

THE EXPERIENCE OF MENTAL EFFORT IN ADHD: A PHENOMENOLOGICAL
APPROACH

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Abstract

Background: Mental effort is essential in academic, occupational, and daily life, yet its subjective experience remains less understood, particularly in ADHD, where difficulty sustaining effort is a diagnostic criterion. While prior research highlights cognitive aspects, this study examined lived experience, exploring how individuals with ADHD perceive mental effort and its influence on persistence and disengagement. Methods: Five emerging adults (16–24; 2 female, 3 male) with confirmed ADHD were recruited through clinical practices. Semi-structured interviews probed thoughts, feelings, and emotions regarding mental effort. Interpretative Phenomenological Analysis was used. Results: Participants described mental effort as unpredictable and emotionally charged. Six themes emerged: (1) All-in or bored, (2) Stars needing to align, (3) Fearful approach, (4) Caught in a thought spiral, (5) Potential out of reach, (6) Struck by difference. Discussion: Findings show mental effort in ADHD is intertwined with affect and motivation, particularly autonomy, competence, and connectedness.

Table of Contents

Abstract.....	ii
Table of Contents	iii
List of Tables	v
Introduction.....	1
Why Study Mental Effort?.....	1
Effort and ADHD.....	2
The Importance of Subjective Experience.....	5
Interpretative Phenomenological Analysis (IPA).....	6
Method.....	8
Researcher Background.....	8
Participants.....	9
Materials and Measures	10
Procedure	15
Data Transcription and Analysis	16
Results and Discussion.....	19
Theme 1: All-In or Bored.....	19
Theme 1: All-In or Bored Discussion.....	22
Theme 2: Stars Needing to Align.....	24
Theme 2: Stars Needing to Align Discussion	27
Theme 3: Fearful Approach	29
Theme 3: Fearful Approach Discussion.....	33
Theme 4: Caught in a Thought Spiral.....	35
Theme 4: Caught in a Thought Spiral Discussion	39

Theme 5: Potential Just Out of Reach.....	40
Theme 5: Potential Just Out of Reach Discussion	44
Theme 6: Struck by Difference.....	45
Theme 6: Struck by Difference Discussion	49
Strengths and Limitations	51
Practical Implications.....	53
Conclusion	54
References.....	56
Appendix A: Interview Materials.....	65
Appendix A1: Semi-Structured Interview Questions	65
Appendix B: Measures Used in the Second Session	66
Appendix B1: Demographic Questions	66
Appendix B2: Adult ADHD Self-Report Scale (ASRS)	68
Appendix B3: Barkley Functional Impairment Scale	71
Appendix C: Tables of Personal and Group Experiential Themes	74
Tables of Personal Experiential Themes (PET's)	74
Table of Group Experiential Themes (GET's)	85

List of Tables

Table 1: Mental Effort Models	4
Table 2: Demographic Data	10
Table 3: ADHD Data	13
Table 4: Steps in Interpretive Phenomenological Analysis.....	17
Table D1: Personal Experiential Themes for Daniel	88
Table D2: Personal Experiential Themes for Khloe	90
Table D3: Personal Experiential Themes for Natalie	94
Table D4: Personal Experiential Themes for Richard	99
Table D5: Personal Experiential Themes for Kevin	102
Table D6: Table of Group Experiential Themes (GET's)	106

The Experience of Mental Effort in ADHD: A Phenomenological Approach

Why Study Mental Effort?

Whether learning a challenging new song on your instrument, writing a lengthy report or essay, or planning your errands for the day, you will likely experience mental effort. In a broad sense, mental effort can be understood as the perception of increased cognitive exertion when working toward a specific outcome. This everyday experience is central to how we engage with cognitively demanding tasks, influencing whether we persist through difficulty or disengage when demands become overwhelming (Kool et al., 2010; Kurzban et al., 2013). However, to date, research has focused on the cognitive processes and underlying mechanisms that produce effort (Hockey, 1997; Kahneman, 1973; Kurzban et al., 2013), while little is known about the everyday experience of mental effort beyond the general consensus that it is aversive (David et al., 2024; Hockey, 1997; Kool et al., 2010; Kurzban et al., 2013). In addition, understanding the nature of this aversiveness and how individuals interpret and respond to these challenges is important as it is essential for clarifying the processes that shape effort-based decisions (Kool et al., 2010; Kurzban et al., 2013; Székely & Michael, 2021; Wagner et al., 2024). What factors influence an individual's decision to persist in the face of difficulty versus to disengage? How do individuals perceive, assess, respond to, and make meaning of the subjective experience of effort? These questions are particularly salient in domains such as education, occupational settings, and everyday functioning, where the capacity to maintain cognitive effort is frequently essential for achieving success and promoting psychological well-being. (Komarraju & Nadler, 2013; Richardson et al., 2012). See Table 1 for a summary of some notable theories pertaining to mental effort.

When little is known about an experience, qualitative methodologies can provide valuable insights. Approaches prioritizing individuals' perspectives and lived experiences allow researchers to explore the subject with minimal preconceptions and develop a detailed understanding of the phenomenon grounded in participants' narratives.

Effort and ADHD

ADHD is a neurodevelopmental disorder often marked by difficulties in attention, impulsivity, and hyperactivity and those diagnosed with the disorder are known to have difficulties persisting with tasks that require mental effort ([APA, 2013](#)). Recent research highlights the significance of understanding how individuals with ADHD experience and engage with mental effort, particularly task persistence and disengagement.

Research by [Hsu et al. \(2017\)](#) suggests that people with ADHD experience mental effort as more cognitively taxing than their neurotypical peers. Their findings revealed that participants at risk for ADHD reported significantly higher levels of perceived mental effort and discomfort than their non-at-risk peers, even when controlling for ability and task performance was comparable. This suggests that the subjective experience of effort is not solely tied to objective performance but reflects deeper cognitive and emotional processing differences. Notably, individuals at risk for ADHD showed a stronger correlation between perceived effort and discomfort, indicating that mental taxation may be more emotionally salient for this group. The study also found that in the ADHD-risk group, peak moments of mental effort were strong predictors of retrospective discomfort, suggesting that intense experiences during tasks leave a lasting impression. These patterns highlight how mental effort may impact those with ADHD and how the experience of mental effort may play a role in motivation, task disengagement, and aversion to cognitively demanding activities.

Existing qualitative work also suggests that effort may play a role in the negative outcomes associated with ADHD. [Brod et al. \(2012\)](#) asked participants with ADHD across seven countries to report the negative impact that the disorder had on their life course, and participants' accounts frequently mentioned academic and career challenges that appear inextricably linked to experiences of sustained mental effort. For example, one participant in [Brod et al.'s \(2012\)](#) study describes the negative impact by saying "I would have succeeded professionally much better if I'd be able to concentrate longer" (p. 10) and another noted "I missed out on my studies... If I'd really been able to work at my full potential, I could have ended up with a good diploma." (p.10) These findings illustrate that experiences involving sustained effort are front of mind when individuals with ADHD reflect on the negative aspects of their diagnosis.

Table 1
Mental Effort Models

Model	Citation	Brief Description
Kahneman's Capacity Model	Kahneman (1973)	Kahneman's model suggests that mental effort depletes a limited resource of attention, and the amount depleted depends on the task's demands. More challenging tasks require more mental effort, making the model foundational in understanding the relationship between task difficulty and effort.
Beyond Kahneman's Capacity Model	Bruya and Tang (2018); Czikszentmihalyi (1990)	Expanding on Kahneman's model, Bruya and Tang argue that not all attention uses register as effortful. They highlight meditation and flow states as examples of attention-demanding activities that do not feel effortful, showing that task demand isn't the only factor in the experience of mental effort.
Hockey's Cognitive-Energetic Model	Hockey (1997)	Hockey's model differentiates between automatic processing (Loop A) and effortful corrections (Loop B) in tasks. Effort is not always experienced as tasks increase in difficulty; instead, it's mobilized consciously when performance declines, allowing people to adjust to maintain task performance.
Kurzban's Opportunity Cost Model	Kurzban et al. (2013)	Kurzban's model views mental effort as a cue for opportunity costs, based on an evolutionary perspective. Effort is experienced as an indicator of diminishing returns in the current task, encouraging disengagement if a more rewarding or less effortful activity is available.
Diminishing Criterion Model (DCM)	Ackerman (2014)	Ackerman's Diminishing Criterion Model (DCM) explains effort regulation in cognitive tasks, highlighting the dynamic interplay of goal-driven and data-driven effort. Goals adjust over time, leading individuals to lower standards for solutions. Complex problems receive less effort, optimizing time allocation and reducing inefficiency.

The Importance of Subjective Experience

To understand the importance of researching the factors that influence the feeling of engaging in mental effort, an instructive parallel can be made to the study of pain. Early models of pain, which posited that the feeling of pain was simply the result of tissue damage, were revolutionized by [Melzack \(1961\)](#) and [Melzack and Wall's \(1965\)](#) proposal that additional factors (i.e., emotional processes, attention, anticipation, anxiety, learning history, and culture) modulate the feeling of pain. The consideration of these additional modulating factors is how the Gate Theory of Pain emerged.

In the same way, research on mental effort has often focused on the direct cognitive and physiological causes of the feeling of engaging in mental effort such as task characteristics ([Kahneman, 1973](#)), performance metrics ([Hockey, 1997](#)), and opportunity cost calculations ([Kurzban et al., 2013](#)), without focusing on potential additional factors such as the personal meaning attributed to engaging in mental effort. Therefore, to fully understand what determines how people feel when they engage in mental effort, and thus persist or disengage, it is critical to explore the nuances of possible additional modulating factors. If the feeling of engaging in effort plays an important role in determining whether a person initiates or sustains action, then it becomes essential to understand how individuals interpret and make sense of that experience. In this view, effort must also be understood in terms of how it is lived, interpreted, and responded to in differing contexts.

In his conclusion, Melzack (1961) underscores this need for the exploration of these additional modulating factors, which aligns with the current study's proposal for the need to investigate mental effort. He states:

“Pain [is] a perceptual experience whose quality and intensity is influenced by the unique past history of the individual, by meaning he gives to the pain-producing situation and by his “state of mind” at the moment... In this way pain becomes a function of the whole individual, including his present thoughts and fears as well as his hopes for the future.”

This view highlights how additional factors shape our perception of complex phenomena. Understanding how mental effort is felt, interpreted, and responded to will likely provide vital insight into the factors determining engagement and disengagement from cognitively demanding work. A deeper exploration of first-person accounts can help create a more complete conceptualization of mental effort.

Interpretative Phenomenological Analysis (IPA)

This need to understand ‘the whole individual’s’ experience of mental effort aligns with broader calls for the integration of qualitative methodologies in the psychology and psychiatry literature, particularly studies involving youth, adolescents, and emerging adults with neurodevelopmental conditions like ADHD. Qualitative approaches are uniquely positioned to capture the richness of individual experiences and provide the nuanced, in-depth accounts that deepen our understanding of complex phenomena. (Sonuga-Barke, 2024). Qualitative methods, such as Interpretive Phenomenological Analysis (IPA), offer opportunities to gain insight into mental effort's personal and phenomenological dimensions, potentially revealing nuanced experiences and interpretations that may not be immediately apparent via other methodologies.

IPA is a qualitative research methodology designed to explore and interpret individuals' lived experiences, emphasizing how they make meaning of significant phenomena in their lives. Rooted in phenomenology and hermeneutics, IPA uses an ideographically grounded approach to understand participants' subjective experiences while acknowledging and valuing the

researcher's interpretative role (Smith et al., 2022). The approach involves a detailed and systematic analysis of data from semi-structured interviews to identify patterns and emergent themes emanating from participants' experiences and perspectives. IPA's idiographic process is grounded in the individual by analyzing and understanding each personal narrative before constructing broader themes. The methodology is particularly suited to explore areas where individual meaning-making is central and has been used to deepen the understanding of such complicated experiences as first-episode depression (Smith & Rhodes, 2015), living with an acquired brain injury (Dwyer et al., 2019), and changes in pain experiences (Nizza et al., 2018) - thus, making IPA's ability to produce rich and in-depth insights into complex psychological experiences an ideal approach for understanding mental effort.

In this study, IPA was employed to examine how individuals with ADHD make meaning of mental effort to offer a nuanced understanding informed by their lived experiences. By employing self-report methods, this study brings a novel perspective to an area typically focused on theoretical models (for a summary of some notable examples See Table 1), physiological measures (Beatty & Kahneman, 1966; Kahneman et al., 1969), and neurological lenses (Mulert et al., 2007; Otto et al., 2014), with the subjective experience largely unaddressed. By foregrounding lived experience, this research sought to deepen our understanding of the experience of mental effort and its determinants by uncovering how individuals make meaning of the experience and how this meaning-making impacts persistence and disengagement with cognitively demanding tasks while contributing to the broader movement towards incorporating qualitative insights into the study of ADHD and neurodevelopment disorders.

Method

Researcher Background

The majority of the research, including interviews and analysis, was conducted by the primary author, a white man, in consultation with his supervisors and committee member. The primary researcher comes from a clinical psychology background, with a focus on understanding impairments associated with ADHD. Academically and professionally, his preconceptions about impairments in ADHD have been shaped by previous research and clinical experiences. His clinical education provided insights into the lived experiences of individuals with ADHD, particularly the challenges they face in areas such as executive functioning, emotional regulation, and mental effort. These preconceptions were further informed by academic influences, including the study of the foundational theories in ADHD research and collaborative discussion with mentors and peers. Prior to conducting this research, the primary author's understandings of impairments in ADHD emphasized the interplay between cognitive challenges, emotional strain, and the broader psychosocial impacts of the condition. This research is situated within a constructivist-interpretivist paradigm, consistent with the principles of IPA, which emphasizes the co-construction of meaning and the centrality of the lived experience. This philosophical positioning shaped the researcher's methodological and epistemological stance and informed the interpretive approach to participant's narratives used throughout the study. Throughout the process of conducting and analyzing interviews, the researcher actively worked to set aside these preconceptions and approach participants' narratives with an open and neutral stance. He maintained reflective notes on how his thinking about ADHD impairments evolved during this research process, incorporating these reflections into the iterative analysis and synthesis of participant accounts.

Participants

The study sample comprised five participants, ranging from 16 to 24 years of age. The sample included two females and three males. Two participants were taking medication for ADHD. Three participants were either employed or enrolled in school, while two were not actively engaged in educational activities. Two participants reported comorbid anxiety and depression, and one individual reported comorbid anxiety, depression, traumatic brain injury, and seizure. Complete demographic details, including individual participant characteristics, are presented in Table 2. The study employed a selective sampling strategy to recruit participants with a formal diagnosis of ADHD. Recruitment was conducted through clinicians who distributed digital study flyers exclusively to individuals with a formal ADHD diagnosis and met the study's inclusion and exclusion criteria. Potential participants then emailed the researcher to express interest and arrange a time to complete the study virtually. The study aimed to recruit five to eight participants, and five individuals who met the eligibility criteria expressed interest. This recruitment method was chosen as it enabled access to a sample relevant to the research objectives while maintaining ethical standards and participant convenience.

Participants were included if they were between the ages of 16 and 25 and had a formal diagnosis of ADHD. Exclusion criteria consisted of individuals with a history of recent brain injury, concussion, seizures, post-traumatic stress disorder (PTSD), or psychosis. Exclusionary criteria were chosen because these conditions were considered potential sources of diagnostic uncertainty or cognitive impairment that could increase the likelihood of an incorrect ADHD diagnosis. Unfortunately, due to a researcher error, one participant who met exclusionary criteria was included in our sample and this error was not found until the analysis was complete. To confirm the accuracy of participants' diagnoses and further ensure that participants met the

criteria for ADHD, we conducted the Diagnostic Interview for ADHD in Adults (DIVA-5; [Kooji et al., 2019](#)).

