google Scholar*, *PubMed*, *SAGE Journals* and *ScienceDirect* did not yield results on literature or studies examining the need for caution when interpreting well-being data in child populations, specifically those with ADHD. In the resulting variance of overall and domain specific well-being scores seen with the different age groups, caution against making generalised assertion's across age groups is therefore recommended. As other studies examining this particular topic heeding caution in interpretation were not found when conducting a literature review, this cautionary interpretation is a contribution of the current study for future similar topics.

Independent samples t-tests were conducted to ascertain whether gender, taking medication for ADHD, and receiving therapy and/or intervention for ADHD in turn influenced overall well-being, as well as well-being specifically in the five EPOCH domains.

Results (Table 24) from the independent samples t-test with gender and overall well-being showed that the overall well-being means for males (n = 243, M = 3.5785, SD = 0.61486) and females (n = 129, M = 3.4880, SD = 0.62991) were not statistically different; $t(370) = 1.341$, p = 0.181.

Table 24

Results of T-test Examining Differences in Overall Well-being Score Means in Relation to Gender

	Gender	n	Mean	Std. Deviation	t	df	Two-sided p	Mean Difference	Std. Error Difference
Well-being	Male	243	3.5785	.61486	1.341	370	.181	.09058	.06755
	Female	129	3.4880	.62991					

Table 25 shows the results of the independent samples t-test looking at the influence of gender on each of the five EPOCH domains. The results indicated that there were no significant differences in the means of any of the five EPOCH domains with regards to gender.

Table 25

Results of T-test Examining Differences in EPOCH Score Means in Relation to Gender

	Gender	n	Mean	Std. Deviation	t	df	Two-sided p	Mean Difference	Std. Error Difference
Engagement	Male	243	3.42	.889	2.304	370	.022	.220	.095
	Female	129	3.20	.848					
Perseverance	Male	243	3.27	.934	.004	370	.997	.000	.103
	Female	129	3.27	.964					
Optimism	Male	243	3.45	.899	1.573	370	.117	.157	.100
	Female	129	3.30	.947					
Connectedness	Male	243	4.09	.771	-.705	370	.481	-.060	.086
	Female	129	4.15	.815					
Happiness	Male	243	3.66	.921	1.347	370	.179	.135	.100

	Female	129	3.53	.919

The t-test conducted to ascertain whether overall well-being scores were influenced by whether respondents did or did not take medication for their ADHD symptoms, indicated that there was no difference in the means between respondents who took medication as seen in Table 26 (n = 288, M = 3.5416, SD = 0.62692) versus those who did not (n = 87, M = 3.5237, SD = 0.63442); t(373) = 0.233, p = 0.816.

Table 26

Results of T-test Examining Differences in Overall Well-being Score Means in Relation to Whether or Not Respondents Were on Medication for Their ADHD

	Medication	n	Mean	Std. Deviation	t	df	Two-sided p
Well-being	Yes	288	3.5416	0.62692	0.233	373	0.816
	No	87	3.5237	0.63442			

Table 27 shows the results of the t-test examining the influence of ADHD medication on each of the EPOCH domains of well-being. The results revealed that there were no significant differences in the means of any of the EPOCH domains for the respondents who took medication for their ADHD symptoms compared to those who did not take medication.

Table 27

Results of T-test Examining Differences in EPOCH Score Means in Relation to Whether or Not Respondents Were on Medication for Their ADHD

	Medication	n	Mean	Std. Deviation	t	df	Two-sided p	Mean Difference	Std. Error Difference
Engagement	Yes	288	3.40	.876	2.384	373	.018	.256	.108
	No	87	3.14	.890					
Perseverance	Yes	288	3.19	.945	-2.253	373	.025	-.259	.115
	No	87	3.45	.915					
Optimism	Yes	288	3.36	.944	-.834	373	.405	-.095	.114
	No	87	3.46	.873					
Connectedness	Yes	288	4.15	.781	1.868	373	.063	.181	.097
	No	87	3.97	.823					
Happiness	Yes	288	3.61	.921	.131	373	.896	.015	.114
	No	87	3.59	.955					

The t-test (Table 28) examining whether receiving intervention and/or therapy made a difference to respondents' overall well-being showed that the means of respondents who did receive therapy/intervention for their ADHD (n = 238, M = 3.5220, SD = 0.64476) and those who did not (n = 132, M = 3.5759, SD = 0.60210) were not statistically different; t(368) = -0.788, p = 0.431.

Table 28

Results of T-test Examining Differences in Overall Well-being Score Means in Relation to Whether or Not Respondents Received Therapy and/or Intervention for Their ADHD

	Therapy/Intervention	n	Mean	Std. Deviation	t	df	Two-sided p
Well-being	Yes	238	3,5220	0,64476	-0.788	368	0.431

No	132	3,5759	0,60210

For the EPOCH domains of *engagement*, *optimism*, *connectedness* and *happiness*, no significant difference was found in the means between those respondents who received intervention and/or therapy and those who did not, as seen in Table 29. With regards to the *perseverance* domain, however, results indicated that those who did not receive therapy/intervention (n = 132, M = 3.43, SD = .903) had significantly higher levels of *perseverance* compared to those who did (n = 238, M = 3.16, SD = 0.957); $t(368)$ = -2.641, p = 0.009.

Table 29

Results of T-test Examining Differences in EPOCH Score Means in Relation to Whether or Not Respondents Received Therapy and/or Intervention for Their ADHD

	Therapy/Intervention	n	Mean	Std. Deviation	t	df	Two-sided p	Mean Difference	Std. Error Difference
Engagement	Yes	238	3.38	.894	1.013	368	.312	.097	.096
	No	132	3.28	.873					
Perseverance	Yes	238	3.16	.957	-2.641	368	.009	-.269	.102
	No	132	3.43	.903					
Optimism	Yes	238	3.34	.934	-1.165	368	.245	-.116	.100
	No	132	3.46	.897					
Connectedness	Yes	238	4.11	.803	-.127	368	.899	-.011	.086
	No	132	4.12	.781					
Happiness	Yes	238	3.62	.932	.373	368	.710	.037	.101
	No	132	3.59	.916					

This study's results revealed that there were no significant differences in overall well-being nor domain specific well-being with regards to gender, and neither were there significant differences between the respondents who were on medication for their ADHD symptoms and those who were not. Although a fair few studies investigating the well-being and mental health of children and adolescents during the pandemic found that being female was a risk factor for the worsening of the aforementioned states (Duan et al., 2020; Magson et al., 2021; Vogel et al., 2021; Zhou et al., 2020), studies investigating similar topics specifically with the population of children and adolescents with ADHD did not find the same results with regards to gender (Melegari et al., 2021). Most studies did not directly assess differences in the constructs under study with regards to gender, and the one study that did (Melegari et al., 2021), found the same results as this study's findings: no significant gender differences were found.

Comparative studies were not found during the literature review that investigated the well-being or quality of life of the population of ADHD children and adolescents during the pandemic in relation to medication and the difference it may have had in the construct under study. In their investigation of ADHD children and adolescents' quality of life, although not during the pandemic, Pongwilairat et al. (2005) found that there were no significant differences in the self-report total

quality of life scores, nor in the physical and psychological quality of life scores between those participants who were on stimulant medication compared to those who were not.

Interestingly, the respondents who did not receive therapy and/or intervention for their ADHD had significantly higher *perseverance* than those who did receive therapy and/or intervention. The literature review for the current study found no similar investigations in other studies and thus no similar results were found.

Qualitative Analysis

The open-ended question, "How has living in a pandemic made you feel", was analysed qualitatively. First, responses were separated into three categories: positive, negative and neutral responses, after which the positive and negative responses were sub-categorised into various themes. Positive and negative responses were delineated by the main feeling word and/or adjective in the sentence. For example, the words 'fun', 'nice', 'good', 'happy', 'enjoy' in a sentence, either with an explanation that followed or just the word itself, were categorised as positive. Similarly, words such as 'bad', 'bored', 'sad', 'scared', 'frustrated', 'not good' and so on, were classified as negative. Several responses had both positive and negative aspects, and these were separated as per the above delineation process. Neutral responses denoted those that explained general feelings and experience of sameness, along the lines of no change having had occurred in the respondents' lives and perceptions. Two responses, 'I put on weight' and 'I got a littel bit chubby', were classified as neutral as no explanation as to the feeling of this occurrence accompanied these responses. A combination "it was/I-poem" was then created for each category of positive, negative and neutral, with themes clustered together in stanzas (Edwards & Weller, 2012; Gilligan, 1982).

The positive responses contained themes of school, social, self-growth/reflection, emotions and other. More specifically, these themes encompassed the following: the pleasure of staying home and various positive implications thereof; for various reasons, the preference for online school; the enjoyment of being with and spending time with family (social); the opportunity for reflection in various forms, such as newfound gratitude for one's life and family, as well as self-growth such as practising skills or learning new skills; one word or short phrase positive emotion and experience words.

The negative responses contained themes of change, rules, social, home, school, extra-murals, concern, loss, finances, new normal, emotions and other. More specifically, these themes encompassed the following: negative effects of the pandemic; the specific dislike of obligatory hygiene laws, primarily the wearing of masks, as well as sanitising; craving social interactions and missing family and friends; the dislike of having to stay indoors and at home so much; the aversion and challenges with online schooling; the displeasure of not being able to partake in extra-mural

activities and sports; general concern for the world, oneself, one's family and friends; loss in the form of loved one's passing away due to the virus or due to the implications of the pandemic; financial worry and/or loss due to parents'/guardians' financial and job-related issues; fear that the pandemic and its implications will continue and become the new normal way of life; one word or short phrase negative emotion and experience words; other experiences that did not fit into the above categories.

Every respondent's response (n = 349) was incorporated into the 'it was/I-poems'. The context and thus the meaning and essence of all the responses were kept as originally written by each respondent; by this it is meant that feelings and explanation words associated with certain experiences were kept together and not separated, as should be evident when reading the poems. As per the style of I-poems, the responses were used exactly as they were written by the respondents; no words were added and only unnecessary function words and repetitions were not incorporated into the poems. As such, spelling, grammatical and other errors were purposefully left unattended. This too serves to more fully engage the reader, in that they are drawn into the true and authentic lived experience and narrative of the respondents; engagement is thus ensured on a more personal and emotional level. Also in line with general I-poems, there is no particular structure or scheme to these poems, and they follow a free-verse poetry form (Edwards & Weller, 2015; Koelsch, 2015). Where there were exact or almost exact feelings and/or experiences written by respondents, these were combined together with a numeral superscript inserted next to the feeling/experience indicating the number of respondents who felt/experienced the same thing. The poems are entitled 'Living in a Pandemic'…'the GOOD', 'the BAD', and 'the NEUTRAL', respectively.

With regards to the positive and negative 'it was/I-poems', each main theme of change, rules, social, home, school, extra-murals, concern, loss, finances and new normal – for the negative 'it was/I-poem' – and school, social, and self-growth/reflection – for the positive 'it was/I-poem' – were interspersed with stanzas encompassing the combined themes of emotions and other (denoted by italicised text). Many responses were simple one-phrase or one-word responses, and these were clustered together as a list of sorts at the end of the poem, in such a way that the author hopes the impact will be greater than having incorporated the emotion and experience words elsewhere in the poem, where they may become lost.

It was/I-Poems

Living in a Pandemic…the BAD

It's a mixed feeling situation…it has had its downs[2]…

I feel sad[2] because
alot has changed[4]
my life has completly changed

I changed alot
erritated because
it changed our lifes
it changed everything
it just changed my world
sometimes it feels abnormal
nothing is the same
It has
changed way we communicate
not sure about the future
so much of my personality changed because of covid
It made me change my goals
Some changes weighed me down…

Theme of *Change*

It was very hard…
I see so many familys , friends even my parents pulled appart.
I feel…well I don't really talk about myself, if you a twin its hard to say I
Not knowing how to feel
lots of tears
It hasn't made me feel the best.

Everything is very restricted
the struggle of all these rules…
Overwhelmd.

I hate sanitiser
I feel a little bit annoyed, irratated because
when The sannitizer gets on a cut it is sore
I have to sanitiz things & my hands
I just don'lt like it.

Masks is a issue, its red bad
I don't like[11], hate![2], really hate
wearing a mask
I feel terrible, sad[3], uncomfortable, clustruphobic[2], unhappy, irritated, stressed, annoyed[2], not nice
because we have to wear masks, stupid masks
I feel unsafe, its painful
because it feels like you can't breathe
like it drains me and sufficates me
It made me feel traped.

It is very difficult…the masks
I can't have fun at school just because of the mask
my mom and dad nagging to wear mask over my nose and sandising
I'm tired of wearing mask
I want to not wear a mask.

Theme of *Rules*

It has been horrible at times
alot of bad moment
I often experience extreme loneliness
I was left with my thoughts and I don't like my own thoughts
It made me feel alone
even when I know that ppl care about me but I don't feel it
I don't like it[5].

I missed being social
Nobody to talk to
not communicating with other children
I felt sad[2] and it was hard, because
alot of events got canceled
we were not around people
I hate it
because no social life, social interactions

made life pretty boring
having to social distance is so hard, difficult, stressful
it makes me feel upset
The boredom of not seeing other people became overwhelmingly exhausting
I can't touch and reach out to people who feel upset.

I am a very social person, an interactive person
I love to spend alot of time with people
I have lost alote of friends during this time
Covid made me feel very lonely.

I missed
my friends[8]
my family[3]
my teachers
my school
I missed
going out with friends
parties with friends
I MISSED MY FRIENDS.

It made me feel bored[3], depressed[2], sad[13], alone, stressed, frustrated[2], bad, isolated, terrible, not nice[2], lonely[3],
because I could not see[14], visit[3], play with[5], go to, be with[3], talk to, have contact with, spend time with, hug[2] my friends[30]
because I could not see/visit[2] my family[7], relatives
I sTarted To get sad and lonely
cuz I am The only chiled.

I couldn't go and see the people I love and care about,
the people I want to see
I'm sad
because I always have to stay apart from each other
I bon't like to stay a miter aways from my friends
Not nice to live like this
I loved going to school after the pandemic to see my friends
I NEEDED TO SEE MY FRIENDS + BE WITH PEOPLE.

I feel it slowed down my social growth
I had only just begun to build a circle of friends
I find it very difficult[2]
to interact with other people
especially my age
to read social cues
I feel
antisocial
uneasy because I can't really be my self
I have developed some sort of social anxiety.

I'm tired of underlying mental strain
I felt very empty and with little direction
very depressed about almost everything
I feel worse because my parents got divorced
I feel really, really angry about it.

Being stuck at home was a curse
hard to get out of the house
had to stay home the whole time
I cant go to places like we used to[2]
to have fun[3]
for entertainment
not even the shops
couldn't go or do anything.

Theme of *Social*

It's very boring[3]
cause you have to be indoors all the time
nothing to do[4]
I bearly had enything to do
wanted to get out the house
I hated wen I could not go out
I felt like we are in prison
…we were just sleeping and just eating at home.

Was not nice had to stay indoors
I felt isolated[2], lonely, frustrated![3], mad, anoyed, angry, unhappy,
to stay inside house
to stay indoors
we could not go anywhere[4]
I couldent leve the house
We we trap inside
I felt locked in, caged
I was by my self and got into my head
…extremely depressed.

It was not easy at all…I felt trapped[3]
because could not go outside[2]
because Im an outside person, I can't live my life in a building
I just have to go out

I felt sad, confined
cause I could not go outside to play[2]
…I live in a flat
It was difficult
because I have four sibling's…so busy
…it was horrible not being able to go outside
It is
just hard being trapped with people we see everyday
under one roof
…we get on eachothers nerves and almost commit murder.

I fear, don't like, am scared
going out my house
to go to public spaces
of big public gatherings
Because of the virus…
I am scared of what might happen
I am nervous when people look at me
I feel unsafe to show my whole face in public
I am very corsious of doing secieal stuff
when we started going out again I become extremly anxouis
very aware of any virus coming near me.

It feels weird, makes me very sad, because
I can't alwsys do what I want to do
the things I enjoyed doing were gone
I couldn't do what i like
fun wasn't like it used to be
al the things I wanted to do I cant
I cant to lot things that make me happy.

Theme of *Home*

It made my life miserable
I fell into depression
I had been in an abusive household during lockdown…
I realised the impact of not having somebody to talk to about the mental strain I'd been experiencing
I didnt feel well at all.

I used to enjoy school

I hated[2], I battle to do
online school, online learning
homeschooling with my mom.

It made things worse
because we could not go to school
I wanted to go to school
affected my school work
I like, enjoy being at/going to school
with my friends and teachers
do different things
speak to friend
It made me feel angry, sad[3], confined, frustrated,
because I couldn't go to school[4]
not to be able to play with my friends at school
miss my friends.

I missed school[3], normal school alot
I felt nervous
…uncertainty of when we could return to school
Now has gotten better at we are back at school
I love school.

I felt isolated from the right to learn
online school was hard[5], very stressful, boring[2], difficult[2], draining
there is too much homework
I don't understand everything
struggling to concentrate
no social interactions to distract from school work
learning things in groups became overwhelmingly exhausting
struggle to find motivation
hard getting new information
it made me feel stupid
it's harder to stay focused when there isnt a person speaking directly to you
Doing schoolwork at home was not the same
My enjoyment for school has gone down a lot.

I have missed out on a lot of learning and I feel behind
lots of time has been lost
the pandemic set our education far back
I was a top student before COVID
Now at school
I feel that I cant keep up[2]
I cant cope
everything moves so fast
there's hardly ever time
I can't keep up with the pace
I work so hard but I feel like it's never enough
I feel like I am going to fail
everything has become more difficult
I miss a lot of school because I often feel sick
its more difficult
I am not prepare for exams
my Mark's dropped
I find classes too long
I feel tired all the time
made me clustruphobic with the seating
school work that has been a lot
we still cant change classes
the masks feel like drains me…I oftin fall asleep in class
I miss out on important work, fall behind
I have gotten lazy with school work.
Its Horrible.
This pandemic…Feels like you are being punished for something you did not do.

Theme of *School*

It has made me feel in a weird space because we are living in a constint fea
afraid at what might happen sometimes
worrying and waiting
It was stressful and still is.

The pandemic has taken a lot of in-school opportunities
…made school hard to enjoy
Sport isnt that same as it used to be…
can really effect people with adhd as sport helps cope
I hate covid, I was miserable, frustrated[2], bored, depressed, because I could not
play soccer
do most sport activities
do horse riding
do many extra-murals
do my sport
do swimming
do sport at school – cancelled.

Theme of *Extra-murals*

Simple life isnt like it was…
I became addicted to gaming
my parents have to work harder
Grown ups have become more irritated
looking around to can see how each person has aged
yes I get the fake smiles to make me feel better.

It was the most trying time globally
I was sad[2], uncomfortable, scared[7], very scared, worried[3], so worried, afraid[2]
for my family
of losing friends and family
for my family that they will get sick
that I will lose my parents
to loose my family or friend
about what could happen to me and the people around me
that me or my family would get sick and die
because people that I now myt dea and I can't do aniething
of people we love a dying
of getting sick[2]
about my Grandpards
that I would get covid
thet somothing might happen to me
because I don't want any of my family to get sick
about my favourite person- Granny
…not being able to see her made me sad.

It was very scary, not nice when
my family got covid
I had covvid 19 viras
family falling ill with covid
its side affects made my dad have a heart attack
Covid my mom had it, it was very bad
…she was admitted in hospital.

It made worry more about what happens around me
I was scared[4], worried, sad[6], angery, upset,
about whats going to happen to other people
everyone is going to die
because of all the people who have died
because there was so people dieing
cause people were dying left and right
about bad things like people dying
because we lost of alot people
because it got lots of old people sick
because lots of people were dying

Theme of *Concern*

that people were dying in such an uncomon way
so many people died
with people passing away
to live during a time where millions die
It was very hard.

To many people die
we lost many people
I feel bad for the people who are sick and the hospitals
others loses there jobs
I feel terrible
The situation is traumatic
It feels like it the end of the world.

I find it very difficult to control my mood at times
It has
put an emotional preassure on me
made me feel more stressed than it should
made me have anixty
gave me a lot of stress
gave me alot of anxiety
Emotionally damaged.

I felt sad[5]
that people I love have died[2]
because I lost everybody that I love that got sick
cause my ouma and uncle past away because of covid
lost some familly and friends
as i lost my Grandad and Uncle
It was horrible, terrible, difficult
lots of loved once's passed
losing friends
lost some familly and friends
i lost my grandmother
…i could not even say goodbye because of the pandemic
I hate it.

Theme of *Loss*

It was not nice[2]
I used to enjoy most things…
school was good
life was all around great
Now I only enjoy the things close to me
life has gotten way worse
Its been a struggle.

Its been struggles here and there
I lost hope financialy
I cant do hores riding…
my family cant afford it anymore
I thort that the share price will fall and my mom will loose her jod
I am annoyed becuse we ar struggeling to get money…
that was a big change for me
It was tough…
my parents worked very hard.

Theme of *Finances*

I really have not liked covid19
…not a very nice thing to have in life right now
Life was difficult
I feelth that time and days go faster
the years have past to quickly
I feel like I can't keep up with everything
Everything moves so fast
there's hardly ever time
I feel like my life is going to fly past me and in a blink of an eyes.

I feel tired:
it's placed more pressure on me then the other years
very tired of everything
Irritated
everyone shouting and screeming at me for little things.

We tried to read book by trying to calm ourselves…
to adjust it tryly a new normal of content
I feel scared, afraid that
things won't go back to normal[2]
it won't end[2]
its never going to end
I feel like it will stay the same for years
but hoping not
I want to be Back to normal[2]
Everybody saying life us back to normal
NO its not
I'm scared because we (the world) don't know whats coming next.

Theme of *New Normal*

My worse two years
I am more worried about my future
I stress for the nearst furture
I have been less and less positive of whats going to happen to me after school
I've lost so much positivity that my imagination has made false worlds.

It made me feel isolated from the real world out there
I feel[3], felt[2]
like I am in a closed room
locked up and over protected
like locked away sort of
like I am in a small circle
that all my freedom has been taking away.

I feel like I'm only in the beginning of an outbreak
I wish
the pandemic never came
it never happened
covid-19 will end
the pandemic will go away
I hate COVID-19!

It can't be put into one emotion
there is one to meny feelings, you can't just pick one…

It was/is, I felt/feel:

Mad[2]; Angry[4]; Bad; Very bad; Insecure; Awkward; Sometimes bored[2]; Bord; Borred; BORED; Bored[10]; Tough; Hard[4]; Horrible; Terrifying; A bit frantic; Cautious[3]; Aware; A little bit upset; Upsetting; Upset[3]; Not trusting; Useless; Frustrating; Frustrated; Irritated[3]; Irritating; Annouyed; Very annoyed; Heartsore; Unhappy; Not happy; Not happy at all; A little bit sad; A bit sad; More sad; Sad[20]; Nelly sad; Very sad; Depressed[3]; More derspossion; Depress; Extremely depressed; Misrable; Confused; Uncomfortable; Very un comfortable; Not interested; Unsafe[2]; A little bit worried; Worried[4]; Very worried; Worrysym; Slightly anxious; Anxious[4]; Nervous[3]; Very nervous; A bit scary[2]; Scary[5]; Scard; Scerd; Scared[17]; ISOLATED; Isolated[4]; Extremely isolated; Lonely[9]; Really lonely; Caged up; Confined; No freedom; Claustrophobic[2]; Emotional; Stressed[8]; More stressed out; Stressful[4]; Unsure; A little uncertain; Uncertain[3]; Tired[3]

Living in a Pandemic…the NEUTRAL

Its been interesting
I put on weight, got a littel bit chubby
I don't know what to say…

Its been, I felt
pretty much normal
not much different
pretty much the same
no difference really
mostly the same
still chatted with friends and family via what's app video calls
the same[11]
did not affect me that much
sometimes I do not notice the mask on my face
I never cared much about pandemic as long I am fine and my family is okay
normal
no different
fine[2]
hasent realy changed that much
i relliy dident care about it i just waiched tv the whole year.

Nothing[2]/not much[2] has changed[3], not much difference
it doesn't bother me much
I didn’t mind living in a pandemic
I feel like Ive just got on with it
it hasnt really affected me[3]...
since no-one close to me died of covid-19
except that we wearing makes and sanitasing ect
I still go to school
my mom still has a job
income is comin in
life hasn't been that different for me
I didnt feel a diff to be honest
People really over reacted over the pandemic.

Living in a Pandemic…the GOOD

It's a mixed feeling situation…it has had its ups[2]…

I loved, was happy not being near people[2]
Im alot less akward
helped me enjoy my own company
I no longer feel as self conscious
like everyone is judging
I'm more introverted
My self-esteem has improved drastically.

Theme of *Social*

It made me feel
no pain
I was calm and peaceful.

It was
fun
and I was
happy not to go to school[4], to have online school[4], homeschool
my own schedule, in my own time
no social pressure
I could control - noisy kids muted
the best year of my school carrier.

Theme of *School*

I liked, loved, enjoyed, was happy being at home[8]
with family[10], my mother, my parents[2]; becoming closer[4]
play games[2]
be with cats
baking
free on the farm
arts and crafts
woodwork
playing online with my friends
staying in my pj's all day
laughing
to wriot my book
call my friends all the time
bkf and indoor trainer
to think about my future
Being stuck at home was a blessing
… happy that I spent enough time with my dad before he passed.

Theme of *Home*

It made me feel
'okay-ish'
GOOD,
okay[3],
good[2],
fine.

it was
somewhat easier to consentrate
fun at times,
fun,
betu fun.

It brought big changes
I like wearing mask's because they can have cool designs on them
aveturly I got used to covid
its getting a little better,
definitely better,
I feel better

I believed everything would be alright.

It made me feel
sort of normal again[2]
a bit happy
happy[4]
like everything will be okay.

I feel more comfortable
with myself
doing most things
talking to people
around the people I care about
to sit still in environments longer.

It has made me feel good
more aware
to know
to prevent.

With all this time…
improve my skill
eager to leurn new skill's
focuse on my health
gym
reading
what I'm gonna do next year
self-reflect
ponder about what I can do
…for the better
I got happy and excited.