This research was approved by York University’s Office of Research Ethics – Human Participants Review Committee. Participants were free to withdraw consent at any time and still receive compensation.

Table 2

Demographic Data

Participant	Age	Sex	Gender
Daniel	22	male	man
Chloe	24	female	woman
Natalie	24	female	nonbinary
Richard	23	male	man
Kevin	16	male	man

Materials and Measures

Semi-Structured Interview on Mental Effort

The interview guide (see Appendix A) was designed to explore participants’ lived experiences with mental effort, using a semi-structured format to allow for flexibility while maintaining a focus on key areas of interest. The interview began with a broad, open-ended question asking participants directly about their overall experience with mental effort (“What is it like for you to do activities that require sustained mental effort?”). This question was designed to encourage reflection and to help set the foundation for the subsequent conversation. The entirety of the interview guide was designed to be neutral in emotional valence to allow participants to

better interpret the questions through their own experiences of mental effort. However, as mentioned previously, the researcher was aware that there was a strong likelihood that the phenomenon would be viewed in a negative light by participants given mental effort's inclusion as a DSM criterion for ADHD (APA, 2013) and existing work (David et al., 2024; Hsu et al., 2017; Hsu et al., 2018; Kurzban et al., 2013; Székely & Michael, 2021). With this in mind, the researcher incorporated questions informed by a cognitive behavioural therapy (CBT) framework, examining participants' thoughts, feelings, and behaviours related to mental effort. The researcher, using the interview guide and having practiced in qualitative interviewing, maintained a neutral and empathetic stance to encourage open and honest sharing.

Additionally, attention was given to the impact of their experiences of mental effort on various life areas, including academics and work, relationships, and self-image, in line with significant life areas in emerging adulthood (Arnett, 2007). Questions also explored the temporal aspects of mental effort. They focused on participants' experiences before, during, and after engaging in mentally effortful tasks and changes in their experience of mental effort over their lifespan. Throughout the interview, a particular emphasis was placed on the subjective experience of mental effort, specifically focusing on how participants felt during these experiences. Follow-up probes were often used during the interview to encourage participants to elaborate on their feelings, emotions, moods, and behaviour concerning each question. The guide was constructed to balance broad exploratory questions with targeted prompts, ensuring detailed accounts while remaining sensitive to the participants' individual narratives. This approach aligned with the study's purpose and promoted understanding of the nature of mental effort in those with ADHD.

Measures

Demographic Survey. A demographic survey (Appendix B1) was administered via Qualtrics to gather background information about the participants. The survey collected data on participants' age, sex, gender identity, and relevant medical or neurodevelopmental conditions. Additionally, participants were asked to report details related to their ADHD diagnosis, including the professional who provided the diagnosis, the age at which the diagnosis was made, and the current medication status (whether they were actively taking medication at the time of the study).

The Adult ADHD Self-Report Scale (ASRS). The Adult ADHD Self-Report Scale (Appendix B2) version 1.1 Symptom Checklist (ASRS-v1.1; [Kessler et al., 2005](#)) was administered to provide a description of participants' current ADHD symptomology. The ASRS is a widely used screening tool designed to evaluate symptoms of ADHD in adults, aligned with the DSM-IV criteria (DSM-IV; [APA, 1994](#)). The measure consists of 18 items rated on a 5-point scale (0 = *never*, 4 = *very often*), which assesses the frequency of inattentive and hyperactive-impulsive symptoms. Participants completed the ASRS online via Qualtrics, and their responses were recorded and scored using the standardized scoring procedure. Scores were used to provide a quantitative measure of ADHD symptom severity to contextualize participants' qualitative accounts of mental effort (See Table 3).

Table 3*ADHD Data*

Participant	ADHD subtype (DIVA)	Other medical or neurodevelopmental diagnoses	Medical professional who diagnosed ADHD	Age of ADHD diagnosis	Currently taking medication for ADHD	ADHD total score, ADHD screener designation	Functional impairment
Daniel	Predominantly inattentive	None	Psychologist	18	n/a	55, below threshold	2.36, not clinically significant
Chloe	Combined presentation	Anxiety, depression	Pediatrician	8	Adderall	67, above threshold	4.25, not clinically significant
Natalie	Combined presentation	Anxiety, depression	Psychologist	16	n/a	77, above threshold	3.75, not clinically significant
Richard	Predominantly inattentive	Traumatic brain injury, concussion/seizures, anxiety, depression	Psychologist	16	Vyvanse	68, above threshold	5.00, not clinically significant
Kevin	Predominantly inattentive	None	Psychologist	9	n/a	63, above threshold	4.15, not clinically significant

The Barkley Functional Impairment Scale - Long Form (BFIS-LF). The Barkley Function Impairment Scale - Long From (BFIS-LF; Barkley, 2011) (Appendix B3) was used to assess participants' current level of functional impairment across key areas of daily life, including work, education, and relationships. Participants completed the BFIS via Qualtrics and rated their level of difficulty in various areas on a 10-point scale (0 = *not at all* to 9 = *severe*). Clinically significant impairment in adults aged 18 to 39 is defined by a mean impairment score of at least 5.2, which places individuals at or above the 91st percentile in the normative data (Barkley, 2011). The measure was then scored using the standardized scoring procedure. The scores provided a quantitative measure of the participants' function impairment and were used to contextualize their lived experience of mental effort (See Table 3).

Diagnostic Interview for ADHD in Adults (DIVA). The Diagnostic Interview for ADHD in Adults (DIVA; Kooji et al., 2019) (Appendix B4) is a semi-structured interview used to assess participants for the 18 core symptoms of inattention and hyperactivity-impulsivity outlined by the DSM-5 criteria for ADHD (APA, 2013). Part one of the DIVA evaluates symptoms across both childhood (present before age 12) and adulthood (present within the last 6 months). The participant is asked about each of the 18 symptoms and asked to provide examples for both childhood and adulthood, with additional standardized examples provided for clarification. For each symptom, the researcher determines its presence or absence in each stage of life based on whether the symptom appears to be clinically impairing or more frequent/severe than other age-matched individuals. Part two of the DIVA assesses the impact of these symptoms on key areas of daily functioning in both childhood and adulthood (e.g., work, education, and relationships). Standardized examples are also given for these domains. The participant meets DSM-5 symptom thresholds according to the DIVA when at least 6 symptoms are present in

either domain (inattentive or hyperactivity-impulsivity) was present during childhood, at least 6 symptoms are present in adulthood, and symptoms cause significant impairment (determined by the researcher) in at least two life domains. The DIVA is also used to determine ADHD subtype by determining whether participants meet the threshold for predominantly inattentive, predominantly hyperactive-impulsive, or combined presentation based on the number of symptoms present in each domain during adulthood. Whenever possible, the DIVA-5 incorporates collateral information from partners and/or family members to validate childhood symptoms. However, as collateral information was not available in this study, the assessment relied solely on self-report. See Table 3 for ADHD subtypes information.

Procedure

Data were collected over two sessions, each session lasting approximately two hours. The first session focused on the interview, and the second session entailed participants' completing the surveys. Sessions were conducted virtually using PHIPA-compliant Zoom: a version of the video conferencing platform designed for use in healthcare and research settings. This platform adheres to the Personal Health Information Protection Act (PHIPA) standards, which help ensure participant data security and confidentiality. All participants completed both two 2-hour sessions.

In the first session, participants were briefed on the study's objectives and completed an online consent form. This consent included an agreement to audio and video recording, permission for the use of verbatim quotes, and consent for the secure archival of anonymized data. Following consent, participants engaged in the semi-structured qualitative interview (see Appendix A).

The second session began with re-consenting participants, followed by the administration of a demographic survey, the ASRS, and the BFIS-LF. These measures, along with the online

consent forms, were administered via Qualtrics—a secure, web-based survey platform that allowed participants to complete them remotely. The session concluded with the DIVA to aid in further diagnostic certainty (See Appendix B for all measures used in the second session). After both sessions, participants were debriefed, thanked, and compensated with \$80.

Data Transcription and Analysis

Transcription was conducted using NVivo Transcription, an automated tool designed for qualitative research. To ensure the accuracy of the generated transcripts, they were carefully reviewed and verified by both the primary researcher and a trained research assistant. This verification process involved cross-checking the transcripts against the original audio recordings to identify and correct any errors in the automated transcription. Once verification was completed, the transcripts were anonymized by removing all identifying information.

The data analysis followed the guidelines for Interpretative Phenomenological Analysis (IPA) by Smith et al. (2022). For a summary of the steps involved in the data analysis, see Table 4. The IPA approach emphasizes an ideographic and iterative approach to understanding participants' lived experiences. As a result, data analysis for a single participant was completed before moving on to subsequent interviews. This process ensured that each participant's distinct context, narrative, and meaning-making processes were fully explored and interpreted while minimizing the influence of patterns or themes identified in other participants' accounts. IPA initially treats each case as a distinct avenue of inquiry, and this approach was used to maintain methodological rigor and respect the individuality of each participant.

Table 4
Steps in Interpretive Phenomenological Analysis

Steps in IPA Analysis	Description
1. Reading and Re-Reading	Listen to audio recordings and map the structure of the interviews to identify significant patterns, themes, and insights while fully engaging with the material. Develop a deep familiarity with participants' narratives by reading and re-reading the transcripts.
2. Exploratory Noting	Create exploratory notes focusing on descriptive, linguistic, and conceptual aspects. Capture nuances in participants, language and delve into their understanding of experiences. This process involves highlighting key objects, relationships, and meanings while posing question to elicit the implications of their language and perspectives.
3. Constructing Experiential Statements	Condense exploratory notes into experiential statements. These statements summarize the essence of participants' lived experiences and provide a foundation for clustering into themes. This step balances abstraction and particularity to reflect participants' individual narratives accurately.
4. Searching for Connections Across Statements	Group related experiential statements to identify connections and overarching patterns. Analyze how themes align or diverge within a participants' account, refining emerging insights into a coherent structure that reflects their experiences holistically.
5. Developing Personal Experiential Themes (PETs)	Organize experiential statements into Personal Experiential Themes (PETs), encapsulating key patterns specific to each participant. This step emphasizes the individual, perspective while maintaining the analytical rigor required for meaningful interpretation.
6. Analyzing Additional Cases	Repeat the analytic process for subsequent cases, treating each independently to maintain idiographic integrity. Analyze each participants' data on its own terms while allowing for fresh themes to emerge.
7. Identifying Group Experiential Themes (GETs)	Compare Personal Experiential Themes across cases to identify shared and contrasting experiences. Develop Group Experiential Themes (GETs) to represent broader patterns while honoring individual's distinct contributions in the dataset.

Exploratory Notes

The analytic process began with listening and reading each interview transcript to facilitate a deep understanding of the data and to allow the researcher to familiarize himself with the participants' narratives. After these initial readings, the researcher began making exploratory notes in the left-hand margin of the transcript. These notes focused on descriptive, linguistic, and conceptual elements of the text to highlight significant patterns and participant-specific meanings.

Experiential Statements

Following the generation of exploratory notes, experiential statements were constructed (in the right-hand margin of the transcripts) by synthesizing exploratory notes and distilling key experiential aspects into concise and insightful summaries. This phase of analysis followed the principles of the hermeneutic circle ([Smith et al., 2022](#)). The hermeneutic circle emphasizes a back-and-forth process between an understanding of specific segments of the text informed by the whole and an understanding of the whole text informed by specific segments. The process involved consistently moving between specific segments of the transcript and the participant's broader narrative structure to ensure the interpretation's coherence and depth. This process ensured that the generation of experiential statements was not merely a reduction of data but an interpretation, where discrete observations were investigated and connected into meaningful statements about the participants' experience of the phenomenon of mental effort. Transcripts with exploratory notes and experiential statements can be found in Appendix C.

Personal Experiential Themes (PETs)

Each participant's experiential statements were then transferred into the Mural software. Mural is a virtual whiteboard and workspace application that allows each individual experiential

statement to be entered as its own virtual sticky note. These experiential statements were then grouped into Personal Experiential Themes (PETs), reflecting significant patterns present in that participant's account. This process was repeated across cases, treating each transcript independently to preserve its ideographic integrity. PETs tables can be found in Appendix D.

Group Experiential Themes (GETs)

Finally, connections across PETs were examined to develop Group Experiential Themes (GETs). Again, Mural was employed; however, at this point in the process, the PETs were converted into virtual sticky notes and grouped. This process was used to identify shared and divergent experiences across participants. This process is designed to produce a rich interpretive narrative that provides a nuanced understanding of the collective experiences of participants' while still being grounded in individual participants' experiences. This process allowed for a broader understanding of the experience of mental effort within the context of ADHD by examining areas of convergence and divergence in experiences across participants. Illustrative quotes from participants support each GET to illustrate these cross-participant themes. GETs tables can be found in Appendix D.

Results and Discussion

Theme 1: All-In or Bored

When participants were asked to discuss what made a task mentally effortful, they all described a striking distinction between activities they found interesting and those they found boring. Their comments reveal an all-or-nothing perspective that governs their experiences with tasks they find engaging and informs the difficulties they face maintaining focus during tasks they deem uninteresting. Khloe's quote exemplifies this intense, binary division between her experiences with interesting and uninteresting tasks:

If it, it's not interesting and I...don't have any clear guidelines, you can forget it, you can forget it. Like automatically it's a no for me, not starting until at least the day before. And... with things that require a deep dive and a thorough understanding, that ... I'm very interested in that have a very broad prompt, I have in the past been able to crush it throughout three weeks leading up to the deadline... with success, in fact, actually three months, one time. And by the end of the class, I had one beautiful paper that I got a 98 (Khloe)

Khloe's response illustrates how when there is no connection to the task and no clear guidelines, she unequivocally refuses the task ("automatically it's a no for me"). The forcefulness of this wording highlights her unwillingness and inability to even begin the task until the last minute, reinforcing how disinterest instantaneously eliminates any motivation she has to complete the task. Conversely, she discusses her clear motivation when she is interested in a task and describes being able to begin a task in advance and maintain her focus for extended periods. Her success in producing a high-quality paper highlights an aspect of divergence in the data as it exemplifies a less common account of successfully engaging in mentally effortful work, brought on by her increased ability to cater the task to her interests. Her account suggests the integral role that both interest and a sense of agency may play in self-directed engagement in mentally effortful tasks.

Though success was rarely reported, participants did reinforce the idea that interest drastically lowered how aversive they found the experience of mental effort with Richard commenting:

"I think that if... I am interested in the topic that I'm writing about, I find it a lot easier, and I mean, it really, truly makes a world of difference." (Richard)

Kevin's quote illustrates how tasks are characterized in extreme binary ways into either interesting or uninteresting tasks and how the experience of mental effort is an especially salient component of uninteresting tasks.

I mean, yeah, I am open-minded about it. Like, I'm not bad at English. I just despise it.

Um. Other classes I find more interesting. (Kevin)

His comment captures the tension between his beliefs about himself, his capabilities, and his emotional response to uninteresting subject matter this thinking creates. He begins by saying he is "open-minded," implying a willingness to remain unbiased about a subject such as English, while then immediately describing it as a subject that he "despise[s]," contradicting the notion of open-mindedness and revealing the dissonance that occurs when he reflects on the mental effort associated with uninteresting tasks. The fact that he feels competent in English adds complexity to this tension by revealing that his aversion to English is not rooted in his perceived skill but rather in his strong preference for "more interesting" subjects. His sentiments reflect a rigidity in his views, one that is not mitigated by competence and is solely governed by his dislike of English class.