I have learnt a lot;
I have lost a lot;
I have gaind a lot;
I have forgotten a lot;
I have gotten closer to God
I have learnt one simple thing:
Atttitude of gratitude
I will always be thankful for life
I appreciate my family more
greatful for every day
opportunity to enjoy the simple life
greatful for covid teaching unity in family
I appreciate time with my friends more
I am happy to still have my Mom, Dad, family and teacher.

It made me feel
much less stressed
rather pleased and chilled
great.

it tuaght me alot of things about life,
to be patient understanding & Peaceful
I have overcome my gaming addiction
I feel like a better person[2]
I know more about myself
I am more confident than ever that I have what it takes to succeed.

Theme of *Self-growth & Self-reflection*

It was/I-Poems Discussion

Many of this samples' responses aligned with the themes and findings of other studies looking at the same population of children and adolescents with ADHD during the Covid-19 pandemic, such as Korpa et al. (2021) who saw the majority of their sample as suffering from overall adverse mental health. The emotional mood states of sadness, boredom, irritability, anxiety, and little interest/enjoyment in children and adolescents with ADHD during the pandemic as reported by their parents (Melegari et al., 2021), were all mirrored in this study's sample, with sadness and boredom being the two more prominent emotional states that respondents themselves reported feeling. Also consistent with this study's findings, boredom was considered one of the top problems experienced by adolescents and young adults in the USA, according to both child- and parent-report (Sibley et al., 2021). Parents in the study by Sciberras et al. (2020) saw stress related to the pandemic as concomitant to increased irritability, anxiety, nervousness, worry, fatigue, negative thoughts and diminished enjoyment in activities, all of which were self-reported in varying degrees by this study's sample. Shah et al. (2021) also reported increased irritability in their sample during their country's lockdown, as reported by the parents of the children and adolescents with ADHD. Depressed mood, sadness and loneliness were emotional states reportedly fairly frequently by this sample, as akin to the study by Sciberras et al. (2020). Higher levels of anxiety were found by Navarro-Soria et al. (2021), and Bobo et al. (2020) too saw anxiety as associated with worse well-being, results similar to this study's self-reported feelings of anxiety and similar emotions such as nervousness and worry. An emotional state and experience that came up often in this study's responses was the feeling of being scared and the situation of the pandemic as being scary, which other studies did not allude to.

Various risk factors associated with the mental health, emotional and psychological well-being, life satisfaction and quality of life of children and teenagers with ADHD were cited by previous studies and were echoed in many of this samples' responses. These risk factors encompassed the following: less exercise and less time spent outdoors (Navarro-Soria et al., 2021), difficulty socially isolating (Korpa et al., 2021; Navarro-Soria et al., 2021; Sibley et al., 2021), Covid-19-related worry, increased parent-child and family conflict, and tension in the household (Korpa et al., 2021). As these studies found in their own investigations, such risk factors could have contributed to the negative emotions experienced by this study's sample as evident in the negative 'it was/I-poem'. School closure and the implications thereof was a common theme in many studies that was too seen in this study's findings, specifically, various difficulties with the online mode of learning and the changes it wrought (Bobo et al., 2020; Korpa et al., 2021; Navarro-Soria et al., 2021; Sibley et al., 2021).

A primary positive implication of the pandemic and the subsequent lockdowns imposed worldwide, was being able to spend more time with one's parents and family (Sciberras et al., 2020;

Shah et al., 2021; Sibley et al., 2021), a finding that was reflected in the responses of this sample, as evident in the positive 'it was/I-poem'. Another positive aspect cited by previous studies and several respondents in this study, was having a flexible schedule (Bobo et al., 2020), and being less busy and generally calmer (Sciberras et al., 2020). Some of the respondents in this study alluded to their enjoyment of school closures and online learning as improving their well-being due to less social and school-related pressures, a finding which both Bobo et al. (2020) and Sciberras et al. (2020) noted in their sample.

Korpa et al. (2021) found worsened physical health in their sample, which was not something directly addressed by this study's respondents, although possibly implied in that less time was spent outdoors, as sports and extra-curricular activities were cancelled, and two respondents reported having put on weight. Both Navarro-Soria et al. (2021) and Bobo et al. (2020) reported sleep problems in their samples as reported by the parents, which was not something that this study's respondents mentioned.

Possibly due to the self-report nature of this study in comparison to the mostly parent-report nature of other studies investigating the same population, many responses and themes in this study were not directly mirrored in other known studies. This included the feelings of confinement reported by a fair few respondents, as denoted by words such as 'locked away', 'locked up', 'caged', 'no freedom', and other similar words and phrases. The dislike of the rules and regulations put in place due to the pandemic was another theme that was seemingly not found in other studies. There were so many responses outlining the dislike of masks and sanitising that a whole theme was necessarily made to encompass these responses. Further, the theme of loss and finances did not emerge explicitly in the findings of previous studies on the same topic and with the same population. The theme of self-growth and reflection was found by Arnout and Al-Sufyani (2021), who saw heightened spiritual connection, increased gratitude and improved emotional strength and resilience from self-report methods in their Saudi Arabian adult sample. However, this general self-growth and reflection theme was not evident in previous studies with children and adolescents with ADHD. The theme of concern was not noted in the studies conducting research with children and adolescents with ADHD specifically, however, it was a finding reported in the general child and adolescent population during the pandemic, all by studies utilising self-report methods (Bourion-Bédès et al., 2021; Magson et al., 2021; Vogel et al., 2021). Similarly, self-report showed Chinese children and adolescents without ADHD as valuing the extra time afforded them to spend on hobbies, interests and personal activities (Tang et al., 2021) – which was too seen in this study – where the studies looking specifically at children and adolescents with ADHD did not mention such findings.

All these themes and experiences are very personal in their manifestation, and thus are more likely authentically reported by the actual persons to whom such experiences occur, and who in turn experience the accompanying emotions. Therefore, it could be that these experiences, emotions and themes unreported by other known studies, emerged due to one of the unique hallmarks of this study: the sample themselves reported their own personal experiences of the pandemic, and did not rely on parents' perceptions of their children's experiences – as did the majority of other studies (Bobo et al., 2020; Korpa et al., 2021; Melegari et al., 2021; Navarro-Soria et al., 2021; Sciberras et al., 2020; Shah et al., 2021; Zhang et al., 2020). Thus, new and distinctly personal experiences came to light through this study's findings, which add significantly to the existing literature on the topic.

It is evident from the three 'it was/I-poems' that the majority of this study's sample had negative feelings and experiences regarding the pandemic. This is at odds with the data found through the statistical analyses as previously discussed, which found both overall and domain specific well-being levels of the sample to be above average. Here, an outright contradiction in the findings of quantitative and qualitative data for the same sample is seen. This is an interesting finding indeed, and could be due to or influenced by many factors. A thought-provoking explanation could be related to the concept of human resilience, where, despite the negative and emotionally draining experiences recounted by the majority of the sample, their propensity for resilience intercedes and their well-being stands strong. As briefly discussed in chapter two, individuals with ADHD could present an especially and uniquely resilient group, owing to the very symptoms which make up their diagnosis, and the necessity of combatting these challenges on a daily basis (Archer, 2015; Chan et al., 2022; Hai & Climie, 2022; Schei et al., 2018; Sedgwick et al., 2019; Wilmshurst et al., 2011). Investigating the resiliency of individuals – and particularly children and adolescents – diagnosed with ADHD would be an interesting topic for further research, and may serve to shed light into this study's somewhat contradictory findings in terms of what the well-being statistics report as compared to what the respondents themselves describe in the recitation of their experiences.

Another possible view on these discrepant quantitative and qualitative results is the effect of the manner in which responses were elicited for each respectively. The close-ended items of the EPOCH scale yielded quantitative, statistically comparable data, which was forced choice and thus limited in the availability of answers given, to similarly limited and specific items asked. The mode of close-ended questions is also given to a possible degree of response bias in that the forced options respondents are afforded may incur a form of implicit suggestion from researcher to respondent. The open-ended question on the other hand, gave qualitative information which enables the researcher to obtain responses that are elicited spontaneously and without suggestion, and that

avoid possible response bias (Reja et al., 2003). The very nature of an open-ended question produces more various, detailed and unique responses, with more distinct ideas and categories (Johnson et al., 1974). Thus, it is hypothesised that the open-ended responses elicited and tapped into prevalent, and also uniquely personal discourses in the lives of the respondents at the time of the pandemic. Additionally, the open-ended question invited more to be told on the topic of the pandemic and did not provide positively worded items – such as those of the EPOCH – but left the question completely open to the respondents.

Chapter 5: Conclusion

This chapter discusses the pertinent findings of the current study, of both a quantitative and qualitative nature. Limitations and advantages of the study are discussed, as are points regarding recommendations for future research and recommendations for practice.

Overall Findings

Primary Research Question

This study's primary research question was "How does subjective well-being present in children and adolescents with ADHD during the Covid-19 pandemic?", with the hypothesis being that subjective well-being scores in children and adolescents with ADHD during the Covid-19 pandemic on the EPOCH instrument would be low. The statistical analyses results revealed that this hypothesis was not supported. The sample in fact demonstrated above average overall well-being, with the mean well-being scores presenting in the various age groups as follows, from highest to lowest: 10, 18, 11, 13, 12, 17, 15, 14 and 16-year-olds. These results were interpreted as indicating some level of resilience in the sample, where the negative experiences and emotional turmoil experienced by the sample during the pandemic (as indicated in the qualitative findings), were somewhat mediated by the resilience present in the sample, possibly due in part to their very diagnosis and the implications thereof. With regards to the well-being score differences in various age groups, the suggestion is that adolescence (particularly from 14 to 16 years old) is a time of much biological, emotional, psychological, social and other changes and difficulties, as well as typically fluctuating moods; all these factors contributing to the lower well-being of the sample in mid-adolescence. The 10-year-olds have the highest well-being, possibly as they have not yet entered into the age of adolescence and thus are not yet confronted by the many challenges this phase of development poses. The 18-year-olds on the other hand, have conquered adolescence for the most part and are coming into themselves as adults, therefore being more express and comfortable with their identity (Blakemore, 2018; Blakemore & Mills, 2014; Gilmore & Meersand, 2015; Steinberg, 2004).

Secondary Research Question

The combined secondary research questions relate to the primary question as they asked how the domains of subjective well-being *engagement*, *perseverance*, *optimism*, *connectedness* and *happiness* respectively, present in children and adolescents with ADHD during the Covid-19 pandemic. Similarly to the primary research question, the hypothesis here was that the scores in the EPOCH domains in children and adolescents with ADHD during the Covid-19 pandemic on the EPOCH instrument would be low. Again, the respective hypotheses were not supported by the statistical analyses, which showed the sample as having above average well-being in all of the EPOCH domains.

The domain of *connectedness* showed the highest mean for the sample, followed by *happiness*, *optimism*, *engagement*, and lastly *perseverance*. Interpretations were that the sample truly valued connections and meaningful relationships with others. Additionally, the challenges faced by the sample under study being typical ADHD symptoms of inattention, fidgeting, distractibility and more, can make it more difficult for this population to engage and thus persevere at a task, particularly if the task is not one they find interesting (Barfield & Driessnack, 2018; Barkley, 2014).

Additional Statistical Analysis

Further investigations of the data showed that 10-year-olds had higher overall well-being than 14, 15 and 16-year-olds. With regards to the specific EPOCH domains, the following was discovered: 18-year-olds had significantly higher *engagement* than 14-year-olds; 10-year-olds had significantly higher *optimism* than 14 and 16-year-olds; 10-year-olds had significantly higher *happiness* than 15, 16 and 17-year-olds; 18-year-olds had significantly higher *happiness* than 16-year-olds; 10-year-olds had significantly higher *connectedness* than 16-year-olds; there were no significant differences between the different age groups for *perseverance*. Similarly, there were no significant differences in overall well-being or any of the EPOCH domains with regards to gender, nor with regards to whether or not respondents were on medication for their ADHD. Concerning whether or not respondents received therapy and/or intervention for their ADHD, no differences were found in the overall well-being of the sample nor in the domains of *engagement*, *optimism*, *connectedness* and *happiness*. However, when it came to the domain of *perseverance*, those respondents who did not receive therapy and/or intervention had significantly higher *perseverance* than those who did receive therapy and/or intervention.

Reliability of EPOCH

Through various in-depth statistical analyses, it was revealed that the EPOCH scale of child and adolescent well-being is a reliable measure of subjective well-being for use with children and adolescents between the ages of 10 and 18 years old. Thus, the EPOCH can be classified as an established subjective well-being measure for use in South Africa; it can be reliably used in future studies taking place in similar contexts and with similar populations.

Qualitative Findings

The qualitative findings of the study demonstrated that, despite the quantitative results showing above average overall and domain specific well-being in the sample, the majority of responses indicated negative feelings and experiences during the pandemic, with the minority reciting positive experiences and feelings, and an even smaller minority having not experienced much of a difference compared to pre-Covid-19 times. The broad themes that were revealed from

the negative 'it was/I-poem' were change, rules, social, home, school, extra-murals, concern, loss, finances, new normal, emotions and experiences, and other. More specifically, these themes encompassed the following: change as it affected the respondents in a negative light; the specific dislike of hygiene rules imposed, chiefly the wearing of masks, as well as having to sanitise; craving social interactions and missing friends and family; the aversion to having to stay at home and indoors so much; the dislike and experience of various challenges with online schooling; the disappointment of not being able to play sports or partake in extra-mural activities; general concern for the world, oneself, one's family and friends; loss in the form of loved one's passing away due to the virus or due to the implications of the pandemic; financial worry and/or loss due to parents'/guardians' precarious job positions; fear that the pandemic and its implications will become the new normal way of life; one word or short phrase negative emotion and experience words; other experiences that did not fit into the above categories.