Richard furthers the theme by describing the in-the-moment experience of trying to remain engaged with an uninteresting task:

You struggle to, you struggle to control where your attention is and just depending on how... boring the task is to you and especially if you don't ... know what the why is, I think that that's ... basically like the biggest factor in determining how much mental effort it's ... going to take to get through a task. (Richard)

Richard's quote expresses that the level of "boredom" directly correlates with how challenging it is for him to summon the necessary resources to complete mentally effortful tasks.

Richard's comments also deepen this theme by stressing the importance placed on understanding the "why" behind the task, as for him, without a clear sense of purpose, the task becomes even more mentally effortful. His statement emphasizes engagement with a task, and his experience of mental effort is driven by a need to connect it to something personally relevant rather than an external obligation.

Across the above accounts, participants illustrate how their fixed ways of thinking feed into an all-or-nothing approach to mentally effortful tasks. For tasks they find interesting, participants have less association with being mentally effortful and they are able to engage, but for those activities deemed uninteresting or without personal meaning, their ability to engage is reduced dramatically, resulting in avoidance and procrastination. The participants' experiences illustrate their challenges in regulating their attention, either fully immersing themselves in the interesting or completely disengaging from the mundane.

Theme 1: All-In or Bored Discussion

The participants' insights support and extend existing research on those with ADHD by deepening the understanding of how interest and personal relevance shape their experiences, especially about mentally effortful tasks. This increased efficacy in approaching interesting tasks also affirms previous research that attention is often sustained in stimulating environments or for topics of personal value ([Ginapp et al., 2022](#); [Schreuer & Dorot, 2017](#); [Schrevel et al., 2016](#)). Present findings are consistent with prior findings that attention in those with ADHD may not be uniformly deficient but dysregulated ([Ginapp et al., 2022](#); [Hupfeld et al., 2019](#); [Ozel-Kizil et al., 2016](#)). Results further illustrate the importance of interest, context, and structure in motivating participants to persist or disengage from tasks, with interesting tasks being approached with sustained engagement and uninteresting ones prompting immediate disengagement.

Furthermore, these accounts point to the important and necessary role of structure in the performance and success of those with ADHD (Canela et al., 2017; Goffer et al., 2022; Ledochowski et al., 2019) while also highlighting that external structure may be insufficient in supporting attention without addressing individual factors that contribute to difficulty persisting with tasks. Additionally, tasks that are more open-ended or loosely structured, though often more challenging, may offer greater opportunity for individuals to incorporate personal meaning and exercise autonomy. This suggests that while such tasks may lack the scaffolding that supports focus, they also create space for internal motivation to emerge making them a double-edged sword. The findings suggest that internal variables, such as personal relevance, may be equally influential. These findings reinforce that, for individuals with ADHD, attentional and motivational regulation is highly context-dependent and driven by internalized meaning. More specifically, participants' narratives indicate that structure alone is not sufficient, and may even be counterproductive, if interest or engagement is absent. Within this theme, internal factors such as interest and meaning appeared to be more influential than structure in sustaining effort.

The experiences shared also reflect how an interaction between a sense of competence (or the need to feel effective in one's environment) and personal interest plays a central role in shaping persistence in mentally effortful tasks. In instances where participants felt capable yet disengaged, lack of interest diminished the value of competence as a motivating factor. When interest was low, participants' perceived ability became a source of frustration, contributing to avoidance and emotional strain. This tension illustrates that the ability or skill to complete a task was insufficient to initiate or sustain effort, highlighting that competence alone does not ensure engagement. The results showed that individuals reported increased mental effort and a tendency to disengage when the "why" of the task was unclear or when the task lacked immediate personal

value. This supports and extends the work by [Deci and Ryan \(2000\)](#) and [Vansteenkiste et al. \(2010\)](#), emphasizing the importance of volition and personal endorsement in sustaining motivation. The present findings suggest that a diminished sense of autonomy (or feeling like the origin of one's actions) may make effortful tasks more cognitively and emotionally taxing for individuals with ADHD and suggest those with ADHD may have difficulties internalizing motivation.

Theme 2: Stars Needing to Align

Participants frequently describe their experiences of completing mentally effortful tasks as dependent on a constellation of factors, factors which they often felt they lacked control over, leaving them with an uncertainty as to whether they would be successful.

For Khloe, the metaphor of 'Stars needing to align' captured her feeling of uncertainty in relation to her ability to complete tasks she found mentally effortful. She states:

It's it like the stars have to align like, all of these things happened for me to be able to carry it out. (Khloe)

The way she phrases her thoughts suggests that she experiences her ability to complete mentally effortful tasks as being reliant on circumstances having to "align" in just the right way, leaving her portraying herself as a bystander to her own cognitive abilities. Her expression evokes a strong sense of reliance on external factors outside of her control. The lack of a feeling of agency evident in this quote reinforces the sense that, for Khloe, success is not entirely in her control, no matter her efforts or intentions.

Similarly, Natalie's account possesses this sense of precarious control over the circumstances needed to complete mentally effortful tasks while illuminating another layer to this struggle. She describes the thoughts that precede mentally effortful work as follows:

What can I do to actually make this work? And then it's... a lot of just sitting there and not doing it because I have to figure out how to do it, how to, first of all, convince myself to do it through all of the like, I can't do it or it's too hard. And then to like, make it actually work. (Natalie)

Natalie's complex and draining internal dialogue exemplifies an oscillation between her sense of agency and paralysis. She begins by actively strategizing (“what can I do to actually make this work?”), quickly followed by a cycle of bargaining and self-doubt. This process of trying to “convince” herself reveals an internal resistance and the feeling she has that she is not entirely in control of her ability to complete the work. Ultimately, Natalie’s narrative highlights the overwhelming mental barriers that make the successful completion of mentally effortful tasks feel not only uncertain but laborious, compounding her sense of helplessness.

Kevin offers insight into how emotional states may allow him to focus consistently enough to complete mentally effortful tasks:

One of the things is like, if it's very important and I'm getting anxious or something, then that's what triggers it [hyper-focus]. That's I think that's most of the time what happens. (Kevin)

Unlike Natalie’s account, Kevin describes an emotional reaction to confronting mentally effortful tasks, an anxiety that sometimes grants him access to a state focus. However, similar to both Natalie and Khloe is the sense that this focus is not something that he is able to summon at will. Instead, he describes his state of focus as something that must be “trigger[ed].” Kevin’s quote again highlights a central component of the theme: uncertainty about one’s ability to consistently accomplish mentally effortful tasks (“I think that’s most of the time what happens”). In this way, Kevin’s ability to complete mentally effortful tasks is not entirely within his control;

instead, it depends on emotional triggers that may or may not present themselves on a given day, allowing the stars to align.

Interestingly, Khloe revisits the ‘Stars needing to align’ metaphor later in her interview, revealing a more nuanced understanding of her role in setting the conditions for success in mentally effortful situations:

So I am aligning the stars. But what I mean by when the stars align is, essentially the same thing as like all the conditions have to be right. But I make the conditions. I set the conditions. So, yeah, I align the stars I guess. (Khloe)

Here, Khloe reclaims a sense of agency, positioning herself as the one responsible for setting the right conditions for success with mentally effortful tasks. However, even as she begins to express self-determination, the underlying uncertainty remains (“I align the stars I guess”), her success still hinging on conditions aligning. Her account shows how the experience of mental effort for those with ADHD is one of precarious agency, fluctuating between a sense of control and a sense of vulnerability to their circumstances. For both Khloe and others, even when control is present, it is often indirectly achieved. Control occurs either through the experience of anxiety or by arranging external conditions that then act upon participants.

These narratives reflect participants' struggles with shifting perceptions of control when approaching mentally effortful tasks. Mental effort is an experience that quickly fluctuates from brief moments of clarity and agency, where they feel capable of aligning the conditions for success. However, just as frequently, they confront mental barriers, anxiety, or overwhelming uncertainty, making success feel like it is contingent on forces beyond their control. This back-and-forth between agency and helplessness speaks to the complex nature of the experience of

mental effort for those with ADHD, where completing a task can feel as unpredictable as waiting for the stars to align.

Theme 2: Stars Needing to Align Discussion

Participants' sense of unpredictability and internal resistance resonates with previous qualitative reviews on the experience of ADHD ([Bjerrum et al., 2017](#); [Eccleston et al., 2019](#); [Ginapp et al., 2022](#)) and lends support to previous reports of those with ADHD regarding emotional dysregulation or struggles managing emotions ([Shaw et al., 2014](#)). However, current study findings expand on this by highlighting how emotional arousal may act as a trigger for hyperfocus, suggesting a potential connection between affective states and attentional intensity. This aligns with previous research indicating that individuals with ADHD may experience heightened emotional reactivity ([Sonuga-Barke, 2002](#); [Surman et al., 2013](#)). The current theme shows how such emotional responses may unpredictably facilitate or hinder engagement with mentally effortful tasks.

Participants depictions of their experience with mental effort also suggests that previous work that has emphasized the utility of external structures ([Canela et al., 2017](#); [Goffer et al., 2022](#)) and cognitive-behavioral interventions ([Knouse & Safren, 2010](#)) may need to be complimented with approaches that address the emotional dysregulation that accompanies mentally effortful tasks as participants here reflected that success was often dependent on transient internal states rather than solely on external factors. This oscillation between feelings of agency and helplessness in the face of mentally effortful tasks is atypical as most individuals do not experience this sense of indirect agency, rather they simply act without the need to put external supports in place. Instead, these findings suggest that mental effort in ADHD is

emotionally and motivationally taxing, with success often experienced as precarious and conditional.

The perception that mentally effortful tasks depended on the alignment of unpredictable internal and external conditions seemed to undermine participants' sense of volition, contributing to their feelings of detachment from their actions. This is consistent with the work by [Deci and Ryan \(2000\)](#), who describe how motivation is weakened when individuals feel they lack control over their behaviour. The current findings extend this by demonstrating that, for individuals with ADHD, even when they intentionally engage in a task, their sense of agency remains unstable due to the perceived unpredictability of their cognitive and emotional states.

The results also indicate that experiences of self-doubt and emotional strain during effortful tasks reflect feelings of a lack of competence that further destabilizes autonomy. This also mirrors and deepens findings by [Deci and Ryan \(2008\)](#), who argue that feelings of ineffectiveness can disrupt one's ability to act with volition. The accounts reveal a cyclical relationship in which compromised competence triggers internal conflict, avoidance, and emotional fatigue, ultimately weakening persistence.

Emotional states were also identified as gatekeepers to focus, adding an unpredictable affective layer that further distanced individuals from a stable sense of autonomy. Also, this autonomy remained tentative and easily destabilized when reclaiming control over task conditions. These findings extend the work by [Vansteenkiste et al. \(2010\)](#) by suggesting how engaging in mental effort may intensify fluctuations in perceived autonomy and competence, ultimately shaping the motivational challenges associated with ADHD.

Theme 3: Fearful Approach

This theme emerged from participants' descriptions of their experiences of sustained mental effort, revealing a deep sense of anxiety and fear that was evident in their thoughts, feelings, and actions. For participants, the experience of mental effort was not just one of cognitive challenges but an emotional and psychological struggle - struggles involving fear of failure, fear of judgment, and fear of being unable to meet the demands of the situation and the consequences that inability would entail. Their fear was evident throughout the experience of engaging in mentally effortful work (before, during, and after). This fear impacted participants' engagement, motivation, and long-term decision-making.

Fear and Initial Avoidance

For many participants, fear intruded on their thoughts even before beginning a mentally effortful task. When asked what it was like for her to do activities that required sustained mentally effortful tasks, Khloe responded:

Well, I guess I'll preface by saying it's, a very, well, laborious process. Like most of the time, I put them off as much as possible. And that's coming from someone who's been in school for like seven years now. Like, it's not changed, even though I've gotten a little better sometimes it like comes in waves... What's it like to do activities that require sustained efforts like, it's like confronting a fear almost in a way. Like, I come into it quite nervous because I know kind of the stars have to align for me to get there. (Khloe)

She likens the process of approaching a mentally effortful task to "confronting a fear." Describing the "laborious process" of anticipation and anxiety that she experiences leading up to mentally effortful tasks, resulting in her delaying starting tasks as long as possible. Of note, she highlights that, despite years of experience in academia, this fear has yet to get easier ("It's not

changed”), and she acknowledges that she still enters these tasks with a significant amount of nervousness. Her statement exemplifies the conflicts participants face in the moments leading up to tasks that require sustained mental effort. For Khloe, the beginning of mentally effortful tasks is an experience of being overwhelmed, rooted in a fear that the conditions must be correct for her to succeed. Her description illustrates how fear of underperformance and failure can lead to a cycle of avoidance and procrastination, creating a pressure to perform that only grows stronger and does not subside with experience or time.

Fear During the Task

Once participants overcame fears associated with starting mentally effortful tasks, their anxiety often shifted towards concerns of maintaining focus and endurance. Natalie provides one such instance, describing how her fear shifts from starting the task to the challenge of staying on task:

My biggest worry once I actually start is keeping myself on task. [...] It gets easier, but then the obstacle is keeping myself there, even if it's just for some one of the small chunks if I break it down. (Natalie)

For Natalie, her fear does not reduce once she begins a task; rather, it transforms into a new challenge of remaining focused and on task. She is acutely aware that her focus can dwindle at any moment, adding another layer of anxiety to mentally effortful tasks. Natalie's fear is more than just her ability to complete the task; it is also about whether or not she can stay mentally engaged long enough to make meaningful progress. This ongoing fear is yet another tax that drains her mental energy, making even shorter tasks feel burdensome ("even if it is just for some of the small chunks").

Kevin also expresses this anxiety and fear that occurs during mentally effortful tasks, describing how the importance of the task magnifies a fear of failure. Relating that when his body physically reacts to the fear:

I think it usually depends on like the intensity of it. If it's just a smaller paper, I shouldn't be that like scared of it or whatever. But... obviously if I'm like have low marks or it's really important and I'm getting nowhere then, yeah, like I feel in my body and I try not to make too big a deal with it just because it is just school and it's like I know I'm going to pass. (Kevin)

Kevin echoes the sentiments of fear expressed by other participants, evident in his self-talk that "I shouldn't be that like scared of it." He goes on to describe how this fear not only presents in his thoughts but also manifests in physically ("I feel in my body"). Kevin's comments also hint at coping strategies that he uses, downplaying the emotional toll of mental effort by rationalizing that it is "just school." However, the fact that his body is adversely responding to this pressure suggests that the fear is more substantial and impacts how he approaches his work.

Fear as a Barrier to Future Goals

For some participants, this fear associated with the experience of mental effort extends beyond individual tasks, becoming a barrier that extends to larger life decisions. Richard, for example, talks about his hesitation to return to school because of the challenges that await him:

It's, you know, it's the reason why I... haven't gone back yet is because I'm not sure... like you know... like I am kind of like scared of that challenge somewhat. (Richard)

Here, Richard expresses how his experience of mental effort has resulted in a fear that has immobilized him, preventing him from returning to post-secondary education. His apprehension and uncertainty about his ability to successfully navigate the mentally effortful

tasks ahead are so strong that they are preventing him from pursuing something meaningful, reflecting how the fear associated with the experience of mental effort can prevent individuals from achieving long-term goals or striving for challenging but enriching opportunities.

For participants, fear is not only a product of thoughts and self-perceptions; it also arises from a feeling of impending judgment from others. Daniel describes his concerns that others will interpret how he copes with mental effort (frequent glancing away and a need for frequent breaks) as cheating or not working diligently resulting in a "phobia" of being caught or misunderstood that he must contend with while completing mentally effortful tasks:

It's like the tests were like I was still having like that phobia of being caught because no one knows I wasn't guilty. (Daniel)

Daniel's narrative frequently discusses his sense that his approach to mentally effortful work during his time in school and at his current occupation would be viewed as criminal. His fear emanating from others "becom[ing] suspicious," expressing a sense that his actions while completing mentally effortful tasks would get him "caught" despite there "not really [being] any evidence." Daniel feared that being "caught" would have major consequences for his future (being accused of cheating in school or not working diligently at his job). Daniel describes an in-the-moment fear response, though instead of stemming from an inability to stay focused and on a task like Natalie, his fear is embedded in a recurring sense that he would be "caught" even though he was aware he was doing nothing wrong. His account reinforces the experience of in-the-moment fear those with ADHD may experience while completing mentally effortful tasks while also expanding on the theme by revealing a persistence ("I was still having") to the fear associated with mentally effortful tasks that lingered beyond completion. Daniel's experience suggests that fear can persist long after the experience of mental effort is over, affecting

participants' self-perception, emotional well-being, and shaping how they interpret their experiences of mentally effortful tasks in the future.

Overall, this theme highlights how the experience of mental effort for those with ADHD may be permeated by fear that manifests at various stages in the process of challenging tasks, from initiation to completion. For participants, fear does not only concern the task itself but is more broadly reflected in anxieties about their self-worth, judgment, and the potential consequences of failure. The result of these fears is often a cycle of stress, avoidance, and procrastination which can have long-term effects on their personal, academic, and professional lives, as well as their mental health.

The fear associated with mental effort shapes how participants approach their daily lives and their future goals, often resulting in missed opportunities or decisions driven by their fear rather than their desire. Khloe's experience of fear has led to struggles with sustained mental effort despite years of exposure through academia; Richard's fear has resulted in a state of paralysis that has stopped him from returning to school; Kevin, though more optimistic, still experiences significant stress; and Daniel's fear extends beyond the bounds of the task, resulting in a persisting fear of being caught for not working in the way others expect of him. All experiences that affect their ability to maintain focus during mentally effortful tasks that they deem meaningful and consequential. In conclusion, fear plays a significant role in how participants experience sustained mental effort, affecting their confidence, focus, and willingness to engage in future challenges.

Theme 3: Fearful Approach Discussion

The theme of fear identified in the IPA analysis offers a compelling extension of existing qualitative literature on adult ADHD by illuminating how fear permeates the experience of

mental effort. Prior research has identified emotional dysregulation, low self-esteem, and internalized stigma as common features that disrupt success among those with ADHD ([Ginapp et al., 2022](#); [Matheson et al., 2013](#); [Watters et al., 2018](#)). However, the present analysis deepens this understanding by demonstrating how fear of failure, judgment, and loss of control emerges during performance and persists before and after effortful tasks. This anticipatory and lingering fear contributes to avoidance behaviours and decision paralysis. Importantly, these findings suggest that emotional dysregulation, specifically fear and anxiety, may be an enduring cognitive-affective state that mediates effort-related functioning for those with ADHD ([Ginapp et al., 2022](#); [Shaw et al., 2014](#)).

Current findings support [Morsink et al.'s \(2022\)](#) argument that motivational alterations in ADHD are not limited to external reinforcers but are shaped by internal factors and unmet psychological needs. The findings expand on the role feelings of competency play in task persistence by illustrating how fear can create a persistent belief that mental effort remains unpredictable, even with practice. Suggesting that, despite years of experience, those with ADHD may continue to feel mentally unequipped, indicating that a perceived lack of competence can linger and negatively impact their sense of self-control, limiting their ability to engage with tasks voluntarily. Additionally, fear during the task appeared to undermine participants' autonomy by imposing a constant need to manage dwindling focus, further burdening cognitive and emotional resources. Finally, fear negatively influenced the sense of relatedness, as participants described anxiety about being misunderstood or judged, reinforcing prior suggestions that individuals with ADHD may experience higher levels of need thwarting, specifically, their need for autonomy, competency, and relatedness in social and academic contexts ([Rogers & Tannock, 2018](#); [Ryan et al., 2016](#)).

Theme 4: Caught in a Thought Spiral

When reflecting on their experiences of mental effort, participants consistently recounted cycles of negative thinking that intensified their emotional distress. These thought spirals consisted of repetitive, self-critical loops, often amplifying their feelings of guilt, shame, and frustration and hindering their ability to engage with the task.

For Natalie, the thought spirals that she experiences appear deeply linked to her self-esteem. She describes how, when she was struggling with mentally effortful tasks, her internal dialogue would become self-critical:

...then like starting to poke at myself, like my self-esteem or like, why am why can't like, poking at that why. And then I get really frustrated or sad or both. And then I get to lay down and wait until I feel better. (Natalie)

This internal interrogation focused on questioning her capabilities. This questioning triggered an emotional response of frustration and sadness, which ultimately led to her disengaging from the task entirely. She describes needing to “lay down and wait until I feel better.” Her account illustrates how these thought spirals not only impact her emotional state but also directly affect her capacity to act, as the weight of negative thoughts overwhelms her.

Khloe’s experience similarly reflects the cyclical nature of self-criticism and procrastination, with each passing day bringing a growing sense of guilt and frustration:

The first thing that comes to mind, I deal with a lot of, like, guilt and self, just poor self-talk? I guess... and I recognize that, but, but it's always like, oh my gosh, I haven't started yet, this is so ridiculous, like, I can't believe I haven't started yet. It's getting more and more and more scary, like, why don't I just start it? Like, it's just that's the first thing that comes to mind. But also, like, I know I'm not going to want to do it tonight, but I'm going

to do it. And I don't do it. And it's like a repeated process where, like, each day getting closer to a deadline, I'm like, I'm going to do today is going to be the day I'm gonna do it. (Khloe)

Her thought spiral begins with guilt over having not started a mentally effortful task. This guilt is followed by a heightened sense of fear (“Getting... more scary”) and pressure as the deadline draws closer. Despite her ability to recognize the pattern, she feels trapped, repeating the same cycle daily, one where her intentions and actions do not align. This repetitive cycle amplifies her anxiety and deepens her frustration with herself, further immobilizing her. Her narrative reveals a struggle to reconcile her self-perception as a capable, goal-oriented individual with the reality of repeated avoidance, which undermines her sense of self-efficacy.

Richard describes a similar cycle but with a focus on the dissonance between his self-concept and his experience of struggling with mental effort.

it causes, I'd say, like, a sense of shame because you're not...the person... that you know that well. You're not the person. You're not being the person that you feel you should be... you do feel like you could be that person, but, like, if, but if you just tried a little bit harder... that can be very damaging and pretty dangerous idea. I've... gotten myself into like into thought loops and kind of run around in circles and kind of wondering like, okay, like, like is this actually, you know, is this difficult? Is this difficult, intellectually focused, wise? Am I just like, am I dumb? Like it really just kind of like it makes you, like, go crazy sometimes. (Richard)

His reflection reveals the damage caused by this recurring thought spiral, which forces him to continually question his intellectual capacity (“am I dumb?”). His rumination creates a sense of disorientation, as he “run[s] around in circles” mentally, unable to resolve whether his

struggles are due to external difficulty or internal shortcomings. This cycle of questioning is both mentally exhausting and emotionally harmful, leaving Richard feeling “crazy” at times. His struggles reflect how persistent difficulties with mental effort can erode one’s self-concept, leading him to question not just his abilities but his fundamental worth and identity as a competent person.

Additionally, Natalie’s experience brings to light that these ruminations encountered during experiences of mental effort extend beyond cognitive tasks and impact other areas of her life. She describes how even simple housework quickly becomes overwhelming due to the perceived mental effort it requires:

then in terms of like, housework, with the amount of effort, it takes to do so many seemingly simple things around my house, it very quickly becomes cluttered and growing, like overwhelming. And then... it’s just like I’m overwhelmed, and now I’m sad, and now because I’m sad, the task is even harder. Yeah. And then it just kind of builds up and I, I get stuck. (Natalie)

This description highlights how her thought spiral can build incrementally, with a small task growing into an insurmountable burden, as her emotions, particularly sadness, further compound the difficulty of the task. As the emotional toll increases, so does the effort required for her to address the task, resulting in her feeling “stuck” in a loop where no progress is made, and her negative emotions only deepen.

Kevin provides a distinct counterpoint to the experiences of thought spirals seen in other participants. His words highlight the importance of the presence of a role model and a cultivated sense of acceptance. When asked if his experience with mental effort and ADHD more broadly might prevent him from doing things such as university in the future, he responds:

Um, I guess I'd like to say I'm more open minded with that. Like with my dad there, you just live with it and you use it to your advantage. So I'm actually pretty confident that I will be okay, I know it'll be a different, a different, um, experience, the way I do things. (Kevin)

His father, a successful business owner with ADHD, serves as a positive influence, demonstrating to Kevin that it is possible to live with the challenges posed by mental effort and ADHD without becoming overwhelmed. His statements that “you just live and you use it to your advantage” reflects a perspective of acceptance and adaptability rather than self-criticism and frustration. Unlike other participants who become entangled in negative thought loops, Kevin appears to have internalized a more constructive and balanced approach to handling challenges. His father’s influence and modeling seem to have instilled a sense of confidence that, despite potential difficulties, he “will be okay.” This attitude of acceptance allows Kevin to acknowledge that his experience will be different from others but not necessarily deficient or problematic. His experience contrasts with those trapped in rumination, as he reframes his experience not as a source of failure, shame, or guilt but as something he can navigate and even leverage to his advantage. By viewing his approach as simply “a different experience” rather than a lesser one, he seems to avoid the negative emotional spirals that others face. His openness to a different way of doing things undercuts the internal questioning and negative emotionality that seems to fuel others' thought spirals, offering a path forward based on flexibility and self-assurance.

Across these accounts, participants illustrate how mental effort and task engagement are deeply influenced by their tendency to get caught in negative rumination. Whether tied to self-esteem, procrastination, or feelings of intellectual inadequacy, these spirals create a profound sense of emotional and cognitive paralysis. The repeated patterns of self-criticism and guilt not only hinder participants’ ability to act but also amplify their emotional distress, leading to a cycle

of avoidance, frustration, and disengagement. This process becomes self-perpetuating, with each failed attempt to address the task reinforcing the negative beliefs that sparked the spiral in the first place. Kevin's experience suggests that positive role models and a sense of acceptance may provide some protection from problematic rumination.

Theme 4: Caught in a Thought Spiral Discussion

Participants experienced mental effort as a self-perpetuating cycle of negative rumination, emotional overwhelm, and task avoidance. This supports previous findings by (Toner et al., 2006; Watters et al., 2018) who identified emotional dysregulation and internal chaos as common experiences in those with ADHD. However, the current findings deepen this work by showing how these experiences appear to be inextricably linked to how mental effort itself is lived. Illustrating how attempts to persist with challenging tasks are characterized by escalating self-criticism and emotional paralysis that actively inhibit action. This theme highlighted how participants often questioned their capabilities and felt immobilized by shame and frustration when attempting effortful tasks. This supports prior research highlighting the relationship between ADHD, low self-esteem, and disrupted emotional functioning (Ginapp et al., 2022; Watters et al., 2018). It extends that work by emphasizing the temporal and recursive nature of these experiences, where each failed attempt reinforces negative self-beliefs and heightens the perceived effort required.

In contrast, the results show that some individuals conceptualized ADHD as a difference rather than a deficit and expressed confidence in their ability to adapt. This challenges the predominance of deficit-focused narratives in the qualitative ADHD literature and supports work by (Sedgwick et al., 2019), which identifies positive identity constructions among adults with ADHD. Current work suggests that acceptance and positive role models may buffer against

rumination and foster a more adaptive relationship with mental effort. Additionally, the results indicate that a supportive role model may mitigate the impact of these barriers – as for the one participant who, influenced by their father’s example, expressed a stronger sense of autonomy and competency, even in the face of ADHD-related challenges. This extends the work by [Rogers and Tannock \(2018\)](#), highlighting the importance of relational support in fostering adaptive responses to ADHD. By modeling acceptance and flexibility, the role model enabled the participant to reframe their experience of mental effort as a manageable challenge rather than an insurmountable obstacle, reinforcing their sense of competence.

Finally, participants' ongoing self-criticism and guilt regarding task avoidance, as expressed in this theme, undermined their sense of autonomy and competency. This supports the work of [\(Morsink et al., 2022\)](#), who suggested that difficulty regulating internal experiences, such as negative thoughts, can compromise both motivation and goal-directed behaviour in ADHD. These thought spirals contributed to a lack of volitional control, taking a cognitive toll and hindering engagement with the task, thus deepening their emotional distress. Overall, these findings build on previous research by illustrating the complex interplay between internal emotional experiences and external relational factors, further highlighting how these elements impact the experience of mental effort in ADHD [\(Morsink et al., 2022; Smith & Langberg, 2018\)](#).

Theme 5: Potential Just Out of Reach

Participants in this study often describe their experience of mental effort as a significant barrier to realizing their full potential. Through their interviews, we gain insight into how their experience of mental effort can create a gap between their aspirations and their achievements, with participants feeling that success remains perpetually out of reach despite their best efforts.

Natalie expresses how her aversive experience of mental effort contributed to her decision to stop, on multiple occasions, from continuing in higher education:

Tasks being hard for me... They're part of the reason, not the entire reason that I stopped doing college and I kept trying and I kept stopping because even with the tools I had at that point, they weren't enough and I didn't really have support to help me get through the barriers. (Natalie)

Her account illustrates a cycle of trying and stopping, where even though she had access to “tools,” they were insufficient in helping her overcome the obstacles posed by her experience of mental effort. Natalie’s repeated attempts to continue her education reveal a desire to succeed, but her struggles with mentally effortful tasks have consistently created an insurmountable “barrier” to reaching her potential. She also describes how she felt she lacked the necessary support to overcome these barriers which further reinforces that the obstacles created by her experience of mental effort are so extensive she feels she cannot manage them alone.

Similarly, Kevin’s account reflects a starting and stopping that he experiences when pursuing meaningful endeavours and the deep frustration with his inability to maintain focus on one passion long enough to excel at it:

I don't have, like, one hobby, it's a bunch, and then I get bored of it and go to the next and stuff. And for me, it's been hard to I guess I've been trying to stick to one and get good at it, and I've had no luck with that. So that's, that's usually in my brain most of the time... And I'll try to be passionate about one thing and then I get bored, and I go to the next. And it kind of frustrates me because I just need to be good at one thing or a couple of things at least, just not scattered everywhere. (Kevin)

Kevin's narrative highlights how his "scattered" focus prevents him from achieving mastery in any one area. He repeatedly tries to commit to one thing but loses interest, making tasks he once enjoyed and strove to master feel more effortful, resulting in him abandoning a once meaningful activity. This cycle that leaves him feeling like his potential is fragmented and unfulfilled. His comment indicates an awareness of the importance of sustained focus on mentally effortful tasks for mastery, and his inability, even in tasks ("hobbies") he is interested in, will have long-term impacts on his potential. His frustration stems from the belief that if he could just maintain his attention "to be good at one thing or a couple of things," he could achieve success, yet this remains just out of reach.