The positive 'it was/I-poem' produced broad themes of home, school, social, self-growth/reflection, and emotions and experiences. More specifically, these themes encompassed the following: the pleasure of staying home and various positive implications thereof; the preference for online school, for various reasons; the enjoyment of spending time with family (social); the opportunity for self-growth and reflection in various forms, such as newfound gratitude for one's life and family; one word or short phrase positive emotion and experience words. The neutral 'it was/I-poem' saw the general theme of having no experiences or feelings of change, where life was perceived as being the same as before the pandemic. Additionally, responses of "I put on weight" and "I got a littel bit chubby" were included as neutral as they were regarded as facts, without accompanying feelings supporting the statements.

Limitations of the Study

One of the greatest limitations of the current study is that it did not capture the behaviour of the respondents. Capturing the behaviour of each respondent, especially in terms of ADHD symptoms and their worsened/improved/different levels and manifestations, was not a part of the data collection. Although this information would have been useful and would have added another layer of depth to the study, it was thought that adding another scale, such as a behaviour rating scale for the parents to fill in, would have made the questionnaire too long and might have impacted on the willingness of respondents to participate and thus affect the response rate. Other studies investigating similar topics as this current study also procured information on the sample's behaviour during the pandemic from the parents/guardians (Bobo et al., 2020; Melegari et al., 2021; Shah et al., 2021; Sibley et al., 2021), and so it would have been interesting to compare results

regarding behaviours and ADHD symptoms, particularly when this sample's well-being results were so divergent to the majority of other studies.

Another limitation could be the use of the EPOCH scale of child and adolescent well-being, as it is a fairly new measure and thus has not been widely used or globally established. Use of a more well-known and well-established subjective well-being scale may have been more valuable in that comparison between well-being scores and the general findings between the current study and others would have possibly proven to be more valid and reliable. Similarly, the EPOCH items are all positively worded, and thus there is a slight possibility that this could have resulted in response bias (Kern et al., 2016). Studies have shown that the mode of a questionnaire can have various implications on the research being conducted, not least on the quality of the results obtained (Bowling, 2005; Sasaki, 1998). In their study examining the format of questionnaires used with hearing impaired adults, Thorén et al. (2012) found that one out of four questionnaires included in their study found differences in results when comparing online versus paper-and-pencil formats of the same scale. Similarly, scores on the General Health Questionnaire in the paper-and-pencil version were lower than those of the online version in a study investigating psychological assessment methods, whereas the Symptoms Checklist showed similar results in both online and paper-and-pencil formats (Vallejo et al., 2007). Therefore, the fact that this current study utilised both online and paper-and-pencil formats of the questionnaire, could have resulted in slightly different results from each format.

Language must always be considered, particularly in such a multilingual country as South Africa. The fact that the EPOCH is an English measure may have influenced the results in some way, as the demographics show that many of the respondents did not speak English as a home language, and thus they read and answered the questionnaire in their second or third language. Although one of the criteria was that the respondents understood English as a First Additional Language, this does not guarantee that this was the case; neither does it guarantee that any mental translations from a respondents home language to English changed the understanding of the EPOCH items and in turn influenced the Likert-type option selected. Wenz et al. (2021) found that respondents whose native language differed to that of the language in which survey data was collected, produced lower data quality. Other studies have also found that the scales' language and the respondents' proficiency in that language will affect how they read, understand and answer the scale, and thus affect results to varying degrees (Bond & Yang, 1982; Richard & Toffoli, 2009; Wenz et al., 2021). Thus, slight nuances may have been present in the answers of the respondents whose mother tongue was not English.

Many children and adolescents with ADHD have one or more other comorbid disorders (American Psychiatric Association, 2013b). Therefore, it would have been beneficial to the study and

the interpretation of the results to know how many of the respondents had other comorbid disorders and which additional disorders were most common. Additionally, the current study did not differentiate between the types of ADHD, namely ADHD inattentive presentation, ADHD hyperactive/impulsive presentation, and ADHD combined presentation. Having included a demographic question regarding the specific presentation of ADHD respondents presented with, could have provided interesting results as to the well-being scores seen in the different ADHD types and how they may have differed or not.

Advantages of the Study

One of the chief advantages of this study and a unique aspect of it, was that the well-being scores and qualitative information came directly from the children and adolescents themselves. The study was not based on parent-proxy and thus did not rely on parents' perception of their child's well-being during the pandemic and their experiences thereof.

Psychometric properties of reliability were established for the EPOCH scale of child and adolescent well-being. Thus, this study contributed in establishing the reliable use of the EPOCH scale in future studies taking place in similar contexts and with similar samples, as well as providing valuable results to which future studies can compare findings.

The use of both quantitative and qualitative data certainly is an advantage of the study, where quantitative data provides numerical statistics and results which are more generalisable and comparable. The qualitative data adds significantly to the quantitative in the unique and detailed responses provided; thus, the mixed method provides a comprehensive analysis of all the complexities of the phenomena being studied. Additionally, the data was collected over an extended period during the pandemic, thus providing results from more than one specific segment of the pandemic. This is an advantage in that it provided more varied results.

The study procured a relatively large sample size, particularly considering the difficulty of obtaining respondents during the uncertain time of the Covid-19 pandemic. The sample size enabled a certain degree of generalisability in the quantitative findings – with the necessary cautions that one must always keep in mind when generalising findings. The large sample size is relatively unusual with regards to qualitative responses, and this in turn advantaged the study in providing many wide-ranging responses and themes.

This study contributed to knowledge development in the field of well-being with regards to the particular population of children and adolescents with ADHD, as well as contributing to the novel research conducted on the effects and implications of the Covid-19 pandemic. This study too explored its topic in the South African context, a continent where research in this field is limited. Therefore, an advantage is that this study contributed to literature using a South African sample of

children and adolescents with ADHD and thus informed the literature from a uniquely African perspective.

Recommendations

Recommendations for Future Research

One of the many recommendations for future research is to investigate why well-being in children and adolescents with ADHD in South Africa presented as high during the pandemic. Furthermore, exploration of the well-being of the age groups that presented with the lowest well-being scores in this study (14, 15 and 16 years old) is recommended, whereby these age groups' well-being is investigated more in-depth. Likewise, further research investigating the reasons why the two age groups of 10 and 18-year-olds scored the highest in overall well-being is suggested.

Considering the fact that the domain of *connectedness* and *perseverance* were the highest and lowest domains respectively across age groups and genders, further research examining how connectedness might be leveraged to enhance perseverance, is recommended. Exploratory and/or explanatory studies are further recommended in comparing the levels of perseverance specifically between children and adolescents with ADHD who receive therapy and those who do not.

Studies focused more on the observation of behaviour of the same population investigated in the current study would yield quite different forms of results, and yet results that would be well complimented when comparing the two together. It is further recommended that studies exploring the hegemonic discourse on well-being during adversity be conducted, and the consequent influence on qualitative research findings. In addition, a recommendation is made to conduct comparative studies that explore methodological choices of research and the subsequent research outcomes.

Future research that would add significantly would be to investigate the topic of resilience in children and adolescents in South Africa specifically with ADHD. Further, investigating the topic of resilience together with well-being would make for interesting and noteworthy research.

Another suggestion for future research on the same or similar topic is to incorporate a few questions on behaviour and ADHD symptom manifestation, or a behaviour rating scale for the parent(s)/guardian(s)/caregiver(s) to complete before the children and adolescents themselves complete the EPOCH or other self-report subjective well-being scale. Further enrichment would result from a parent-report behaviour rating scale together with a self-report behaviour rating scale. As mentioned, this would add significant and nuanced information to the results and how one could interpret them. Additionally, for future replications of the current study or future research on similar topics, it is recommended that a question is asked regarding any other comorbid disorders respondents may have.

Future research is encouraged to elicit responses from the children and adolescents themselves, and not only from the various perceptions of others. Although an advantage of this study is its self-report nature of garnering subjective well-being scores, a recommendation for future research is to utilise both self-report and parent-report forms of the same scale. In such a case, parent- and self-ratings could be compared and the degree of agreement analysed. Whether ratings are in agreement or not, the findings would give much information and pose interesting reflections. Further, using both forms of subjective well-being ratings would add reliability to the final well-being score results.

Recommendations for Practice

The results from this study have been two-fold, and thus the recommendations are as well. The overall well-being scores of the sample demonstrated above average well-being, and several recommendations are suggested hereto. It is recommended to all involved in these respondents' lives – parents, teachers, schools, educational psychologists and other professionals – that the strength and potential for wellbeing of children and adolescents with ADHD be acknowledged, understood and nurtured. Similarly, children and adolescents with ADHD should be commended for their gifts of positive well-being. Expanding the perceptions about the well-being of children with ADHD is an important recommendation for practice in order to acknowledge and further promote positive trends and outcomes. It is suggested that developmentally and age-appropriate intervention designs be employed that acknowledge the variance in age groups and their respective mean well-being scores. The fact that 'limited/no therapeutic intervention' approaches may still have positive outcomes for children and adolescents with ADHD must be acknowledged.

Secondly in this two-fold recommendation process, it must be considered that both the positive and negative 'it was/I-poems' revealed the many experiences eliciting negative and positive feelings from the sample. Broadly speaking, the poems demonstrated the experiences contributing to more positive and more negative states of well-being that the sample experienced during the pandemic. Therefore, the recommendation is that the experiences and activities that contributed to positive well-being be enhanced and emphasised, while the negative experiences be acknowledged, yet reduced as far as possible. All these positive and negative inducing experiences cannot be listed in their entirety due to the abundant number and variety of responses given, as well as the uniqueness that is every individual respondent. Some of the well-being inducing activities and experiences that were common and that it is recommended should be continued by the aforementioned parties involved in the care of the respondents such as parents, teachers and schools and that should be suggested by professionals such as educational psychologists, are the following: spending quality time with family and with friends; having sufficient time away from

school and responsibilities to do enjoyable activities and/or to learn or improve a skill or area of interest; and playing sport and partaking in extra-mural activities. With regards to the activities and experiences that did not contribute to or worsened well-being, commonly the following was found: the challenge of online schooling; not being able to socialise and see friends at school or outside of school; not being able to go outdoors; the feeling of confinement due to strict control; and having to wear masks. Parents, teachers and schools should, wherever possible, use their power to ensure children and adolescents with ADHD do not experience these above mentioned experiences. What is important is the individualisation of these recommendations, to check with the child or adolescent in question and ascertain what contributes to their well-being and what does not.

Conclusion

There are many factors and accoutrements to consider at the close of any research conducted. In the assessments of such in the current study, the overall quantitative and qualitative findings and the interpretations thereof were discussed, statistically and thematically respectively. The very necessary discussion of the study's limitations and advantages are conferred, as are recommendations for future research and recommendations for practice with reference to the various role-players in the lives of the investigated population, those being parents, teachers, schools, and educational psychologists and other professionals.

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Appendix A

The EPOCH Scale of Child and Adolescent Well-being

1	**When something good happens to me, I have people who I like to share the good news with.**	Almost never	Sometimes	Often	Very often	Almost always
2	**I finish whatever I begin.**	Almost never	Sometimes	Often	Very often	Almost always
3	**I am optimistic about my future.**	Almost never	Sometimes	Often	Very often	Almost always
4	**I feel happy.**	Almost never	Sometimes	Often	Very often	Almost always
5	**When I do an activity, I enjoy it so much that I lose track of time.**	Almost never	Sometimes	Often	Very often	Almost always
6	**I have a lot of fun.**	Almost never	Sometimes	Often	Very often	Almost always
7	**I get completely absorbed in what I am doing.**	Almost never	Sometimes	Often	Very often	Almost always
8	**I love life.**	Almost never	Sometimes	Often	Very often	Almost always
9	**I keep at my schoolwork until I am done with it.**	Almost never	Sometimes	Often	Very often	Almost always
10	**When I have a problem, I have someone who will be there for me.**	Almost never	Sometimes	Often	Very often	Almost always
11	**I get so involved in activities that I forget about everything else.**	Almost never	Sometimes	Often	Very often	Almost always
12	**When I am learning something new, I lose track of how much time has passed.**	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
13	**In uncertain times, I expect the best.**	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
14	**There are people in my life who really care about me.**	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
15	**I think good things are going to happen to me.**	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me

16	**I have friends that I really care about.**	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
17	**Once I make a plan to get something done, I stick to it.**	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
18	**I believe that things will work out, no matter how difficult they seem.**	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
19	**I am a hard worker.**	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
20	**I am a cheerful person.**	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me

Appendix B

Demographic Questions

1. What is your child's/teenager's age in years?
2. What is your child's/teenager's gender?
3. To which ethnic group does your child/teenager belong?
4. What is your child's/teenager's home language?
5. In which province does your child/teenager live?
6. What category of school does your child/teenager attend?
7. What type of school does your child/teenager attend?
8. What was the average number of days that your child/teenager attended school in the past year? (This *includes* having school online, going to school in-person and home schooling).
9. Has your child/teenager been on medication for their ADHD/ADD in the past year?
10. Has your child/teenager ever received therapy and/or intervention for their ADHD/ADD?