For Khloe, external pressures played a significant role in how her experience of mental effort and these pressures affected her ability to reach her potential. Her initial dedication to academic achievement came at a high cost:

this [experience of mental effort] also very much depends on external consequences for, for me... I used to care about my grades to a very ridiculous extent... it put me in the hospital, like [that's] how stressed I was about school. (Khloe)

Khloe's narrative reflects how the pressure she placed on herself to excel in school became overwhelming. The extreme experience of mental effort she experienced in pursuit of academic success eventually led to a health crisis, which forced her to reconsider her priorities ("I used to care"). This turning point marked a shift in her approach to her desire to achieve her academic potential. Her account highlights the cost she had to pay to surmount the barriers posed by her experience of mental effort in service of reaching for her potential. Later, as a result of those costs, Khloe describes how she re-evaluated her goals and adjusted her expectations, lowering the standards she had once set for herself:

I was more dedicated in these things as well... I had these grades I was trying to make and now, I'm just, ... actively... starting last summer... my goal was to make as low grades as possible because I have to... re-evaluate. (Khloe)

This re-evaluation represents a recalibration of her potential. Once driven to achieve high grades, she now sets lower goals in response to the overwhelming mental effort and consequences she experienced (needing to be hospitalized for her stress). Khloe's narrative illustrates how the adverse experience of mental effort can lead to significant compromises in defining and pursuing one's potential.

Richard expresses how his experience of mental effort and his ability to persist is directly tied to his sense of self, and his understanding of his potential:

“sticking it out and putting in... the mental effort required is something that feels out of reach. But you're not really sure if it's actually out of reach or if you actually just tried a little bit harder or if you were, you know, just if you were a little bit better, maybe you could reach that threshold.” (Richard)

These narratives highlight how participants feel their experience of mental effort keeps them from fully realizing their ambitions. Whether due to the challenge posed by mentally effortful tasks, shifting interest and an inability to achieve mastery, or overwhelming personal standards, participants' experiences reflect a deep frustration with how mental effort impedes their ability to pursue the goals they have for themselves. The recurring pattern of striving and falling short fosters a sense of unfulfilled potential, which participants must grapple with as they try to find ways to navigate their lives with the detrimental aspects of their ADHD.

Theme 5: Potential Just Out of Reach Discussion

In this theme participants discussed the frustration and emotional toll of repeatedly striving towards goals but falling short due to experiences of mental effort. Highlighting how the experience impeded their focus, motivation, and impacted their identity, resulting in participants feeling as though they could not live up to their potential. Their narratives support findings by [Brod et al. \(2012\)](#) and [\(Watters et al., 2018\)](#), who reported that those with ADHD often feel frustrated by their inability to achieve ongoing success in academic and occupational settings. The current study extends this work by illustrating how this frustration likely emerges from repeated experiences of striving and falling short, rather than from a lack of ambition or ability. The results show that participants question their own capacity to succeed. They report wondering whether effort alone could close the gap between their goals and their outcomes.

Participants' narratives suggest the need to consider additional modulating factors to more completely frame ADHD-related impairments. In addition to deficits in executive function and attention, the findings suggests that there are additional factors that amplify the aversive experience of engaging in mentally effortful tasks and that this increased aversiveness poses equally significant barriers to achievement. Results also showed how those with ADHD may recalibrate their goals after experiencing extreme costs associated with mentally effortful tasks. This extends findings from [Shaw et al. \(2014\)](#) who identified emotional dysregulation as limiting factors, by revealing how these experiences can lead individuals to consciously lower their aspirations as a coping strategy, in spite of the accompanying feeling of failure associated with this approach.

The accounts from this theme reveal that when individuals with ADHD lack sufficient supports in navigating mentally effortful tasks, their sense of autonomy and competency may be

undermined. This is consistent with work by [Deci and Ryan \(2008\)](#), who emphasize that feelings of volitional and effectiveness are essential for high-quality motivation. Despite a strong desire to succeed, repeated failures and inadequate tools resulted in struggles or outright abandoning academic pursuits, illustrating how barriers can diminish internal motivation when needs are not met. This theme also highlights how difficulty sustaining focus even in meaningful hobbies creates internal tension and a fragmented sense of purpose. This extends findings by [Morsink et al. \(2022\)](#), suggesting that even when individuals recognize personal value in their goals, inconsistent follow-through due to their experience of mental effort can hinder the development of self-directed motivation as their inability to align intentions with consistent effort, reduces their sense of autonomy. Furthermore, the results show that extreme internal and external pressures to succeed can result in emotional burnout and a re-evaluation of goals. This challenges the assumption that valuing an outcome is sufficiently beneficial for motivation ([Ryan et al., 2016](#)), highlighting instead that over investment without adequate support for autonomy, relatedness, and competency may lead to psychological distress and disengagement in those with ADHD.

Theme 6: Struck by Difference

In reflecting on their experiences with mental effort, participants often described moments where they became acutely aware of their ADHD through moments when they saw others completing mentally effortful tasks with relative ease. This theme captures how participants' awareness of their ADHD often comes from being 'struck' while comparing their experience of mental effort to those around them and how these comparisons frequently prompted reflections on the negative aspects of their condition.

For Richard, the very notion of sustaining mental effort elicits an immediate identification with ADHD. His response to the question, “What is it like for you to do activities that require sustained mental effort?” suggests that his experiences of tasks requiring focus are so deeply intertwined with his ADHD that he questions whether the interviewer shares this diagnosis:

Well, first of all, I guess I want to ask, do you have... have you been diagnosed with ADHD or do you think you may have ADHD?” (Richard)

Richard’s question implies that the challenge of sustaining mental effort is central to his understanding of ADHD. His initial question seems to serve to help him anchor his experience, suggesting that only someone who shares his struggle would fully understand the toll of this experience. His statement highlights how the challenges of sustaining attention during mentally effortful tasks strike him as fundamentally different for individuals with ADHD, forming a core aspect of their experience of having the diagnosis.

Daniel’s reflection on how he became aware of his ADHD during mentally effortful tasks emphasizes social comparison. He contrasts his behaviour with that of others, noting how people around him work smoothly and without distraction. This difference in behaviour becomes particularly evident to him during moments when he chooses to take a break:

everything goes fine, and then you see people just, you know, working around you and like you see them, they're not acting like you, they're not looking around, you look weird looking around... So, so it's mostly when I compare myself, let's say with others, there's an issue. (Daniel)

Here, Daniel’s awareness of ADHD is triggered by watching others work without the same need for intentional momentary pauses and proneness to distractions that he experiences.

His description of “looking around” evokes a sense of being out of sync with his peers. His use of the word “weird” indicates his discomfort with how his ADHD manifests externally during mentally effortful tasks, reinforcing the theme of feeling ‘Struck by difference’ when comparing himself to others “there’s an issue” in that they seem more consistently focused for extended periods of time.

This theme is echoed in the experience of Kevin, who describes forgetting that he has ADHD until moments of comparison arise:

Okay, um, you know, sometimes I, I usually forget I have ADD until it's times like that, right? And then, I'm usually not trying to compare myself because in some ways it's helpful, some ways it's not as much. Um, but yeah, like if I see someone else working and they're doing good and like, they're like, consistent, then I'll be like, okay, yeah, like, I can't do that. (Kevin)

Kevin describes that one of the only moments when the awareness of ADHD resurfaces is during experiences of mental effort, specifically when observing other’s consistency and focus. Despite attempts to avoid comparing himself, these comparisons are inevitable. The stark difference between his ability to maintain consistent focus during mentally effortful tasks becomes a point of reflection, further reinforcing feelings of inadequacy and difference.

Similarly, Natalie uses comparison when she reflects on how her experience of mental effort limits her ability to complete multiple tasks in a day, something that others appear to do effortlessly. This comparison causes her to feel ashamed of her perceived limitations:

I’m still ashamed that it happens because I see so many other people being able to do these things like it's nothing or being like, oh yeah, I did like for housework things and then I went out and I'm like, yeah, I can do one or the other in a day, not both. (Natalie)

Natalie's shame emerges from observing how easily others handle daily responsibilities while she struggles to manage even one meaningful task. Her narrative reflects how constant comparisons to others intensify the impact of mental effort. For her, the struggle to complete tasks others take for granted underscores her feelings of difference, and the resulting shame reinforces her internalization of her deficits in mental effort due to her ADHD.

Khloe's experience reveals an additional dimension to this theme, as she does not need to observe the behaviors of others directly rather it is evident even in the subtext of communications with her fellow group members during a project:

“[regarding a group project due] four and a half weeks from now. And yesterday, she was she text me, she said, like, I've already started on it, and I want to meet with you and have it done by Friday... you can't get a vibe that someone has ADHD or not, but like, some of their behaviours sometimes like they don't seem ADHD.” (Khloe)

Khloe's comment about her peer having already started the group project and aiming to complete it well in advance brings her own struggles with mental effort into sharper focus. Her peer's organized and proactive approach contrasts with the struggles Khloe experiences, leading her to reflect on the behavioural differences that arise when she approaches mentally effortful tasks. Though she acknowledges that ADHD may not always be obvious (“you can't get a vibe”), she uses behaviours like these as markers of whether someone shares the same cognitive struggles she faces.

Finally, Natalie expresses how her struggles with mental effort are one aspect of her ADHD that seem immune to understanding by those closest to her:

“My mom, I wouldn't say she never tried, but she, like missed some key points. Like when she found out I had ADHD, she read a book on ADHD, and she apologized for

some of the things [she] punished me for as a kid that it turned out were ADHD symptoms. But then she would also turn around and constantly be like, you didn't try hard enough." (Natalie)

Across these accounts, participants reveal that they become aware of their ADHD in moments of comparison and contrast of their experience of mental effort. Mental effort is not just an internal struggle but becomes a marker of difference when compared to the ease with which others manage mentally effortful tasks. These direct or inferred comparisons lead participants to reflect on their perceived shortcomings. For participants, these moments are when they are 'Struck by difference.' Their peers serve as painful reminders of the limitations their experience of mental effort imposes, reinforcing feelings of shame, frustration, and inadequacy.

Theme 6: Struck by Difference Discussion

The theme expands existing qualitative literature on ADHD by contributing a more nuanced understanding of the profound impact of social comparison on self-perception. Consistent with prior research, individuals with ADHD report feeling 'different' or 'out of sync' with peers (Toner et al., 2006; Waite & Tran, 2010) and previous qualitative reviews (Bjerrum et al., 2017; Eccleston et al., 2019; Ginapp et al., 2022), note that awareness of ADHD symptoms often emerges through contrast with neurotypical behaviour of others. However, the current study highlights how experiences of mental effort produce a particularly salient sense of shame and inadequacy when observing others' capacity to sustain attention and complete tasks with apparent ease. Insights from 'Struck by difference' extend this work by illustrating how these comparisons are reoccurring, serving as persistent reminders of their difference, and how they can become internalized. In addition, this theme brings to light how deficits in sustaining mental

effort are perceived and often misinterpreted by others as moral failings, which reinforces stigma and contributes to cycles of self-doubt and guilt ([Aoki et al., 2020](#); [Matheson et al., 2013](#)).

Findings from ‘Struck by difference’ also deepen understanding of motivation and task persistence in individuals with ADHD by revealing ways in which social comparison can disrupt core psychological experiences essential for well-being and engagement. Participants described an acute self-awareness of their difficulties, especially during mentally demanding tasks, which was often triggered by observing others complete such tasks seemingly relatively effortlessly. These moments gave rise to negative affect and senses of alienation, as they made salient a painful sense of disconnection from others. This perceived social divide undermines individuals’ ability to feel accepted and understood, complicating the experience of interpersonal connection that is vital for sustained motivation ([Baumeister & Leary, 1995](#); [Morsink et al., 2022](#)). In addition, participants’ struggles with sustaining focus and effort in everyday tasks elaborates on how mentally effortful tasks may contribute to a diminished sense of competency and likely contributes to their struggle to persist. Rather than viewing these challenges as part of a neurodevelopmental condition, participants frequently internalized them as personal failings, reinforcing self-doubt and weakening their belief in their own competence ([Morsink et al., 2022](#)). Moreover, this theme reveals how autonomy and the experience of being misjudged by close others likely negatively impacts a sense of self-direction. As they perceived their experiences during mentally effortful tasks as being interpreted by others as laziness or lack of willpower, rather than related to their diagnosis, resulting in a sense of shame and external pressure that impeded their ability to act in ways that felt volitional ([Deci & Ryan, 2008](#)). The findings suggest that such misattributions (perceived or actual) from others may make it more difficult for those

with ADHD to maintain motivation, particularly for tasks they feel already require a seemingly disproportionate amount of effort.

Existing research has examined different forms of stigma ([Hansson Halleröd et al., 2015](#); [Young et al., 2008](#)). However, these new findings point to a more subtle form of internalized stigma, one shaped by repeated experience of social comparison and misinterpretation. Participants found themselves acutely aware of their ADHD when they observed others seeming ease of experience with mentally effortful tasks, leading to feelings of shame, inadequacy, and belief that their struggles reflected personal failure rather than being a component of their ADHD.

Strengths and Limitations

A key strength of the current study lies in its rigorous approach to ensuring a sample of participants with confirmed diagnoses of ADHD. Responding to calls for increased methodological rigour in participant recruitment in qualitative work on ADHD by [Ginapp et al. \(2022\)](#), participants were recruited through clinical settings, ensuring that all individuals had a prior confirmed diagnosis of ADHD. Additionally, the study implemented multiple standardized tools to verify further and capture participants' current symptomology, including the Adult ADHD Self-Report Scale ([Kessler et al., 2005](#)), The Barkley Functional Impairment Scale ([Barkley, 2011](#)), and the Diagnostic Interview for ADHD in Adults (DIVA; [Kooji et al., 2019](#)). This multi-method diagnostic approach not only enhanced the validity of the sample but also provided a robust basis for exploring the nuanced experiences of mental effort within the ADHD population.

Another notable strength is the study's narrow focus on the subjective experience of mental effort, which allowed for deep and meaningful insights into this important aspect of

ADHD. By concentrating on this element of participants' lived experiences, the study was able to more thoroughly investigate and uncover the social, emotional, cognitive underpinnings of mental effort. These findings provide a valuable foundation for future research on these compounding aversive elements of mental effort, particularly in the context of ADHD.

The study also has several limitations that must be acknowledged. As participation was voluntary, individuals who chose to participate may have had more salient or impactful experiences of mental effort. This could have influenced their decision to participate. This potential self-selection bias may limit the scope of the experiences of mental effort captured. Future research should consider strategies to mitigate this bias, such as broader recruitment approaches or ensuring a broader range of symptom severity and impairment in participants. In addition, due to research error, one participant was included in our sample and subsequent data analysis who met at least one exclusionary criteria. However, the themes contributed by the participant were also seen in the narratives of the other participants. Lastly, all participants reported scores below the cut-off threshold (mean score of 5.2 or above) for the Barkley's Functional Impairment Scale. This finding may be explained by the fact that some participants reported currently being on stimulant medication. There is also the possibility that some participants have, or were, receiving therapy at the time of the study. Finally, an additional limitation was the presence of comorbid anxiety and depression reported by several participants. These additional diagnoses may have impacted how they experienced mental effort. However, it is worth noting that comorbid diagnoses of mood disorders such as depression and anxiety are highly prevalent in those with ADHD ([Seo et al., 2022](#)).

Practical Implications

The study's findings hold meaningful, practical implications for treating clients with ADHD, particularly in contexts involving cognitive-behavioral therapy (CBT). One critical insight from this study is the emotional, cognitive, and social complexity of mental effort for individuals with ADHD. As such, the findings suggest clinicians should prioritize exploring the emotional and identity-related dimensions of effort-related struggles rather than framing them solely as cognitive deficits or behavioural issues.

Clinicians should consider integrating psychoeducation into therapy that highlights the interplay between ADHD symptoms and emotional experiences of effort. For example, normalizing the unpredictability of cognitive resources and discussing how mental effort feels for clients can validate their experiences and reduce self-doubt and guilt. Furthermore, the emotional toll described by participants, including feelings of shame and frustration, emphasizes the importance of incorporating strategies that address negative self-perceptions and social comparisons.

Clinicians might also guide clients toward recognizing moments of agency and identifying environmental or emotional triggers that support task engagement. Such strategies can help reframe effort-related challenges as opportunities for growth and aid in fostering a sense of self-efficacy. The oscillation between engagement and avoidance described in the study could be targeted through behavioural activation techniques in CBT. For instance, therapists could help clients experiment with preparatory rituals or task chunking to make effortful tasks more predictable and manageable. This engages with the participants' sense of needing the stars to align for success. Finally, motivational interviewing (MI) can complement CBT by exploring clients' intrinsic values and aligning effortful tasks with personally meaningful goals. This dual

approach acknowledges both the emotional weight of effort and the potential for growth, possibly enhancing therapy outcomes for those with ADHD who struggle with mental effort

These findings have important implications for how the mental effort criterion is understood in diagnosing ADHD. Rather than reflecting a uniform deficit, difficulties with mental effort may reflect context-dependent challenges driven by emotional, motivational, and experiential factors that standard diagnostic criteria may overlook. Results suggest that persistence was more likely when tasks were personally meaningful, perceived as achievable or within their capabilities, or allowed for a sense of volitional control, in contrast, avoidance was associated with a lack of perceived task relevance, absence of structure and supportive guidance, and states of emotional overwhelm and negative self-appraisals.

Conclusion

Participants' narratives, suggest that the experience of mental effort is a complex one, marked by a sense of uncertainty and unpredictability in their capacity to engage in mentally effortful tasks. The metaphors of 'Stars needing to align' and being 'Caught in a thought spiral' underscore the tenuous balance participants experience when trying to navigate their mental and emotional responses while engaging in effortful tasks. This precariousness often translated into cycles of self-doubt, guilt, and frustration, particularly when their struggles were compared to the perceived ease of others. Participants describe an 'All-in or bored' approach to tasks, where engagement was either driven by interest or made unbearably laborious by disinterest, leaving them unable to engage with mundane or non-personally relevant activities. Anxiety about failure, judgment, or the inability to sustain focus pervades the thoughts of participants and is seen throughout their experiences of mentally effortful tasks, amplifying their avoidance behaviors. These experiences often left participants feeling that their potential remained just out of reach, as

barriers posed by mental effort hindered their ability to fully achieve their interests or develop mastery in areas of importance. Moreover, comparisons with peers underscore their struggles, reinforcing the feeling of being ‘Struck by difference’ and magnifying the shame and frustration of their distinct challenges. Yet, within these experiences of difficulty, there were moments where participants felt glimpses of agency, such as reframing challenges or leveraging emotional triggers to achieve focus.

The experiences described by participants reveal the multifaceted and deeply personal ways individuals with ADHD experience mental effort. Participants described mental effort as more than a cognitive demand. It emerged as an emotional, social, and identity-challenging experience shaped by the distinct interplay between their ADHD and the various contexts in which they navigated mentally effortful tasks. Across their accounts, mental effort was seen as a source of tension, oscillating between moments of agency and a sense of helplessness, engagement and avoidance, and resilience and vulnerability. These experiences of mental effort illuminate not only the struggles and impacts participants faced, but also represent a microcosm that serves as a stark reflection of the complex realities of living with ADHD. While these findings pertain to a small group of emerging adults with ADHD, they invite further critical reflection on how the multiple dimensions of mental effort are understood and addressed. This is particularly important given mental effort’s implications for education, mental health, and support strategies for this population.

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Appendix A-1

Semi-Structured Interview Questions

Understanding mental effort in ADHD – An Interpretive Phenomenological Approach

Core Research Question: What is the experience and impact of engaging in activities that require sustained mental effort (such as preparing reports, completing forms, reviewing lengthy papers) like for young adult diagnosed with ADHD?

	Question	Notes
A1.	<i>“What is it like for you to do activities that require sustained mental effort?”</i>	<i>Ensure, among other things, the in-the-moment experience is described.</i>
	Any thoughts when doing activities that require sustained mental effort?	<i>Probe or possible follow up question</i>
	Any feelings when doing activities that require sustained mental effort?	<i>Probe or possible follow up question</i>
	Any behaviours when doing activities that require sustained mental effort?	<i>Probe or possible follow up question</i>
	How does your experience compare to what others experience?	<i>Probe or possible follow up question</i>
	Any reaction or response of others when you do activities that require sustained mental effort.	<i>Probe or possible follow up question</i>
A2.	<i>“Does the way you experience activities that required sustained mental effort have any impact on your life?”</i>	<i>Ensure the consequences of how mental effort is experienced / coped with / responded to is described.</i>
	Any impact on your relationships or social life ?	<i>Probe or possible follow up question</i>
	Any impact on your schooling or work ?	<i>Probe or possible follow up question</i>
	Any impact on your self-image ?	<i>Probe or possible follow up question</i>
B1.	<i>“What things alter your experience when you are doing activities that required sustained mental effort?”</i>	<i>Potential additional question – time permitting.</i>
	Any changes in your experience over the course of your life so far?	<i>Probe or possible follow up question</i>
	Any internal / external factors that alter your experience?	<i>Probe or possible follow up question</i>
B2.	<i>“How do you think about future or past situations that will, or did, require sustained mental effort?”</i>	<i>Potential additional question – time permitting.</i>
	Any thoughts, feelings, behaviours when anticipating ?	<i>Probe or possible follow up question</i>
	Any thoughts, feelings, behaviours when recalling ?	<i>Probe or possible follow up question</i>
	END	

Appendix B-1

Demographics

Select your date of birth:

- Month
- Day
- Year

What was your sex assigned at birth?

- Male
- Female
- Intersex
- Prefer not to answer/question is not applicable

What is your Gender Identity?

- Gender Fluid
- Man
- Nonbinary
- Trans Man
- Trans Woman
- Two-Spirit
- Woman
- Prefer not to answer

Have you ever been formally diagnosed with the following medical or neurodevelopmental diagnoses?

Please check all that apply:

- Attention Deficit Hyperactivity Disorder (ADHD)
- Traumatic Brain Injury (TBI)
- Concussion/Seizures
- Psychosis
- Learning Disability (LD)
- Intellectual Disability (ID)
- Autism Spectrum Disorder (ASD)
- Anxiety
- Depression
- Substance Use Disorder

What type of health professional diagnosed your ADHD?

- Family doctor
- Pediatrician
- Psychologist
- Psychiatrist
- Other (please specify) _____

Are you currently taking medication for ADHD?

- Yes
- No
- Prefer Not to Answer

If you answered Yes to the previous question, please provide the name of your ADHD medication:

- name of medication: _____
- prefer not to provide name of ADHD Medication

Appendix B-2

Adult ADHD Self-Report Scale (ASRS)

1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

2. How often do you have difficulty getting things in order when you have to do a task that requires organization?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

3. How often do you have problems remembering appointments or obligations?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

6. How often do you feel overly active and compelled to do things, like you were driven by a motor?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

7. How often do you make careless mistakes when you have to work on a boring or difficult project?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

8. How often do you have difficulty keeping your attention when you are doing boring or repetitive work?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

9. How often do you have difficulty concentrating on what people say to you, even when they are speaking to you directly?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

10. How often do you misplace or have difficulty finding things at home or at work?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

11. How often are you distracted by activity or noise around you?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

12. How often do you leave your seat in meetings or other situations in which you are expected to remain seated?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

13. How often do you feel restless or fidgety?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

14. How often do you have difficulty unwinding and relaxing when you have time to yourself?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

15. How often do you find yourself talking too much when you are in social situations?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

16. When you're in a conversation, how often do you find yourself finishing the sentences of the people you are talking to, before they can finish them themselves?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

17. How often do you have difficulty waiting your turn in situations when turn taking is required?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

18. How often do you interrupt others when they are busy?

Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5

Appendix B-3

Barkley Functional Impairment Scale

How much difficulty do you have functioning effectively in each of these major life activities? That is, to what degree do you see yourself as being impaired in each of these life domains? Please circle the number next to each item that best describes your difficulties in functioning DURING THE PAST 6 MONTHS. If that situation does not apply to you (for instance, you don't drive a car, don't have children, don't live with anyone, etc.), please click the "Not Applicable" option.

1. In your home life with your immediate family

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

2. In getting chores completed at home and managing your household

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

3. In your work or occupation

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

4. In your social interactions with strangers and acquaintances

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

5. In your relationships with your friends

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

6. In your activities in the community (church, clubs, social groups, organizations)

Not at all									Severe	Not Applicable
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1 2 3 4 5 6 7 8 9

7. In any educational activities (college, night classes, technical training, occupational training)

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

8. In your marital, co-living, or dating relationships

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

9. In your management of your money, your bills, and your debt

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

10. In driving a motor vehicle and in your history of citations and accidents

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

11. In your sexual activities and sex relations with others

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

12. In your organization and management of your daily responsibilities

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

13. In caring for yourself daily (dressing, bathing and hygiene, eating, sleeping, etc.)

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

14. In maintaining your health (exercise, nutrition, preventive medical and dental care, etc.)

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

15. In taking care of and raising your children

Not at all									Severe	Not Applicable
1	2	3	4	5	6	7	8	9		

Appendix C-1

Table of Personal Experiential Themes (PETs)

"Daniel" - Table of Personal Experiential Themes (PETs)

A. HOW I WORK

i. Comparing my effort to others

"everything goes fine, and then you see people just, you know, working around you and like you see them, they're not acting like you, they're not looking around, you look weird looking around type of thing. So, so it's mostly when I compare myself, let's say with others, there's an issue." (p. 4)

ii. I need a break

"Can I, if I take a five-minute break, do I have enough time to do all my assignment, to finish it in time, yes or no. So, there's always that question. Yes or no, I do have enough time. And sometimes the answer is no. But you need it so bad." (p. 28)

iii. The pressure of time

"not having that time restraint really of gotta finish it by nine if not I'm screwed... [I've] just been working for three hours without even noticing it. Because that time restraint was gone." (p. 26)

iv. When approaching effort I'm a sprinter not a marathoner

"I'd rather sprint than do a marathon because for me a marathon is exhausting. I can sprint no problem" (p.36)

B. FEAR OF GETTING CAUGHT

i. The danger and criminality of working differently

"It's like the tests were like I was still having like that phobia of being caught because no one knows I wasn't guilty" (p. 32)

C. (NOT) GETTING ME

i. At work - Others don't understand how I work

"it's just how I work. How do you explain that to people when they don't understand it makes it hard and there's, there's not really any evidence as well. So it's just it's avoiding this situation. It's stressful, and it's that stress of like, alright, I look long enough before they become suspicious." (p. 7)

"sometimes I'm like, oh, I'm going to look around like I'm planning or it's going to be like 30 seconds and back to work because I don't want to get caught. So it's really nothing, for me there's nothing wrong, it's mostly for the others to think of me working like that." (p. 6)

ii. Social situations - Keep it short and to the point

"The people that know me the best, know, so like they just work around it [fact that long conversations are effortful]" (p. 15)

D. DIAGNOSIS CHANGED MY UNDERSTANDING OF EFFORT

i. Diagnosis as a Turning Point

"that diagnosis changed everything because I was able to... better understand my situation. This is me now, ...I learned more about myself. And with that I was able to change some behavior or some work ethic to be able to perform like everybody else." (p. 23)

E. DISTRACTING? AM I IN CONTROL?

Controlling my environment

"Noise, I guess uncontrolled noise specifically, if I'm listening to my music or listening to my show in the background [it's] like something I have control over" (p. 18)

A broader view: Controlling the uncontrollable

"back to my co-worker, who speaks a little too loud, I guess, I can't tell her to shut up, right? Because she's gotta to do her job like, I knew walking into this environment of work that was going to happen too. So like, there's that control like, hey, I could always in a way, I could always get a new job." (p. 18)

Table of Personal Experiential Themes (PETs) for Khloe

A. MENTAL EFFORT REQUIRES THE STARS TO ALIGN

i. The ritual of aligning the stars

"It's like it like the stars have to align like, all of these things happened for me to be able to carry it out." (p. 13)

ii. Control and surrender

"So I am aligning the stars. But what I mean by when the stars align is, essentially the same thing as like all the conditions have to be right. But I make the conditions. I set the conditions. So , yeah, I align the stars I guess." (p. 14)

iii. Hyper-focus and possession

"It's kind of, it's as if I'm possessed. Like if the day of it when it comes, and I know it's due today, everything else goes away. And I hyper-focus and feelings like discomfort, you know, it's uncomfortable, but I white knuckle." (p. 11)

B. BOARDING UP THE RABBIT HOLE

i. Writing it down / Clear my head

"I write it down on a notepad, it's out of my brain and if I want to revisit it later, I can. So it like respects what I'm doing." (p. 10)

ii. The AI-lure of the Fall

"If I Google it, it's, it's a rabbit hole. Like I, there's no clear brakes to push." (p. 10)

iii. A complicated relationship with consequences

"this also very much depends on external consequences for, for me... I used to care about my grades to a very ridiculous extent... it put me in the hospital, like [that's] how stressed I was about school." (p. 27)

iv. Forced to re-evaluate standards and approaches

"I was more dedicated in these things as well, is, is like I had these grades I was trying to make and now I'm just like, I actively like starting last summer, like, my goal was to make as low grades as possible because I have to like re-evaluate." (p. 27)

C. THE PHYISICALITY OF EFFORT

i. My body let's me know: The physical anticipation of effort

"I'm not having a lot of thoughts about it, it's as if my body has this awareness of the timeline that I'm not I'm not consciously dreading it more as it gets closer." (p. 5)

ii. Body over mind: Managing the cost of effort

"So I sit in really weird positions and change them like every five minutes, like all day long and by the end I was like, in a squat position and had my keyboard like higher up, with like I was in this really weird position... you're trying to, like, push through it, and you have to bend in these weird ways to like get all this information out of your brain" (p. 13)

D. THE VIEW FROM OUTSIDE

i. Perceived social judgement

"my approach to this [mental effort] being very different and very laborious and a lot more like exponentially more difficult, it appears, than other people. I don't voice a lot of that frustration anymore with others because I recognize they're like, just do it, or like, why, why do you complain so much?" (p. 20)

ii. Comparison to others without ADHD

“[regarding a group project due] four and a half weeks from now. And yesterday, she was she text me, she said, like, I've already started on it, and I want to meet with you and have it done by Friday... you can't get a vibe that someone has ADHD or not, but like, some of their behaviors sometimes like they don't seem ADHD.” (p. 15)

iii. Silencing and withdrawal

“it's not that I can't do things, it's that it's really, really hard. So anyway, I guess I've learned to mask a little bit more from that [sharing her experiences with mental effort].” (p. 20)

D. Internal & External Factors of ME

i. Am I interested?