If YES, please specify what intervention and/or therapy.

Appendix C

Combined Participant Information and Informed Consent Sheet for Parent(s)/Guardian(s)/Caregiver(s)

Dear Parent/Guardian/Caregiver,

My name is Andrea Nicolaou and I am a Master's student in the faculty of Education at the University of Pretoria. As part of my Master's degree in Educational Psychology, I am conducting research investigating the well-being of children and adolescents who have ADHD/ADD during the Covid-19 pandemic in South Africa.

- As part of data collection, you as the parent/guardian/caregiver will be asked to provide some basic demographic information about your child/child under your care, after which your child/child under your care will be asked to answer some questions about their own personal well-being – i.e. how they have been feeling during this past year.

- Participation is completely voluntary and as such you and/or your child/child under your care have the right to withdraw from the study at any point before submission of the questionnaire, without any negative consequences.

- There is no benefit to this study as there is no explicit gain or remuneration to be received. The only benefit is knowing that you have contributed to essential and relevant research.

- Complete anonymity and confidentiality will be guaranteed throughout the study; no identifying information such as names or identity numbers will be asked. All data will be stored in a locked cabinet and on a password protected laptop accessible only by me as the researcher and relevant parties.

- It will take approximately 5-10 minutes to complete the parent/guardian/caregiver section of the questionnaire, and 5-10 minutes to complete the child/teen section of the questionnaire.

- The data collected for this study will be used for completion of my dissertation as part of my Master's degree in Educational Psychology, supervised by Professor Irma Eloff. Additionally, the data may be used and published in scientific articles and/or book chapters.

- This study (EDU056/21) was submitted to the Research Ethics Committee of the Faculty of Health Sciences at the University of Pretoria. Written approval has been granted for this study by this committee.

Your child's/teen's participation will contribute to the holistic understanding of children and adolescents with ADHD/ADD and their well-being during this time of crisis. As well-being is essential for life flourishment and positive quality of life, the findings of this study will add significant knowledge about the population of children and adolescents with ADHD/ADD who are so integral to our society. Should you have any questions or require any further information, please feel free to contact me or my research supervisor, Professor Irma Eloff.

Sincerely,
Andrea Nicolaou
083 295 5509
(andrea.nicolaou13@gmail.com)
(irma.eloff@up.ac.za)

** Please check the box if you as parent/guardian/caregiver give permission for your child/teenager to participate in this research ☐

Appendix D

Combined Participant Information and Assent Sheet for Child/Adolescent

Dear Participant,
My name is Andrea and I am doing a study to learn about the well-being (feelings of happiness) of children and teenagers with ADHD/ADD during the time that Covid-19 has been in South Africa.

- If you want to be part of my study, I will ask you to answer some questions. The questions will ask how you feel. Remember, there are no right or wrong answers ☺
- It is totally up to you if you want to be in my study. If you don't want to be in my study, that is also fine. You can also change your mind about being part of my study any time before you finish the questionnaire.
- If you decide to be in my study, I will not ask for your name or any information that tells me who you are. This way, you will be anonymous (secret). All your answers to the questions will be kept safe on my laptop.
- It will take you 5-10 minutes to answer these questions.
- The University of Pretoria (where I am doing this study) may want to use the information you give in this study for other studies in the future. All your information will still be kept safe and secret.
- If you have any questions, you can ask your mom, dad or the person looking after you to call or email me and I will be happy to talk to you. (If you are 18 years old you can contact me yourself). This is my cell phone number: 083 295 5509, and my email address: andrea.nicolaou13@gmail.com

Thank you ☺
Andrea Nicolaou

** Please check the box to confirm: I have read and understand all the information above and I want to be part of this study ☐

Appendix E

Invitation to Participate – Email Template Sent to Private Schools

Dear [name of principal/name of key role player/name of school],

My name is Andrea Nicolaou and I am a Master's student studying for the degree of Educational Psychology at the University of Pretoria in the faculty of Education.

As part of my degree I am conducting research on the topic of subjective well-being (feelings of happiness) in children and adolescents (age 10 to 18 years old) with Attention-Deficit/Hyperactivity Disorder (ADHD) during the Covid-19 pandemic in South Africa.

I am writing to inquire if your school would be willing to email or WhatsApp an invitation link to the parents/guardians/caregivers of the students at [name of school]? The invitation link will merely invite participants to partake in the study, which is completely voluntary.

- If parents/guardians/caregivers would like their child or teen to partake in the study, they will follow the link where they will be asked to answer some demographic questions regarding their child, such as their age, gender, ethnicity, province of residence and similar. The child/teen will then answer a short survey on their perceptions of their own well-being.
- There is no direct harm or risk in participating in this study. However, as fragility may be heightened due to the pandemic, there is a slight chance that some questions may elicit emotional responses in some respondents. In the unlikely event of such cases, telephone numbers for both toll free and private counsellors will be provided as below:

  * Lifeline toll free helpline (operating 24/7) - 0861 322 322
  * SADAG ADHD toll free helpline (operating daily from 8am-8pm) – 0800 55 44 33
  * Kirsten (private practice educational psychologist (operating daily from 9am-6pm) - 082 717 5196

- Complete anonymity and confidentiality will be guaranteed throughout the study; no identifying information such as names or identity numbers will be asked and no IP addresses will be recorded. All data will be stored on a password protected laptop accessible only by me as the researcher and relevant parties.
- It will take approximately 10-20 minutes to complete this questionnaire (5-10 minutes for the parents'/guardians'/caregivers' section and 5-10 minutes for the children's/teens' section).

- The data collected for this study will be used for completion of my mini dissertation as part of my Master's degree in Educational Psychology, supervised by Professor Irma Eloff. Additionally, the data may be used and published in scientific articles and/or book chapters.
- This study (EDU056/21) was submitted to the Research Ethics Committee of the Faculty of Health Sciences at the University of Pretoria, Medical Campus, Tswelopele Building, Level 4-59, telephone numbers 012 356 3084/012 356 3085. Written approval has been granted for this study by this committee.
- The University of Pretoria will also request parents'/guardians'/respondents' permission to use the data that will be obtained from this study (confidentially and anonymously) for further research purposes, as the data sets are the intellectual property of the University of Pretoria. Further research may include secondary data analysis using the data for teaching purposes. The confidentiality and privacy applicable to this study will be binding on future research studies.

I would be most grateful if your school would be willing to circulate the invitation link to the parents/guardians/caregivers of the students at [name of school] and encourage participation. This would make a great contribution to my research and studies. Even more significantly, this would contribute to the holistic understanding of children and adolescents with ADHD and their well-being during this time of crisis. As well-being is essential for life flourishment and positive quality of life, the findings of this study will add significant knowledge about the population of children and adolescents with ADHD who are integral to our society.

If you have any questions, please feel free to contact me or my research supervisor, Professor Irma Eloff.

Yours sincerely,

Andrea Nicolaou
083 295 5509
andrea.nicolaou13@gmail.com

And

Professor Irma Eloff
irma.eloff@up.co.za

Appendix F

Hard Copy Version of Questionnaire

ADHD/ADD and Well-Being Research Questionnaire

Dear Parent/s,

As you are the awesome parent/s of a child with ADHD/ADD, you have the privilege to take part in essential research! ⭐

People with ADHD and ADD are some of the most creative, inventive and extraordinary people in our world. After all, as Dr Seuss once said, "***why fit in when you were born to stand out?***" 🌈 **If your child is between 10 and 18 years old and has ADHD or ADD**, I would like to ask if you could please take a moment of your day to answer this short (10-20 minute) questionnaire with your child/teen.

All information you provide in the questionnaire will remain completely anonymous and confidential, and no identifying information such as names or contact details are required.

Many thanks,

Andrea Nicolaou

Parent/Guardian/Caregiver Informed Consent

Dear Parent/Guardian/Caregiver,

My name is Andrea Nicolaou and I am a Master's student in the faculty of Education at the University of Pretoria. As part of my Master's degree in Educational Psychology, I am conducting research investigating the well-being of children and adolescents who have ADHD/ADD during the Covid-19 pandemic in South Africa.

- As part of data collection, you as the parent/guardian/caregiver will be asked to provide some basic demographic information about your child/child under your care, after which your child/child under your care will be asked to answer some questions about their own personal well-being – i.e. how they have been feeling during this past year.

- Participation is completely voluntary and as such you and/or your child/child under your care have the right to withdraw from the study at any point before submission of the questionnaire, without any negative consequences.

- There is no benefit to this study as there is no explicit gain or remuneration to be received. The only benefit is knowing that you have contributed to essential and relevant research.

- There is no direct harm or risk in participating in this study. However, as fragility may be heightened due to the pandemic, there is a slight chance that some questions may elicit emotional responses in some respondents. In the unlikely event of such cases, please contact one of the following numbers:

  ~ Lifeline toll free helpline (operating 24/7) – 0861 322 322
  ~ SADAG ADHD toll free helpline (operating daily from 8am-8pm) – 0800 55 44 33
  ~ Kirsten (private practice educational psychologist) – 082 717 5196

- Complete anonymity and confidentiality will be guaranteed throughout the study; no identifying information such as names or identity numbers will be asked. All data will be stored in a locked cabinet and on a password protected laptop accessible only by me as the researcher and relevant parties.

- It will take approximately 5-10 minutes to complete the parent/guardian/caregiver section of the questionnaire, and 5-10 minutes to complete the child/teen section of the questionnaire.

- The data collected for this study will be used for completion of my dissertation as part of my Master's degree in Educational Psychology, supervised by Professor Irma Eloff. Additionally, the data may be used and published in scientific articles and/or book chapters.

- This study (EDU056/21) was submitted to the Research Ethics Committee of the Faculty of Health Sciences at the University of Pretoria. Written approval has been granted for this study by this committee.

Your child's/teen's participation will contribute to the holistic understanding of children and adolescents with ADHD/ADD and their well-being during this time of crisis. As well-being is essential for life flourishment and positive quality of life, the findings of this study will add significant knowledge about the population of children and adolescents with ADHD/ADD who are so integral to our society. Should you have any questions or require any further information, please feel free to contact me or my research supervisor, Professor Irma Eloff.

Sincerely,
Andrea Nicolaou
083 295 5509
(andrea.nicolaou13@gmail.com)
(irma.eloff@up.ac.za)

** Please check the box if you as parent/guardian/caregiver give permission for your child/teenager to participate in this research ☐

ADHD/ADD and Well-being Questionnaire

Section for parent/guardian/caregiver:

I confirm that my child/teenager fits all 4 of the following criteria (please check the boxes below):

- My child/teenager is between 10 and 18 years old ☐
- My child/teenager has Attention-Deficit Hyperactivity Disorder (ADHD) **OR** Attention-Deficit Disorder (ADD) as confirmed by a specialist ☐
- My child/teenager understands English at a Home Language or First Additional Language level ☐
- My child/teenager attends school (including home school) in South Africa ☐

Please answer the following questions about your child/teenager by checking the appropriate box. Please note that all questions are for analytic and descriptive purposes; in no way are they meant to offend.

11. **What is your child's/teenager's age in years?**

10 years	**11** years	**12** years	**13** years	**14** years	**15** years	**16** years	**17** years	**18** years

12. **What is your child's/teenager's gender?**

Female	Male	Other (please specify)

13. **To which ethnic group does your child/teenager belong?**

African	Asian	Coloured	Indian	White	Other (please specify)

14. **What is your child's/teenager's home language?**

Afrikaans	
English	
IsiNdebele	
IsiXhosa	
IsiZulu	
Sesotho	
Sepedi	
Setswana	
Siswati	
Tshivenda	
Xitsonga	
Other (please specify)	

15. **In which province does your child/teenager live?**

Eastern Cape	
Free State	
Gauteng	
KwaZulu-Natal	
Limpopo	
Mpumalanga	
Northern Cape	
North West	
Western Cape	

16. **What category of school does your child/teenager attend?**

Home School	Model C School	Private School	Public School	Other (please specify)

17. **What type of school does your child/teenager attend?**

Mainstream School	Remedial School	Special Needs School	Other (please specify)

18. **What was the average number of days that your child/teenager *attended* school since the Covid-19 pandemic?** (This includes having school online, going to school in-person and home schooling).

200 out of 200 school days (approx. 6.6 months)	
199-170 out of 200 school days (approx. 6.5 to 5.6 months)	
169-140 out of 200 school days (approx. 5.5 to 4.6 months)	
139-110 out of 200 school days (approx. 4.5 to 3.6 months)	
109-80 out of 200 school days (approx. 3.5 to 2.6 months)	
79-50 out of 200 school days (approx. 2.5 to 1.6 months)	
49-20 out of 200 school days (approx. 1.5 to 0.6 months)	
Less than 19 out of 200 school days (approx. 0.6 months)	

19. **Has your child/teenager been on medication for their ADHD/ADD in the past 2 years?**

Yes	No

20. **Has your child/teenager ever received therapy and/or intervention for their ADHD/ADD?**

Yes	No

If yes, please specify what intervention and/or therapy:

_____

_____

_____

_____

_____

**The rest of the questionnaire must be answered by your child/teenager. Please check the box below to confirm:

I confirm that **my child/teenager** will now answer the remainder of the questionnaire ☐

Section for Children and Adolescents with ADHD/ADD

Dear Participant,
My name is Andrea and I am doing a study to learn about the well-being (feelings of happiness) of children and teenagers with ADHD/ADD during the time that Covid-19 has been in South Africa.

- If you want to be part of my study, I will ask you to answer some questions. The questions will ask how you feel. Remember, there are no right or wrong answers ☺

- It is totally up to you if you want to be in my study. If you don't want to be in my study, that is also fine. You can also change your mind about being part of my study any time before you finish the questionnaire.

- If you decide to be in my study, I will not ask for your name or any information that tells me who you are. This way, you will be anonymous (secret). All your answers to the questions will be kept safe on my laptop.

- It will take you 5-10 minutes to answer these questions.

- It is possible that some questions might not make you feel good. If you experience this, call your mom or dad or an adult you trust and they can contact someone to help you feel better by phoning one of the numbers below. (If you are 18 years old you can phone without the presence of an adult).

  ~Lifeline toll free helpline (operating 24/7) – 0861 322 322
  ~SADAG ADHD/ADD toll free helpline (operating daily from 8am-8pm) – 0800 55 44 33
  ~Kirsten (private practice educational psychologist) – 082 717 5196

- The University of Pretoria (where I am doing this study) may want to use the information you give in this study for other studies in the future. All your information will still be kept safe and secret.

- If you have any questions, you can ask your mom, dad or the person looking after you to call or email me and I will be happy to talk to you. (If you are 18 years old you can contact me yourself). This is my cell phone number: 083 295 5509, and my email address: andrea.nicolaou13@gmail.com

Thank you ☺
Andrea Nicolaou

** Please check the box to confirm: I have read and understand all the information above and I want to be part of this study ☐

Question A: The EPOCH Questionnaire of Child and Adolescent Well-being.

This is a survey about *you*☺ Please read each of the following statements. For each statement, **circle the option that best describes you**. Please be honest – there are no right or wrong answers!

1	When something good happens to me, I have people who I like to share the good news with.	Almost never	Sometimes	Often	Very often	Almost always
2	I finish whatever I begin.	Almost never	Sometimes	Often	Very often	Almost always
3	I am optimistic about my future.	Almost never	Sometimes	Often	Very often	Almost always
4	I feel happy.	Almost never	Sometimes	Often	Very often	Almost always
5	When I do an activity, I enjoy it so much that I lose track of time.	Almost never	Sometimes	Often	Very often	Almost always
6	I have a lot of fun.	Almost never	Sometimes	Often	Very often	Almost always
7	I get completely absorbed in what I am doing.	Almost never	Sometimes	Often	Very often	Almost always
8	I love life.	Almost never	Sometimes	Often	Very often	Almost always
9	I keep at my schoolwork until I am done with it.	Almost never	Sometimes	Often	Very often	Almost always
10	When I have a problem, I have someone who will be there for me.	Almost never	Sometimes	Often	Very often	Almost always
11	I get so involved in activities that I forget about everything else.	Almost never	Sometimes	Often	Very often	Almost always
12	When I am learning something new, I lose track of how much time has passed.	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
13	In uncertain times, I expect the best.	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
14	There are people in my life who really care about me.	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
15	I think good things are going to happen to me.	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me

16	I have friends that I really care about.	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
17	Once I make a plan to get something done, I stick to it.	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
18	I believe that things will work out, no matter how difficult they seem.	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
19	I am a hard worker.	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me
20	I am a cheerful person.	Not at all like me	A little like me	Somewhat like me	Mostly like me	Very much like me

Question B:

I feel better than I did when the Covid-19 virus came to South Africa and everything changed.	I feel worse	I feel the same	I feel better

Question C:

How has living in a pandemic made you feel? Please give any information that you feel comfortable sharing.

_____

_____

_____

_____

_____

** Please check the box to confirm that you have given ***your own*** answers to the above questions ☐

If you feel sad or emotional in any way after answering these questions, please ask your mom or dad or an adult who you trust to phone one of the following numbers. If you are 18 years old you can phone without the presence of an adult.

- Lifeline toll free helpline (operating 24/7) – 0861 322 322
- SADAG ADHD/ADD toll free helpline (operating daily from 8am-8pm) – 0800 55 44 33
- Kirsten (private practice educational psychologist) – 082 717 5196

Thank you for your participation in this research ☺

Appendix G

Test of Homogeneity of Variances for Overall Well-being Data (Table 15)

Table 15

Test of Homogeneity of Variances for Overall Well-being Data

		Levene Statistic	df1	df2	Sig.
Overall Well-Being	Based on Mean	1,042	8	366	0,404

Appendix H

Full Version of the Bonferroni Post-hoc Test Results for Overall Well-being (Table 16)

Table 16

Bonferroni Post-hoc Test Results for Overall Well-being (Full Table)

					95% Confidence Interval	
(I) Age	**(J) Age**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**	**Lower Bound**	**Upper Bound**
10 years old	11 years old	0,20523	0,11745	1,000	-0,1731	0,5836
	12 years old	0,22699	0,11302	1,000	-0,1371	0,5911
	13 years old	0,21866	0,11986	1,000	-0,1675	0,6048
	14 years old	.41761*	0,12679	0,039	0,0091	0,8261
	15 years old	.45118*	0,13704	0,039	0,0097	0,8927
	16 years old	.57031*	0,13311	0,001	0,1415	0,9992
	17 years old	0,39867	0,13704	0,138	-0,0428	0,8402
	18 years old	0,06281	0,15932	1,000	-0,4505	0,5761
11 years old	10 years old	-0,20523	0,11745	1,000	-0,5836	0,1731
	12 years old	0,02176	0,11415	1,000	-0,3460	0,3895
	13 years old	0,01342	0,12092	1,000	-0,3761	0,4030
	14 years old	0,21237	0,12780	1,000	-0,1993	0,6241
	15 years old	0,24595	0,13796	1,000	-0,1985	0,6904
	16 years old	0,36508	0,13407	0,244	-0,0668	0,7970
	17 years old	0,19344	0,13796	1,000	-0,2510	0,6379
	18 years old	-0,14243	0,16012	1,000	-0,6583	0,3734
12 years old	10 years old	-0,22699	0,11302	1,000	-0,5911	0,1371
	11 years old	-0,02176	0,11415	1,000	-0,3895	0,3460
	13 years old	-0,00834	0,11663	1,000	-0,3841	0,3674

	14 years old	0,19062	0,12374	1,000	-0,2080	0,5893
	15 years old	0,22419	0,13422	1,000	-0,2082	0,6566
	16 years old	0,34332	0,13021	0,314	-0,0762	0,7628
	17 years old	0,17168	0,13422	1,000	-0,2607	0,6041
	18 years old	-0,16419	0,15691	1,000	-0,6697	0,3413
13 years old	10 years old	-0,21866	0,11986	1,000	-0,6048	0,1675
	11 years old	-0,01342	0,12092	1,000	-0,4030	0,3761
	12 years old	0,00834	0,11663	1,000	-0,3674	0,3841
	14 years old	0,19895	0,13002	1,000	-0,2199	0,6178
	15 years old	0,23252	0,14003	1,000	-0,2186	0,6836
	16 years old	0,35166	0,13619	0,368	-0,0871	0,7904
	17 years old	0,18001	0,14003	1,000	-0,2711	0,6311
	18 years old	-0,15585	0,16190	1,000	-0,6774	0,3657
14 years old	10 years old	-.41761*	0,12679	0,039	-0,8261	-0,0091
	11 years old	-0,21237	0,12780	1,000	-0,6241	0,1993
	12 years old	-0,19062	0,12374	1,000	-0,5893	0,2080
	13 years old	-0,19895	0,13002	1,000	-0,6178	0,2199
	15 years old	0,03357	0,14600	1,000	-0,4368	0,5039
	16 years old	0,15271	0,14233	1,000	-0,3058	0,6112
	17 years old	-0,01894	0,14600	1,000	-0,4893	0,4514
	18 years old	-0,35480	0,16710	1,000	-0,8931	0,1835
15 years old	10 years old	-.45118*	0,13704	0,039	-0,8927	-0,0097
	11 years old	-0,24595	0,13796	1,000	-0,6904	0,1985
	12 years old	-0,22419	0,13422	1,000	-0,6566	0,2082
	13 years old	-0,23252	0,14003	1,000	-0,6836	0,2186
	14 years old	-0,03357	0,14600	1,000	-0,5039	0,4368
	16 years old	0,11913	0,15152	1,000	-0,3690	0,6073

	17 years old	-0,05251	0,15498	1,000	-0,5518	0,4468
	18 years old	-0,38837	0,17500	0,975	-0,9522	0,1754
16 years old	10 years old	-.57031*	0,13311	0,001	-0,9992	-0,1415
	11 years old	-0,36508	0,13407	0,244	-0,7970	0,0668
	12 years old	-0,34332	0,13021	0,314	-0,7628	0,0762
	13 years old	-0,35166	0,13619	0,368	-0,7904	0,0871
	14 years old	-0,15271	0,14233	1,000	-0,6112	0,3058
	15 years old	-0,11913	0,15152	1,000	-0,6073	0,3690
	17 years old	-0,17164	0,15152	1,000	-0,6598	0,3165
	18 years old	-0,50751	0,17195	0,121	-1,0615	0,0464
17 years old	10 years old	-0,39867	0,13704	0,138	-0,8402	0,0428
	11 years old	-0,19344	0,13796	1,000	-0,6379	0,2510
	12 years old	-0,17168	0,13422	1,000	-0,6041	0,2607
	13 years old	-0,18001	0,14003	1,000	-0,6311	0,2711
	14 years old	0,01894	0,14600	1,000	-0,4514	0,4893
	15 years old	0,05251	0,15498	1,000	-0,4468	0,5518
	16 years old	0,17164	0,15152	1,000	-0,3165	0,6598
	18 years old	-0,33587	0,17500	1,000	-0,8996	0,2279
18 years old	10 years old	-0,06281	0,15932	1,000	-0,5761	0,4505
	11 years old	0,14243	0,16012	1,000	-0,3734	0,6583
	12 years old	0,16419	0,15691	1,000	-0,3413	0,6697
	13 years old	0,15585	0,16190	1,000	-0,3657	0,6774
	14 years old	0,35480	0,16710	1,000	-0,1835	0,8931
	15 years old	0,38837	0,17500	0,975	-0,1754	0,9522
	16 years old	0,50751	0,17195	0,121	-0,0464	1,0615
	17 years old	0,33587	0,17500	1,000	-0,2279	0,8996

*Significant at $p < .05$

Appendix I

Test of Homogeneity of Variances for the EPOCH Domains of Engagement, Perseverance, Optimism and Happiness (Table 17)

Table 17

Test of Homogeneity of Variances for the EPOH Domains of Engagement, Perseverance, Optimism and Happiness

		Levene Statistic	df1	df2	Sig.
Engagement	Based on Mean	.541	8	366	.826
	Based on Median	.484	8	366	.868
	Based on Median and with adjusted df	.484	8	352.742	.868
	Based on trimmed mean	.535	8	366	.830
Perseverance	Based on Mean	1.413	8	366	.189
	Based on Median	1.350	8	366	.217
	Based on Median and with adjusted df	1.350	8	359.745	.217
	Based on trimmed mean	1.405	8	366	.193
Optimism	Based on Mean	.750	8	366	.648
	Based on Median	.739	8	366	.657
	Based on Median and with adjusted df	.739	8	359.689	.657
	Based on trimmed mean	.732	8	366	.663
Happiness	Based on Mean	1.206	8	366	.294
	Based on Median	1.199	8	366	.299
	Based on Median and with adjusted df	1.199	8	355.978	.299
	Based on trimmed mean	1.195	8	366	.301

Appendix J

Test of Homogeneity of Variances for the Domain of Connectedness (Table 19)

Table 19

Test of Homogeneity of Variances for the Domain of Connectedness

		Levene Statistic	df1	df2	Sig.
Connectedness	Based on Mean	3.601	8	366	<,001

Appendix K

Full Version of the Descriptive Statistics of Each EPOCH Domain According to the Samples' Age Groups (Table 21)