“If it's not interesting and I don't have any clear guidelines, you can forget it, you can forget it. Like automatically it's a no for me, not starting until at least the day before. And, but with things that require a deep dive and a thorough understanding, that I'm very interested in that have a very broad prompt, I have in the past been able to crush it throughout three weeks leading up to the deadline. Like and with success, in fact, actually three months, one time. And by the end of the class, I had one beautiful paper that I got a 98” (p. 17)

ii. Structure, routines, and approaches

“I've had professors like have smaller assignments throughout the course that by the time you complete all of them, they're due.” (p. 17)

iii. Environment and effort

“the pandemic hit and then I, you know, things really changed for how productive I could be at home versus when I go to campus every day. There's a gym there, there's food there. There is countless places to do schoolwork all the time. I can ask questions. I can zoom around on my scooter. I can make friends. I can like anything, you know, and it was a really nice time in my life. I really enjoyed learning like that and being in that community. And now it's just like, it's just me as in a coffee shop every now and then, you know, and it's not interesting, it's not interactive” (p. 25)

iv. Fear and spirals

“The first thing that comes to mind, I deal with a lot of, like, guilt and self, just poor self-talk? I guess so, and I recognize that, but, but it's always like, oh my gosh, I haven't started yet, this is so ridiculous, like, I can't believe I haven't started yet. It's getting more and more and more scary, like, why don't I just start it? Like, it's just that's the first thing that comes to mind. But also, like, I know I'm not going to want to do it tonight, but I'm going to do it. And I don't do it. And it's like a repeated process where, like, each day getting closer to a deadline, I'm like, I'm going to do today is going to be the day I'm gonna do it” (p. 3)

Table of Personal Experiential Themes (PETs) for Natalie

A. THE IMPACT OF MENTAL EFFORT

i. Pauses and restarts

"Tasks being hard for me or like even just like memory issues alone, like tasks being hard. They're part of the reason, not the entire reason that I stopped doing college and I kept trying and I kept stopping because even with the tools I had at that point, they weren't enough and I didn't really have support to help me get through the barriers that." (p. 13)

ii. Compounding struggles, overwhelm, and avoidance

"then in terms of like, housework, with the amount of effort, it takes to do so many seemingly simple things around my house, it very quickly becomes cluttered and growing, like overwhelming. And then, and then I get depressed because I also have depression, and it's just like I'm overwhelmed, and now I'm sad, and now because I'm sad, I the task is even harder. Yeah. And then it just kind of builds up and I, I get stuck." (p. 14)

B. BRACE FOR IT

i. A fearful approach

"I definitely start to get some of the physical symptoms of anxiety. So like, my heart goes a little faster, I'm like shaking a little and, and stuff like that." (p. 8)

ii. Starting new each time

"It's a lot of the like the frustration of why didn't this work? And I think it's just a lot of the thoughts of like, why didn't this work? This should have worked, this worked last time." (p. 10)

iii. Impossible alone

"Having someone else who, like I trust there makes at least starting a task easier, and if it's a task that I struggle to do alone, I know I have them to help." (p.26)

"a more recent addition to my process of trying to do something that my dad's actually been helping me with where I like break down something that's hard that I find hard and I try to make it easier." (p. 5)

iv. Broken even when broken down

"my biggest worry once I actually start is keeping myself on task. That is one of like once I get myself there and I'm working on it, it gets easier, but then the obstacle is keeping myself there, even if it's just for some one of the small chunks if I break it down." (p. 14)

C. THE EMOTIONAL BURDEN OF EFFORT

i. Will this work? Fear of failure

"what can I do to actually make this work? And then it's it's a lot of just sitting there and not doing it because I have to figure out how to do it, how to, first of all, convince myself to do it through all of the like, I can't do it or it's too hard. And then to like, make it actually work." (p. 4)

ii. The downward thought spiral

"then like starting to poke at myself, like my self-esteem or like, why am why can't like, poking at that why. And then I get really frustrated or sad or both. And then I get to lay down and wait until I feel better." (p. 10)

"It's just it's mostly an internal dialogue and if I'm alone, I talk to myself out loud where I'm like this, like if I'm doing like an assignment, it's like, this is going to take me forever, I'm going to get so burnt out and tired and it's not going to work it's going to be bad it's not going to be good because I'm going to get burnt out and it's just

going to get worse. And then if it's like studying, it's like, this is I'm not going to remember any of this, why am I even bothering this is. (p. 4)

iii. Effort and conditional love

"if we try to study, maybe, maybe we'll get a higher grade and our family will be proud of us, maybe we'll pass.." (p. 4)

"my mom would be like, well, why did you only get a 75 instead of an 80 on this? You should have gotten 80 or higher. You're better than this. And I would explain to her as hard as I could, I tried everything I could, this is the best I could do with what I get with what I have. And she would never believe it" (p. 17)

D. Feeling Different

i. Effort brings difference to the forefront

"I'm still ashamed that it happens because I see so many other people being able to do these things like it's nothing or being like, oh yeah, I did like for housework things and then I went out and I'm like, yeah, I can do one or the other in a day, not both. (p. 16)

ii. Expectations and self-identity

"I'd be like, I tried, I forgot, and she wouldn't understand and that was really hard. And honestly, it's probably part of the reason I get so, like.. ashamed and nervous of talking about needing help or about like something was hard or that I couldn't do something because I was supposed to be able to do it." (p. 18)

iii. Effort and growing differences

"So, it's like as a kid, if I if it had been caught earlier, I could have had, I could have gone through a lot more of that with accommodations or medication... But like, I had none of that as a kid. So, I was very much like riding the high of compliments and the bit of energy I had a lot of like abundance of energy. And then I get older and suddenly less compliments, more work hard to go to a good college, more expectations, more, and that energy is not caring anymore." (p.23)

"I mean, first of all, the like further along in into school you get more quizzes, more tests, and those were always where I did the worst, was studying. I wasn't terrible at essays, I still don't love them... yeah assignments started to get longer also, I am, my brain works faster than I can write. (p. 21)

E. GAP SUPPORT/SUPPORT GAP

i. Overwhelms' antidote

"if I'm stuck and I find one of these ways [reaching out] to sort of fill in those gaps that the like information gap I have and I like, it kind of starts me again." (p. 11)

ii. Providing the missing piece

"if I'm really stuck on math and I call my dad, my dad helps me sort out what I'm having trouble with, then that gives me the general concept and then I can go back to the rest of the work and be like, this is the concept I called my dad about and keep going." (p. 12)

iii. Family (mis)understanding effort

"My mom, I wouldn't say she never tried, but she, like, missed some key points. Like when she found out I had ADHD, she read a book on ADHD, and she apologized for some of the things you punished me for as a kid that it turned out were like ADHD symptoms. But then she would also turn around and constantly be like, you didn't try hard enough, you need to do this task now." (p. 18)

"With my family, I do have that sort of like opposites. My dad... he saw how bad my living space was, and how hard I was trying to do things and I just couldn't bring myself to do them... my mom, there's a very good reason her and I do not have a great relationship, and it was mostly because, especially when I lived with her, a lot of

the household tasks she would ask me to do and studying as well, progressively were getting harder as I was getting older.” (p. 17)

F. “BREAK” IT DOWN

i. Big becomes small and long becomes short

“Yeah, they're, they're their own smaller, separate tasks.” (p. 7)

ii. Breaks: reward and rest

“So then if it's a lot of dishes, its split them in half, then its rinse half of them, then its unload the dishwasher, then its load half. At any point in those steps, I can take break, and I can, like, reset the effort it's taking and, like, calm down, relax a little. So it's like it's breaking it down to the smallest possible, like points along the way I can to make it easier and make more sense and not feel as daunting..” (p. 5)

Table of Personal Experiential Themes (PETs) for Richard

A. MENTAL EFFORT TO ME

i. ADHD status and the context of effort

"So what is it like for me to do activities with sustained mental effort? Well, first of all, I guess I want to ask, do you have you been diagnosed with ADHD or do you think you may have ADHD?" (p. 4)

B. (UN)OCCUPIED MENTAL REAL ESTATE

i. Open lot

"[if] it's not particularly stimulating, that makes it, I would say, more difficult because, because basically any any unused part of my brain, any unused real estate, if you want to picture it as like a percentage, you know, any unused percentage is going to be like. You know, free real estate for for for and for interrupting thoughts to kind of meander their way in. (p. 6)

ii. Wandering to why

"You struggle to, you struggle to control where your attention is and just depending on how, on how boring the task is to you and especially if you don't know what the why is, I think that that's basically like the biggest factor in determining how much mental effort it's going to take to get through a task." (p. 5)

C. THE TRAJECTORY OF EFFORT

i. Novel, rewarding, beginnings

"it takes the same amount of effort for me to like to make more progress at the beginning versus after you kind of start getting into the weeds, I would say. So like you can kind of see like a bigger difference in the amount of stuff you learned or or can understand now. So I think the thought so I kind of think that that is actually like oftentimes more alluring and more engaging to me than than, than when I'm already into something (p. 10)

ii. The mystery fades and the journey begins

"like it's a bit of like the journey, not the destination, is really like kind of like the core of what I'm like trying to sort of get at is like, like that's sort of like the fun part. And then like, like, I don't know, It's like once you know what the destination is, it's like, okay, well, like, now there's like all the fun gone from it because like, you know, there's no, there's no, there's no mystery to it anymore, I guess." (p. 10)

iii. Exponentially increasing experience of effort

"I would say that that's where, like that mental effort comes in, because the longer that you spend on the task it is the longer that it the more mental effort like, you know, the graph kind of it kind of starts looking like an exponential graph where like, and I use that like that term like deliberately, like it's not like a, like, you know, sort of it really like it ramps up really, really fast, (p. 6)

D. THE TOLL AND THE DRIVE TO ESCAPE

i. Shame, self-esteem, and anxiety

"it causes, I'd say, like, a sense of shame because you're not, you're not the the, you're not the person that you that you know that well. You're not the person. You're not being the person that you feel you should be... you do feel like you could be that person, but, like, if, but if you just tried a little bit harder... that can be very damaging and pretty dangerous idea.. I've... gotten myself into like into thought loops and kind of run around in circles and kind of wondering like, okay, like, like is this actually, you know, is this difficult? Is this difficult, intellectually focused, wise? Am I just like, am I dumb? Like it really just kind of like it makes you, like, go crazy sometimes." (p. 19)

ii. Evasive maneuvers

"it's like really, really difficult to contend with that it can lead to, to unhealthy coping mechanisms to like that, and specifically, I'd be talking about like escapism. And so for and so for me, like thoughts through like through media like, you know, like YouTube videos, video games, movies like that kind of thing. And, and then so like, you know, and kind of getting into those too much are like can really, really wreak havoc on on on your daily habits as a person. (p. 20)

E. ACADEMIC IMPACT

i. Fear of going Back

"it's, you know, it's the reason why I why I haven't gone back yet is because I'm not sure I like you know, I like I am kind of like scared of that challenge somewhat. (p. 16)

Table of Personal Experiential Themes (PETs) for Kevin

A. THE PRECEPTION OF MENTAL EFFORT

i. Mental effort to me

"[Mental effort is] mostly just things I don't want to do in school" (p. 2)

ii. Intensity, physicality, and fear.

"I think it usually depends on like the intensity of it. If it's just a smaller paper, I shouldn't be that like scared of it or whatever. But I'm obviously if I'm like have low marks or it's really important and I'm getting nowhere then, yeah, like I feel in my body and I try not to make too big a deal with it just because it is just school and it's like I know I'm going to pass." (p. 5)

B. AM I INTEREST

i. Mind made up

"I mean, yeah, I am open minded about it. Like, I'm not bad at English. I just despise it. Um. Other classes I find more interesting" (p. 11)

"I took outdoor ED... I was really interested about that, so, and I did really good in the class because of that... it's not like English isn't going to get you anywhere, but, I like to know like, I have more experience with like the outdoor ED class rather than just writing down a bunch of stuff. I think that's my mindset, which might not be that good" (p. 3)

ii. Wanting a different more

"it's hard to explain other than just like, I'm just more interested in the more hands on activities and learning like different stuff you normally wouldn't [get] in like a school." (p. 4)

"I did it just to be more confident with like situations in life, right. And I was I was pretty good for my belt, and they're excited to see me go, but, I mean, yeah, like, like I said, I just wanted more. Like real life" (p. 20)

iii. Nothing to gain

"I think it's just, in my head, it's just I already know how to write. I already know how to do everything. " (p. 4)

"I had a whole season to learn new dances and stuff, and then we didn't get to compete at all. So I was kind of just fed up about that... So, I just quit for good. (p. 19)

C. APPROACHING EFFORT

i. How I prepare

"First thing is always just distractions. Like I said, just like muting myself out. Um, trying to just lock into the screen or paper and just at least. Like what I have done is. Set like just set a timer on my brain, like, okay, this time, then I'll take a break and see how far I went" (p. 13)

"if I don't really have a plan, it's like kind of hard for me to get started usually on my tasks." (p. 2)

ii. How it gets done

"one of the things is like, if it's very important and I'm getting anxious or something, then that's what triggers it [hyper-focus]. That's I think that's most of the time what happens." (p. 8)

D. GROWTH AND ACCEPTANCE

i. Effort easing up

"Yeah. I can't tell if it's getting easier or I'm getting like more used to it or just better at handling it. But yes, I will say it has gotten easier for me." (p. 15)

ii. (Role) model acceptance

"Um, I guess I'd like to say I'm more open minded with that. Like with my dad there, you just live with it and you use it to your advantage. So I'm actually pretty confident that I will be okay, I know it'll be a different, a different, um, experience, the way I do things." (p.15)

D. IMPACT

i. Effort: A reminder of difference

"Okay, um, you know, sometimes I, I usually forget I have ADD until it's times like that, right? And then, I'm usually not trying to compare myself because in some ways it's helpful, some ways it's not as much. Um, but yeah, like if I see someone else working and they're doing good and like, they're like, consistent, then I'll be like, okay, yeah, like, I can't do that." (p. 8)

ii. Never reaching mastery

"I don't have, like, one hobby, it's a bunch, and then I get bored of it and go to the next and stuff. And for me, it's been hard to I guess I've been trying to stick to one and get good at it, and I've had no luck with that. So that's, that's usually in my brain most of the time I'm. And I'll try to be passionate about one thing and then I get bored, and I go to the next. And it kind of frustrates me because I just need to be good at one thing or a couple of things at least, just not scattered everywhere. (p. 17)

Appendix C-2

Table of Group Experiential Themes (GETs)

Table of Group Experiential Themes (GETs)

THEME 1. ALL-IN OR BORED

A. *Subtheme: ?*

i. **Mental effort to me**

"[Mental effort is] mostly just things I don't want to do in school" (Kevin, p. 2)

ii. **Am I interested?**

"If it's not interesting and I don't have any clear guidelines, you can forget it, you can forget it. Like automatically it's a no for me, not starting until at least the day before. And, but with things that require a deep dive and a thorough understanding, that I'm very interested in that have a very broad prompt, I have in the past been able to crush it throughout three weeks leading up to the deadline. Like and with success, in fact, actually three months, one time. And by the end of the class, I had one beautiful paper that I got a 98" (Khloe, p. 16)

iii. **Wanting a different more**

"it's hard to explain other than just like, I'm just more interested in the more hands on activities and learning like different stuff you normally wouldn't [get] in like a school." (Kevin, p. 4)

iv. **Nothing to gain**

"I think it's just, in my head, it's just I already know how to write. I already know how to do everything. " (Kevin p. 4)

"I had a whole season to learn new dances and stuff, and then we didn't get to compete at all. So I was kind of just fed up about that... So, I just quit for good. (Kevin, p. 19)

v. **Novel, rewarding, beginnings**

"it takes the same amount of effort for me to like to make more progress at the beginning versus after you kind of start getting into the weeds, I would say. So like you can kind of see like a bigger difference in the amount of stuff you learned or or can understand now. So I think the thought so I kind of think that that is actually like oftentimes more alluring and more engaging to me than than, than when I'm already into something (Richard, p. 10)

vi. **The mystery fades and the journey begins**

"like it's a bit of like the journey, not the destination, is really like kind of like the core of what I'm like trying to sort of get at is like, like that's sort of like the fun part. And then like, like, I don't know, It's like once you know what the destination is, it's like, okay, well, like, now there's like all the fun gone from it because like, you know, there's no, there's no, there's no mystery to it anymore, I guess." (Richard, p. 10)

THEME 2. STARS ALIGNED?