Table 21

Descriptive Statistics of the EPOCH Domains for Each of the Samples' Age Groups

						95% Confidence Interval for Mean			
		N	**Mean**	**Std. Deviation**	**Std. Error**	**Lower Bound**	**Upper Bound**	**Minimum**	**Maximum**
Engagement	10 years old	55	3.4470	.84732	.11425	3.2179	3.6760	2.00	5.00
	11 years old	53	3.5393	.80124	.11006	3.3185	3.7602	2.00	5.00
	12 years old	62	3.4637	.83260	.10574	3.2523	3.6752	2.00	5.00
	13 years old	49	3.3282	.86626	.12375	3.0794	3.5771	1.25	4.75
	14 years old	40	3.0188	.95975	.15175	2.7118	3.3257	1.25	5.00
	15 years old	31	3.0941	.87208	.15663	2.7742	3.4140	1.50	4.50
	16 years old	34	3.1250	.97361	.16697	2.7853	3.4647	1.25	5.00
	17 years old	31	3.1774	.88316	.15862	2.8535	3.5014	1.25	4.75
	18 years old	20	3.7958	.80044	.17898	3.4212	4.1704	2.25	5.00
	Total	375	3.3396	.88404	.04565	3.2498	3.4293	1.25	5.00
Perseverance	10 years old	55	3.4212	1.04790	.14130	3.1379	3.7045	1.25	5.00
	11 years old	53	3.1101	.99044	.13605	2.8371	3.3831	1.50	5.00
	12 years old	62	3.3024	.99912	.12689	3.0487	3.5561	1.00	5.00
	13 years old	49	3.3044	.91105	.13015	3.0427	3.5661	1.25	5.00
	14 years old	40	3.2833	.98471	.15570	2.9684	3.5983	1.00	5.00
	15 years old	31	3.1613	.81136	.14572	2.8637	3.4589	1.00	4.75
	16 years old	34	3.0172	.86961	.14914	2.7137	3.3206	1.50	4.75
	17 years old	31	3.1694	.81237	.14591	2.8714	3.4673	1.75	5.00
	18 years old	20	3.5375	.84789	.18959	3.1407	3.9343	2.00	4.75
	Total	375	3.2549	.94496	.04880	3.1589	3.3508	1.00	5.00
Optimism	10 years old	55	3.6758	.92110	.12420	3.4267	3.9248	1.50	5.00
	11 years old	53	3.4009	.90848	.12479	3.1505	3.6514	1.25	5.00
	12 years old	62	3.4247	.86572	.10995	3.2049	3.6446	1.33	5.00
	13 years old	49	3.5561	.87836	.12548	3.3038	3.8084	1.25	5.00
	14 years old	40	3.0500	.93747	.14823	2.7502	3.3498	1.00	5.00
	15 years old	31	3.2930	.83939	.15076	2.9851	3.6009	1.00	4.75
	16 years old	34	2.9632	1.04107	.17854	2.6000	3.3265	1.00	4.75

	17 years old	31	3.4032	1.00349	.18023	3.0351	3.7713	1.50	5.00
	18 years old	20	3.5375	.74018	.16551	3.1911	3.8839	1.75	4.75
	Total	375	3.3869	.92608	.04782	3.2929	3.4809	1.00	5.00
Happiness	10 years old	55	4.0136	.83530	.11263	3.7878	4.2394	2.00	5.00
	11 years old	53	3.6588	.77921	.10703	3.4440	3.8736	2.00	5.00
	12 years old	62	3.5820	.84291	.10705	3.3679	3.7960	2.00	5.00
	13 years old	49	3.7194	.93629	.13376	3.4505	3.9883	1.25	5.00
	14 years old	40	3.4625	.92430	.14614	3.1669	3.7581	1.50	5.00
	15 years old	31	3.2930	.97275	.17471	2.9362	3.6498	1.50	5.00
	16 years old	34	3.1863	.96554	.16559	2.8494	3.5232	1.50	5.00
	17 years old	31	3.3306	1.06534	.19134	2.9399	3.7214	1.75	5.00
	18 years old	20	4.0500	.76348	.17072	3.6927	4.4073	2.25	5.00
	Total	375	3.6058	.92262	.04764	3.5121	3.6995	1.25	5.00
Connectedness	10 years old	55	4.4576	.53884	.07266	4.3119	4.6032	2.75	5.00
	11 years old	53	4.2925	.64810	.08902	4.1138	4.4711	2.50	5.00
	12 years old	62	4.1129	.72666	.09229	3.9284	4.2974	2.25	5.00
	13 years old	49	4.0204	.82890	.11841	3.7823	4.2585	2.00	5.00
	14 years old	40	4.1146	.67270	.10636	3.8994	4.3297	2.25	5.00
	15 years old	31	3.9167	.93095	.16720	3.5752	4.2581	2.00	5.00
	16 years old	34	3.8652	.96356	.16525	3.5290	4.2014	1.25	5.00
	17 years old	31	3.9597	.95981	.17239	3.6076	4.3117	2.00	5.00
	18 years old	20	3.7875	.85176	.19046	3.3889	4.1861	2.00	5.00
	Total	375	4.1082	.78964	.04078	4.0280	4.1884	1.25	5.00

Appendix L

Bonferroni Post-hoc Test Results for the Engagement, Optimism and Happiness Domains (Table 22)

Table 22

Bonferroni Post-hoc Test Results for the Engagement, Optimism and Happiness Domains

						95% Confidence Interval	
	(I) Age	**(J) Age**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**	**Lower Bound**	**Upper Bound**
Engagement	**10 years old**	11 years old	-.092	.167	1.000	-.63	.45
		12 years old	-.017	.161	1.000	-.53	.50
		13 years old	.119	.171	1.000	-.43	.67
		14 years old	.428	.180	.654	-.15	1.01
		15 years old	.353	.195	1.000	-.28	.98
		16 years old	.322	.189	1.000	-.29	.93
		17 years old	.270	.195	1.000	-.36	.90
		18 years old	-.349	.227	1.000	-1.08	.38
	11 years old	10 years old	.092	.167	1.000	-.45	.63
		12 years old	.076	.162	1.000	-.45	.60
		13 years old	.211	.172	1.000	-.34	.77
		14 years old	.521	.182	.160	-.07	1.11
		15 years old	.445	.196	.862	-.19	1.08
		16 years old	.414	.191	1.000	-.20	1.03
		17 years old	.362	.196	1.000	-.27	.99
		18 years old	-.257	.228	1.000	-.99	.48
	12 years old	10 years old	.017	.161	1.000	-.50	.53
		11 years old	-.076	.162	1.000	-.60	.45
		13 years old	.135	.166	1.000	-.40	.67
		14 years old	.445	.176	.430	-.12	1.01
		15 years old	.370	.191	1.000	-.25	.99
		16 years old	.339	.185	1.000	-.26	.94
		17 years old	.286	.191	1.000	-.33	.90
		18 years old	-.332	.223	1.000	-1.05	.39
	13 years old	10 years old	-.119	.171	1.000	-.67	.43

	11 years old	-.211	.172	1.000	-.77	.34
	12 years old	-.135	.166	1.000	-.67	.40
	14 years old	.309	.185	1.000	-.29	.91
	15 years old	.234	.199	1.000	-.41	.88
	16 years old	.203	.194	1.000	-.42	.83
	17 years old	.151	.199	1.000	-.49	.79
	18 years old	-.468	.230	1.000	-1.21	.27
14 years old	10 years old	-.428	.180	.654	-1.01	.15
	11 years old	-.521	.182	.160	-1.11	.07
	12 years old	-.445	.176	.430	-1.01	.12
	13 years old	-.309	.185	1.000	-.91	.29
	15 years old	-.075	.208	1.000	-.74	.59
	16 years old	-.106	.203	1.000	-.76	.55
	17 years old	-.159	.208	1.000	-.83	.51
	18 years old	-.777*	.238	.043	-1.54	-.01
15 years old	10 years old	-.353	.195	1.000	-.98	.28
	11 years old	-.445	.196	.862	-1.08	.19
	12 years old	-.370	.191	1.000	-.99	.25
	13 years old	-.234	.199	1.000	-.88	.41
	14 years old	.075	.208	1.000	-.59	.74
	16 years old	-.031	.216	1.000	-.73	.66
	17 years old	-.083	.221	1.000	-.79	.63
	18 years old	-.702	.249	.184	-1.50	.10
16 years old	10 years old	-.322	.189	1.000	-.93	.29
	11 years old	-.414	.191	1.000	-1.03	.20
	12 years old	-.339	.185	1.000	-.94	.26
	13 years old	-.203	.194	1.000	-.83	.42
	14 years old	.106	.203	1.000	-.55	.76
	15 years old	.031	.216	1.000	-.66	.73
	17 years old	-.052	.216	1.000	-.75	.64
	18 years old	-.671	.245	.231	-1.46	.12
17 years old	10 years old	-.270	.195	1.000	-.90	.36
	11 years old	-.362	.196	1.000	-.99	.27
	12 years old	-.286	.191	1.000	-.90	.33
	13 years old	-.151	.199	1.000	-.79	.49
	14 years old	.159	.208	1.000	-.51	.83

		15 years old	.083	.221	1.000	-.63	.79
		16 years old	.052	.216	1.000	-.64	.75
		18 years old	-.618	.249	.485	-1.42	.18
	18 years old	10 years old	.349	.227	1.000	-.38	1.08
		11 years old	.257	.228	1.000	-.48	.99
		12 years old	.332	.223	1.000	-.39	1.05
		13 years old	.468	.230	1.000	-.27	1.21
		14 years old	.777*	.238	.043	.01	1.54
		15 years old	.702	.249	.184	-.10	1.50
		16 years old	.671	.245	.231	-.12	1.46
		17 years old	.618	.249	.485	-.18	1.42
Perseverance	**10 years old**	11 years old	.311	.182	1.000	-.28	.90
		12 years old	.119	.175	1.000	-.45	.68
		13 years old	.117	.186	1.000	-.48	.72
		14 years old	.138	.196	1.000	-.49	.77
		15 years old	.260	.212	1.000	-.42	.94
		16 years old	.404	.206	1.000	-.26	1.07
		17 years old	.252	.212	1.000	-.43	.94
		18 years old	-.116	.247	1.000	-.91	.68
	11 years old	10 years old	-.311	.182	1.000	-.90	.28
		12 years old	-.192	.177	1.000	-.76	.38
		13 years old	-.194	.187	1.000	-.80	.41
		14 years old	-.173	.198	1.000	-.81	.46
		15 years old	-.051	.214	1.000	-.74	.64
		16 years old	.093	.208	1.000	-.58	.76
		17 years old	-.059	.214	1.000	-.75	.63
		18 years old	-.427	.248	1.000	-1.23	.37
	12 years old	10 years old	-.119	.175	1.000	-.68	.45
		11 years old	.192	.177	1.000	-.38	.76
		13 years old	-.002	.181	1.000	-.58	.58
		14 years old	.019	.192	1.000	-.60	.64
		15 years old	.141	.208	1.000	-.53	.81
		16 years old	.285	.202	1.000	-.36	.94
		17 years old	.133	.208	1.000	-.54	.80
		18 years old	-.235	.243	1.000	-1.02	.55
	13 years old	10 years old	-.117	.186	1.000	-.72	.48

	11 years old	.194	.187	1.000	-.41	.80
	12 years old	.002	.181	1.000	-.58	.58
	14 years old	.021	.201	1.000	-.63	.67
	15 years old	.143	.217	1.000	-.56	.84
	16 years old	.287	.211	1.000	-.39	.97
	17 years old	.135	.217	1.000	-.56	.83
	18 years old	-.233	.251	1.000	-1.04	.57
14 years old	10 years old	-.138	.196	1.000	-.77	.49
	11 years old	.173	.198	1.000	-.46	.81
	12 years old	-.019	.192	1.000	-.64	.60
	13 years old	-.021	.201	1.000	-.67	.63
	15 years old	.122	.226	1.000	-.61	.85
	16 years old	.266	.220	1.000	-.44	.98
	17 years old	.114	.226	1.000	-.61	.84
	18 years old	-.254	.259	1.000	-1.09	.58
15 years old	10 years old	-.260	.212	1.000	-.94	.42
	11 years old	.051	.214	1.000	-.64	.74
	12 years old	-.141	.208	1.000	-.81	.53
	13 years old	-.143	.217	1.000	-.84	.56
	14 years old	-.122	.226	1.000	-.85	.61
	16 years old	.144	.235	1.000	-.61	.90
	17 years old	-.008	.240	1.000	-.78	.77
	18 years old	-.376	.271	1.000	-1.25	.50
16 years old	10 years old	-.404	.206	1.000	-1.07	.26
	11 years old	-.093	.208	1.000	-.76	.58
	12 years old	-.285	.202	1.000	-.94	.36
	13 years old	-.287	.211	1.000	-.97	.39
	14 years old	-.266	.220	1.000	-.98	.44
	15 years old	-.144	.235	1.000	-.90	.61
	17 years old	-.152	.235	1.000	-.91	.60
	18 years old	-.520	.266	1.000	-1.38	.34
17 years old	10 years old	-.252	.212	1.000	-.94	.43
	11 years old	.059	.214	1.000	-.63	.75
	12 years old	-.133	.208	1.000	-.80	.54
	13 years old	-.135	.217	1.000	-.83	.56
	14 years old	-.114	.226	1.000	-.84	.61

		15 years old	.008	.240	1.000	-.77	.78
		16 years old	.152	.235	1.000	-.60	.91
		18 years old	-.368	.271	1.000	-1.24	.51
	18 years old	10 years old	.116	.247	1.000	-.68	.91
		11 years old	.427	.248	1.000	-.37	1.23
		12 years old	.235	.243	1.000	-.55	1.02
		13 years old	.233	.251	1.000	-.57	1.04
		14 years old	.254	.259	1.000	-.58	1.09
		15 years old	.376	.271	1.000	-.50	1.25
		16 years old	.520	.266	1.000	-.34	1.38
		17 years old	.368	.271	1.000	-.51	1.24
Optimism	**10 years old**	11 years old	.275	.175	1.000	-.29	.84
		12 years old	.251	.169	1.000	-.29	.79
		13 years old	.120	.179	1.000	-.46	.70
		14 years old	.626*	.189	.037	.02	1.24
		15 years old	.383	.204	1.000	-.28	1.04
		16 years old	.713*	.199	.014	.07	1.35
		17 years old	.273	.204	1.000	-.39	.93
		18 years old	.138	.238	1.000	-.63	.90
	11 years old	10 years old	-.275	.175	1.000	-.84	.29
		12 years old	-.024	.170	1.000	-.57	.52
		13 years old	-.155	.180	1.000	-.74	.43
		14 years old	.351	.191	1.000	-.26	.97
		15 years old	.108	.206	1.000	-.56	.77
		16 years old	.438	.200	1.000	-.21	1.08
		17 years old	-.002	.206	1.000	-.67	.66
		18 years old	-.137	.239	1.000	-.91	.63
	12 years old	10 years old	-.251	.169	1.000	-.79	.29
		11 years old	.024	.170	1.000	-.52	.57
		13 years old	-.131	.174	1.000	-.69	.43
		14 years old	.375	.185	1.000	-.22	.97
		15 years old	.132	.200	1.000	-.51	.78
		16 years old	.461	.194	.649	-.16	1.09
		17 years old	.022	.200	1.000	-.62	.67
		18 years old	-.113	.234	1.000	-.87	.64
	13 years old	10 years old	-.120	.179	1.000	-.70	.46

	11 years old	.155	.180	1.000	-.43	.74
	12 years old	.131	.174	1.000	-.43	.69
	14 years old	.506	.194	.340	-.12	1.13
	15 years old	.263	.209	1.000	-.41	.94
	16 years old	.593	.203	.135	-.06	1.25
	17 years old	.153	.209	1.000	-.52	.83
	18 years old	.019	.242	1.000	-.76	.80
14 years old	10 years old	-.626*	.189	.037	-1.24	-.02
	11 years old	-.351	.191	1.000	-.97	.26
	12 years old	-.375	.185	1.000	-.97	.22
	13 years old	-.506	.194	.340	-1.13	.12
	15 years old	-.243	.218	1.000	-.94	.46
	16 years old	.087	.212	1.000	-.60	.77
	17 years old	-.353	.218	1.000	-1.05	.35
	18 years old	-.488	.249	1.000	-1.29	.32
15 years old	10 years old	-.383	.204	1.000	-1.04	.28
	11 years old	-.108	.206	1.000	-.77	.56
	12 years old	-.132	.200	1.000	-.78	.51
	13 years old	-.263	.209	1.000	-.94	.41
	14 years old	.243	.218	1.000	-.46	.94
	16 years old	.330	.226	1.000	-.40	1.06
	17 years old	-.110	.231	1.000	-.86	.63
	18 years old	-.244	.261	1.000	-1.09	.60
16 years old	10 years old	-.713*	.199	.014	-1.35	-.07
	11 years old	-.438	.200	1.000	-1.08	.21
	12 years old	-.461	.194	.649	-1.09	.16
	13 years old	-.593	.203	.135	-1.25	.06
	14 years old	-.087	.212	1.000	-.77	.60
	15 years old	-.330	.226	1.000	-1.06	.40
	17 years old	-.440	.226	1.000	-1.17	.29
	18 years old	-.574	.257	.928	-1.40	.25
17 years old	10 years old	-.273	.204	1.000	-.93	.39
	11 years old	.002	.206	1.000	-.66	.67
	12 years old	-.022	.200	1.000	-.67	.62
	13 years old	-.153	.209	1.000	-.83	.52
	14 years old	.353	.218	1.000	-.35	1.05

		15 years old	.110	.231	1.000	-.63	.86
		16 years old	.440	.226	1.000	-.29	1.17
		18 years old	-.134	.261	1.000	-.98	.71
	18 years old	10 years old	-.138	.238	1.000	-.90	.63
		11 years old	.137	.239	1.000	-.63	.91
		12 years old	.113	.234	1.000	-.64	.87
		13 years old	-.019	.242	1.000	-.80	.76
		14 years old	.488	.249	1.000	-.32	1.29
		15 years old	.244	.261	1.000	-.60	1.09
		16 years old	.574	.257	.928	-.25	1.40
		17 years old	.134	.261	1.000	-.71	.98
Happiness	**10 years old**	11 years old	.355	.172	1.000	-.20	.91
		12 years old	.432	.166	.342	-.10	.96
		13 years old	.294	.176	1.000	-.27	.86
		14 years old	.551	.186	.115	-.05	1.15
		15 years old	.721*	.201	.013	.07	1.37
		16 years old	.827*	.195	.001	.20	1.46
		17 years old	.683*	.201	.027	.04	1.33
		18 years old	-.036	.233	1.000	-.79	.72
	11 years old	10 years old	-.355	.172	1.000	-.91	.20
		12 years old	.077	.167	1.000	-.46	.62
		13 years old	-.061	.177	1.000	-.63	.51
		14 years old	.196	.187	1.000	-.41	.80
		15 years old	.366	.202	1.000	-.29	1.02
		16 years old	.473	.196	.598	-.16	1.11
		17 years old	.328	.202	1.000	-.32	.98
		18 years old	-.391	.235	1.000	-1.15	.36
	12 years old	10 years old	-.432	.166	.342	-.96	.10
		11 years old	-.077	.167	1.000	-.62	.46
		13 years old	-.137	.171	1.000	-.69	.41
		14 years old	.119	.181	1.000	-.46	.70
		15 years old	.289	.197	1.000	-.34	.92
		16 years old	.396	.191	1.000	-.22	1.01
		17 years old	.251	.197	1.000	-.38	.88
		18 years old	-.468	.230	1.000	-1.21	.27
	13 years old	10 years old	-.294	.176	1.000	-.86	.27

	11 years old	.061	.177	1.000	-.51	.63
	12 years old	.137	.171	1.000	-.41	.69
	14 years old	.257	.190	1.000	-.36	.87
	15 years old	.426	.205	1.000	-.23	1.09
	16 years old	.533	.199	.283	-.11	1.18
	17 years old	.389	.205	1.000	-.27	1.05
	18 years old	-.331	.237	1.000	-1.09	.43
14 years old	10 years old	-.551	.186	.115	-1.15	.05
	11 years old	-.196	.187	1.000	-.80	.41
	12 years old	-.119	.181	1.000	-.70	.46
	13 years old	-.257	.190	1.000	-.87	.36
	15 years old	.169	.214	1.000	-.52	.86
	16 years old	.276	.208	1.000	-.40	.95
	17 years old	.132	.214	1.000	-.56	.82
	18 years old	-.587	.245	.607	-1.38	.20
15 years old	10 years old	-.721*	.201	.013	-1.37	-.07
	11 years old	-.366	.202	1.000	-1.02	.29
	12 years old	-.289	.197	1.000	-.92	.34
	13 years old	-.426	.205	1.000	-1.09	.23
	14 years old	-.169	.214	1.000	-.86	.52
	16 years old	.107	.222	1.000	-.61	.82
	17 years old	-.038	.227	1.000	-.77	.69
	18 years old	-.757	.256	.120	-1.58	.07
16 years old	10 years old	-.827*	.195	.001	-1.46	-.20
	11 years old	-.473	.196	.598	-1.11	.16
	12 years old	-.396	.191	1.000	-1.01	.22
	13 years old	-.533	.199	.283	-1.18	.11
	14 years old	-.276	.208	1.000	-.95	.40
	15 years old	-.107	.222	1.000	-.82	.61
	17 years old	-.144	.222	1.000	-.86	.57
	18 years old	-.864*	.252	.024	-1.67	-.05
17 years old	10 years old	-.683*	.201	.027	-1.33	-.04
	11 years old	-.328	.202	1.000	-.98	.32
	12 years old	-.251	.197	1.000	-.88	.38
	13 years old	-.389	.205	1.000	-1.05	.27
	14 years old	-.132	.214	1.000	-.82	.56

	15 years old	.038	.227	1.000	-.69	.77
	16 years old	.144	.222	1.000	-.57	.86
	18 years old	-.719	.256	.190	-1.55	.11
18 years old	10 years old	.036	.233	1.000	-.72	.79
	11 years old	.391	.235	1.000	-.36	1.15
	12 years old	.468	.230	1.000	-.27	1.21
	13 years old	.331	.237	1.000	-.43	1.09
	14 years old	.587	.245	.607	-.20	1.38
	15 years old	.757	.256	.120	-.07	1.58
	16 years old	.864*	.252	.024	.05	1.67
	17 years old	.719	.256	.190	-.11	1.55

*Significant at $p < .05$

Appendix M

Games-Howell Multiple Comparisons Post Hoc Test, with Connectedness as the Dependent variable (Table 23)

Table 23

Games-Howell Multiple Comparisons Post-hoc Test. Dependent variable: Connectedness

		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I) Age	**(J) Age**				**Lower Bound**	**Upper Bound**
10 years old	11 years old	.16512	.11491	.881	-.1991	.5294
	12 years old	.34467	.11745	.092	-.0269	.7162
	13 years old	.43717	.13893	.056	-.0057	.8800
	14 years old	.34299	.12881	.180	-.0689	.7548
	15 years old	.54091	.18231	.102	-.0553	1.1371
	16 years old	.59238*	.18052	.047	.0050	1.1798
	17 years old	.49790	.18707	.194	-.1144	1.1102
	18 years old	.67008	.20385	.062	-.0209	1.3610
11 years old	10 years old	-.16512	.11491	.881	-.5294	.1991
	12 years old	.17955	.12823	.896	-.2260	.5851
	13 years old	.27204	.14815	.658	-.1987	.7428
	14 years old	.17787	.13870	.934	-.2640	.6197
	15 years old	.37579	.18943	.562	-.2398	.9914
	16 years old	.42726	.18770	.375	-.1800	1.0346
	17 years old	.33278	.19402	.734	-.2983	.9639
	18 years old	.50495	.21024	.322	-.2009	1.2108
12 years old	10 years old	-.34467	.11745	.092	-.7162	.0269
	11 years old	-.17955	.12823	.896	-.5851	.2260
	13 years old	.09250	.15013	.999	-.3840	.5689
	14 years old	-.00168	.14082	1.000	-.4495	.4462
	15 years old	.19624	.19098	.981	-.4234	.8159
	16 years old	.24771	.18927	.924	-.3638	.8592
	17 years old	.15323	.19553	.997	-.4819	.7883
	18 years old	.32540	.21164	.829	-.3837	1.0345
13 years old	10 years old	-.43717	.13893	.056	-.8800	.0057
	11 years old	-.27204	.14815	.658	-.7428	.1987

	12 years old	-.09250	.15013	.999	-.5689	.3840
	14 years old	-.09418	.15917	1.000	-.6005	.4122
	15 years old	.10374	.20489	1.000	-.5562	.7636
	16 years old	.15521	.20330	.997	-.4974	.8079
	17 years old	.06073	.20914	1.000	-.6135	.7349
	18 years old	.23291	.22427	.979	-.5085	.9743
14 years old	10 years old	-.34299	.12881	.180	-.7548	.0689
	11 years old	-.17787	.13870	.934	-.6197	.2640
	12 years old	.00168	.14082	1.000	-.4462	.4495
	13 years old	.09418	.15917	1.000	-.4122	.6005
	15 years old	.19792	.19817	.984	-.4430	.8389
	16 years old	.24939	.19652	.936	-.3839	.8827
	17 years old	.15491	.20256	.997	-.5008	.8106
	18 years old	.32708	.21815	.847	-.3989	1.0531
15 years old	10 years old	-.54091	.18231	.102	-1.1371	.0553
	11 years old	-.37579	.18943	.562	-.9914	.2398
	12 years old	-.19624	.19098	.981	-.8159	.4234
	13 years old	-.10374	.20489	1.000	-.7636	.5562
	14 years old	-.19792	.19817	.984	-.8389	.4430
	16 years old	.05147	.23508	1.000	-.7037	.8067
	17 years old	-.04301	.24015	1.000	-.8158	.7297
	18 years old	.12917	.25344	1.000	-.6979	.9562
16 years old	10 years old	-.59238*	.18052	.047	-1.1798	-.0050
	11 years old	-.42726	.18770	.375	-1.0346	.1800
	12 years old	-.24771	.18927	.924	-.8592	.3638
	13 years old	-.15521	.20330	.997	-.8079	.4974
	14 years old	-.24939	.19652	.936	-.8827	.3839
	15 years old	-.05147	.23508	1.000	-.8067	.7037
	17 years old	-.09448	.23880	1.000	-.8617	.6728
	18 years old	.07770	.25216	1.000	-.7445	.8999
17 years old	10 years old	-.49790	.18707	.194	-1.1102	.1144
	11 years old	-.33278	.19402	.734	-.9639	.2983
	12 years old	-.15323	.19553	.997	-.7883	.4819
	13 years old	-.06073	.20914	1.000	-.7349	.6135
	14 years old	-.15491	.20256	.997	-.8106	.5008
	15 years old	.04301	.24015	1.000	-.7297	.8158

	16 years old	.09448	.23880	1.000	-.6728	.8617
	18 years old	.17218	.25689	.999	-.6654	1.0097
18 years old	10 years old	-.67008	.20385	.062	-1.3610	.0209
	11 years old	-.50495	.21024	.322	-1.2108	.2009
	12 years old	-.32540	.21164	.829	-1.0345	.3837
	13 years old	-.23291	.22427	.979	-.9743	.5085
	14 years old	-.32708	.21815	.847	-1.0531	.3989
	15 years old	-.12917	.25344	1.000	-.9562	.6979
	16 years old	-.07770	.25216	1.000	-.8999	.7445
	17 years old	-.17218	.25689	.999	-1.0097	.6654

*Significant at $p < .05$