Subtheme A. Will This Work?

i. **The ritual of aligning the stars**

"It's like it like the stars have to align like, all of these things happened for me to be able to carry it out." (Khloe, p. 13)

ii. **Will this work? Fear of failure**

“what can I do to actually make this work? And then it's it's a lot of just sitting there and not doing it because I have to figure out how to do it, how to, first of all, convince myself to do it through all of the like, I can't do it or it's too hard. And then to like, make it actually work.” (Natalie, p. 4)

iii. Hyper-focus and possession

“It's kind of, it's as if I'm possessed. Like if the day of it when it comes, and I know it's due today, everything else goes away. And I hyper-focus and feelings like discomfort, you know, it's uncomfortable, but I white knuckle.” (Khloe, p. 11)

iv. How it gets done

“one of the things is like, if it's very important and I'm getting anxious or something, then that's what triggers it [hyper-focus]. That's I think that's most of the time what happens.” (Kevin, p. 8)

v. Starting new each time

“It's a lot of the like the frustration of why didn't this work? And I think it's just a lot of the thoughts of like, why didn't this work? This should have worked, this worked last time.” (Natalie, p. 10)

vi. Control and surrender

“So I am aligning the stars. But what I mean by when the stars align is, essentially the same thing as like all the conditions have to be right. But I make the conditions. I set the conditions. So, yeah, I align the stars I guess.” (Khloe, p. 14)

Subtheme B. What sometimes works

i. When approaching effort I'm a sprinter not a marathoner

“I'd rather sprint than do a marathon because for me a marathon is exhausting. I can sprint no problem” (Daniel, p.36)

ii. Breaks: reward and rest

“So then if it's a lot of dishes, its split them in half, then its rinse half of them, then its unload the dishwasher, then its load half. At any point in those steps, I can take break, and I can, like, reset the effort it's taking and, like, calm down, relax a little. So it's like it's breaking it down to the smallest possible, like points along the way I can to make it easier and make more sense and not feel as daunting.” (Natalie, p. 5)

iii. Big becomes small and long becomes short

“Yeah, they're, they're their own smaller, separate tasks.” (Natalie, p. 7)

iv. Structure, routines, and approaches:

“I've had professors like have smaller assignments throughout the course that by the time you complete all of them, they're due.” (Khloe, p. 17)

v. Environment and effort

“the pandemic hit and then I, you know, things really changed for how productive I could be at home versus when I go to campus every day. There's a gym there, there's food there. There is countless places to do schoolwork all the time. I can ask questions. I can zoom around on my scooter. I can make friends. I can like anything, you know, and it was a really nice time in my life. I really enjoyed learning like that and being in that community. And now it's just like, it's just me as in a coffee shop every now and then, you know, and it's not interesting, it's not interactive” (Khloe, p. 25)

vi. How I prepare

“First thing is always just distractions. Like I said, just like muting myself out. Um, trying to just lock into the screen or paper and just at least. Like what I have done is. Set like just set a timer on my brain, like, okay, this time, then I'll take a break and see how far I went” (Kevin, p. 13)

vii. Controlling my environment

"Noise, I guess uncontrolled noise specifically, if I'm listening to my music or listening to my show in the background [it's] like something I have control over" (Daniel, p. 18)

viii. Out of my head

"I write it down on a notepad, it's out of my brain and if I want to revisit it later, I can. So it like respects what I'm doing." (Khloe, p. 10)

ix. A broader view: Controlling the uncontrollable

"back to my co-worker, who speaks a little too loud, I guess, I can't tell her to shut up, right? Because she's gotta to do her job like, I knew walking into this environment of work that was going to happen too. So like, there's that control like, hey, I could always in a way, I could always get a new job." (Daniel, p. 18)"

Subtheme C. The rabbit hole

i. The al-lure of the fall

"If I Google it, it's, it's a rabbit hole. Like I, there's no clear brakes to push." (Khloe, p. 10)

ii. Open lot

"[if] it's not particularly stimulating, that makes it, I would say, more difficult because, because basically any any unused part of my brain, any unused real estate, if you want to picture it as like a percentage, you know, any unused percentage is going to be like. You know, free real estate for for for and for interrupting thoughts to kind of meander their way in. (Richard, p. 6)

iii. Wandering to why

"You struggle to, you struggle to control where your attention is and just depending on how, on how boring the task is to you and especially if you don't know what the why is, I think that that's basically like the biggest factor in determining how much mental effort it's going to take to get through a task." (Richard, p. 5)

iv. I need a break

"Can I, if I take a five-minute break, do I have enough time to do all my assignment, to finish it in time, yes or no. So, there's always that question. Yes or no, I do have enough time. And sometimes the answer is no. But you need it so bad." (Daniel, p. 28)

v. Evasive maneuvers

"it's like really, really difficult to contend with that [thought spiral] it can lead to, to unhealthy coping mechanisms to like that, and specifically, I'd be talking about like escapism. And so for and so for me, like thoughts through like through media like, you know, like YouTube videos, video games, movies like that kind of thing. And, and then so like, you know, and kind of getting into those too much are like can really, really wreak havoc on on on your daily habits as a person. (Richard, p. 20)

THEME 3. FEARFUL APPROACH

Subtheme A. The physicality of effort

i. My body lets me know: The physical anticipation of effort

"I'm not having a lot of thoughts about it, it's as if my body has this awareness of the timeline that I'm not I'm not consciously dreading it more as it gets closer." (Khloe, p. 5)

ii. A fearful approach

"I definitely start to get some of the physical symptoms of anxiety. So like, my heart goes a little faster, I'm like shaking a little and, and stuff like that." (Natalie, p. 8)

iii. I shouldn't be scared

"I think it usually depends on like the intensity of it. If it's just a smaller paper, I shouldn't be that like scared of it or whatever. But I'm obviously if I'm like have low marks or it's really important and I'm getting nowhere then, yeah, like I feel in my body and I try not to make too big a deal with it just because it is just school and it's like I know I'm going to pass." (Kevin, p. 5)

Subtheme B. Worry while you work

Broken even when broken down

"my biggest worry once I actually start is keeping myself on task. That is one of like once I get myself there and I'm working on it, it gets easier, but then the obstacle is keeping myself there, even if it's just for some one of the small chunks if I break it down." (Natalie, p. 14)

The danger and criminality of working differently

"It's like the tests were like I was still having like that phobia of being caught because no one knows I wasn't guilty" (Daniel, p. 32)

4. CAUGHT IN A THOUGHT SPIRAL

Subtheme A. ?

i. The downward thought spiral

"then like starting to poke at myself, like my self-esteem or like, why am why can't like, poking at that why. And then I get really frustrated or sad or both. And then I get to lay down and wait until I feel better." (Natalie, p. 10)

"It's just it's mostly an internal dialogue and if I'm alone, I talk to myself out loud where I'm like this, like if I'm doing like an assignment, it's like, this is going to take me forever, I'm going to get so burnt out and tired and it's not going to work it's going to be bad it's not going to be good because I'm going to get burnt out and it's just going to get worse. And then if it's like studying, it's like, this is I'm not going to remember any of this, why am I even bothering this is. (Natalie, p. 4)

ii. Fear and spirals

"The first thing that comes to mind, I deal with a lot of, like, guilt and self, just poor self-talk? I guess so, and I recognize that, but, but it's always like, oh my gosh, I haven't started yet, this is so ridiculous, like, I can't believe I haven't started yet. It's getting more and more and more scary, like, why don't I just start it? Like, it's just that's the first thing that comes to mind. But also, like, I know I'm not going to want to do it tonight, but I'm going to do it. And I don't do it. And it's like a repeated process where, like, each day getting closer to a deadline, I'm like, I'm going to do today is going to be the day I'm gonna do it" (Khloe, p. 3)

iii. Shame, self-esteem, and anxiety

"it causes, I'd say, like, a sense of shame because you're not, you're not the the, you're not the person that you that you know that well. You're not the person. You're not being the person that you feel you should be... you do feel like you could be that person, but, like, if, but if you just tried a little bit harder... that can be very damaging and pretty dangerous idea.. I've... gotten myself into like into thought loops and kind of run around in circles and kind of wondering like, okay, like, like is this actually, you know, is this difficult? Is this difficult, intellectually focused, wise? Am I just like, am I dumb? Like it really just kind of like it makes you, like, go crazy sometimes." (Richard, p. 19)

iv. Compounding struggles, overwhelm, and avoidance

"then in terms of like, housework, with the amount of effort, it takes to do so many seemingly simple things around my house, it very quickly becomes cluttered and growing, like overwhelming. And then, and then I get depressed because I also have depression, and it's just like I'm overwhelmed, and now I'm sad, and now because I'm sad, I the task is even harder. Yeah. And then it just kind of builds up and I, I get stuck." (Natalie, p. 14)

v. (Role) model acceptance

"Um, I guess I'd like to say I'm more open minded with that. Like with my dad there, you just live with it and you use it to your advantage. So I'm actually pretty confident that I will be okay, I know it'll be a different, a different, um, experience, the way I do things." (Kevin, p. 15)

5. Potential Just Out Of Reach

Subtheme A. ?

i. Pauses and restarts

"Tasks being hard for me or like even just like memory issues alone, like tasks being hard. They're part of the reason, not the entire reason that I stopped doing college and I kept trying and I kept stopping because even with the tools I had at that point, they weren't enough and I didn't really have support to help me get through the barriers." (Natalie, p. 13)

ii. Never reaching mastery

"I don't have, like, one hobby, it's a bunch, and then I get bored of it and go to the next and stuff. And for me, it's been hard to I guess I've been trying to stick to one and get good at it, and I've had no luck with that. So that's, that's usually in my brain most of the time I'm. And I'll try to be passionate about one thing and then I get bored, and I go to the next. And it kind of frustrates me because I just need to be good at one thing or a couple of things at least, just not scattered everywhere. (Kevin, p. 17)

iii. A complicated relationship with consequences

"this also very much depends on external consequences for, for me... I used to care about my grades to a very ridiculous extent... it put me in the hospital, like [that's] how stressed I was about school." (Khloe, p. 27)

iv. Forced to re-evaluate standards and approaches

"I was more dedicated in these things as well, is, is like I had these grades I was trying to make and now I'm just like, I actively like starting last summer, like, my goal was to make as low grades as possible because I have to like re-evaluate." (Khloe, p. 27)

6. STRUCK BY DIFFERENCE

Subtheme A. They don't seem ADHD

i. ADHD status and the context of effort

"So what is it like for me to do activities with sustained mental effort? Well, first of all, I guess I want to ask, do you have have you been diagnosed with ADHD or do you think you may have ADHD?" (Richard, p. 4)

ii. Comparing my effort to others

"everything goes fine, and then you see people just, you know, working around you and like you see them, they're not acting like you, they're not looking around, you look weird looking around type of thing. So, so it's mostly when I compare myself, let's say with others, there's an issue." (Daniel, p. 4)

iii. Effort brings difference to the forefront

"I'm still ashamed that it happens because I see so many other people being able to do these things like it's nothing or being like, oh yeah, I did like for housework things and then I went out and I'm like, yeah, I can do one or the other in a day, not both. (Natalie, p. 16)

iv. Effort: A reminder of difference

"Okay, um, you know, sometimes I, I usually forget I have ADD until it's times like that, right? And then, I'm usually not trying to compare myself because in some ways it's helpful, some ways it's not as much. Um, but yeah, like if I see someone else working and they're doing good and like, they're like, consistent, then I'll be like, okay, yeah, like, I can't do that." (Kevin, p. 8)

v. Comparison to others without ADHD

"[regarding a group project due] four and a half weeks from now. And yesterday, she was she text me, she said, like, I've already started on it, and I want to meet with you and have it done by Friday... you can't get a vibe that someone has ADHD or not, but like, some of their behaviors sometimes like they don't seem ADHD." (Khloe, p. 15)

vi. Expectations and self-identity

"I'd be like, I tried, I forgot, and she wouldn't understand and that was really hard. And honestly, it's probably part of the reason I get so, like.. ashamed and nervous of talking about needing help or about like something was hard or that I couldn't do something because I was supposed to be able to do it." (Natalie, p. 18)

vii. Effort and growing differences

"So, it's like as a kid, if I if it had been caught earlier, I could have had, I could have gone through a lot more of that with accommodations or medication... But like, I had none of that as a kid. So, I was very much like riding the high of compliments and the bit of energy I had a lot of like abundance of energy. And then I get older and suddenly less compliments, more work hard to go to a good college, more expectations, more, and that energy is not caring anymore." (Natalie, p.23)

"I mean, first of all, the like further along in into school you get more quizzes, more tests, and those were always where I did the worst, was studying. I wasn't terrible at essays, I still don't love them... yeah assignments started to get longer also, I am, my brain works faster than I can write. (Natalie, p. 21)

Subtheme B. The misunderstood symptom

i. Family (mis)understanding effort

"My mom, I wouldn't say she never tried, but she, like, missed some key points. Like when she found out I had ADHD, she read a book on ADHD, and she apologized for some of the things you punished me for as a kid that it turned out were like ADHD symptoms. But then she would also turn around and constantly be like, you didn't try hard enough, you need to do this task now." (Natalie, p. 18)

"With my family, I do have that sort of like opposites. My dad... he saw how bad my living space was, and how hard I was trying to do things and I just couldn't bring myself to do them... my mom, there's a very good reason her and I do not have a great relationship, and it was mostly because, especially when I lived with her, a lot of the household tasks she would ask me to do and studying as well, progressively were getting harder as I was getting older." (Natalie, p. 17)

ii. Effort and conditional love

"if we try to study, maybe, maybe we'll get a higher grade and our family will be proud of us, maybe we'll pass.." (Natalie, p. 4)

"my mom would be like, well, why did you only get a 75 instead of an 80 on this? You should have gotten 80 or higher. You're better than this. And I would explain to her as hard as I could, I tried everything I could, this is the best I could do with what I get with what I have. And she would never believe it" (Natalie, p. 17)

iii. Perceived social judgement

"my approach to this [mental effort] being very different and very laborious and a lot more like exponentially more difficult, it appears, than other people. I don't voice a lot of that frustration anymore with others because I recognize they're like, just do it, or like, why, why do you complain so much?" (Khloe, p. 20)

iv. Silencing and withdrawal

"it's not that I can't do things, it's that it's really, really hard. So anyway, I guess I've learned to mask a little bit more from that [sharing her experiences with mental effort]." (Khloe, p. 20)

v. At work - Others don't understand how I work

"it's just how I work. How do you explain that to people when they don't understand it makes it hard and there's, there's not really any evidence as well. So it's just it's avoiding this situation. It's stressful, and it's that stress of like, alright, I look long enough before they become suspicious." (Daniel, p. 7)

"sometimes I'm like, oh, I'm going to look around like I'm planning or it's going to be like 30 seconds and back to work because I don't want to get caught. So it's really nothing, for me there's nothing wrong, it's mostly for the others to think of me working like that." (Daniel, p. 6)