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# Calming the Tide: Emotional Regulation in Young Adults with ADHD

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Calming the Tide: Emotional Regulation in Young Adults with ADHD

by

Andrew Nicholson

A THESIS

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## **Abstract**

The present study examines how young adults diagnosed with ADHD experience and perceive emotional regulation. Six post-secondary students were interviewed using the Enhanced Critical Incident Technique to elicit rich, nuanced responses. Participants were asked to describe situations in which they experienced intense emotions, and to contextualize examples in the form of events or stories (what led up to the situation, what actually happened, and what was the outcome). Data analysis identified 205 critical incidents comprised of 109 helping incidents, 79 hindering incidents, and 17 wish list items. These incidents informed the development of the following 7 categories: (a) Appraise & Process, (b) Social Interaction, (c) Distancing, (d) Physical Response, (e) Emotional Engagement, (f) Taking Medication, and (g) Active Problem-Solving. Further contextual themes were identified using a secondary thematic analysis. Results are discussed in light of relevant literature, and implications for researchers, therapists, and young adults living with ADHD are highlighted.

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*To my Grandma, who would have loved to watch me walk the stage once more.*

*I hope I have made you proud.*

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## CHAPTER I – INTRODUCTION

*“The best and most beautiful things in the world cannot be seen or even touched. They must be felt with the heart”*

- Helen Keller

Every living person experiences emotions – which might be defined as adaptive, phenomenological experiences accompanied by behavioural and cognitive precedents or antecedents (e.g., Scherer, 2005). Emotions are, and always will be, a fundamental component of the human experience, impacting and influencing our lives in countless ways. Passion drives us to accomplish our dreams. Fear warns us to be cautious and weigh out risks. Emotions permeate our greatest moments and hang heavy over our darkest ones. As human beings, we have a fascinating ability to manage and modify how we experience and express these emotions when they become too intense, too overwhelming, or simply inappropriate for the situation we find ourselves in. However, this ability does not always work as adaptively as intended. Our emotions may spin out of control and affect our lives in any number of potentially undesirable ways. Those diagnosed with attention deficit/hyperactivity disorder (ADHD) too often struggle with mismanaged emotions, expressing them in a manner that disrupts social interactions and impedes functioning. If we combine these underlying difficulties with the admittedly challenging tasks of defining identity and ‘growing up’ that are faced by young adults, we find ourselves with a unique group of people - swept along in a transitional life period that is ripe with emotional experiences - but who potentially lack the skills to deal with such experiences effectively. The current thesis will explore emotions and their management in young adults

diagnosed with ADHD, attempting to bring a fresh perspective to this area of research and generate knowledge that will benefit future development of relevant theory, interventions and management.

This introductory chapter will provide an overview of ADHD, the researcher's personal interest in the topic, and a brief synopsis of current perspectives on emotions and emotional regulation, and their presentation within the ADHD population. It will review the gaps in this literature base and then present the research questions that emerge.

### **Attention Deficit/Hyperactivity Disorder**

Attention deficit/hyperactivity disorder (ADHD) is a neurodevelopmental disorder influencing attention, impulsivity, and hyperactivity in a way that may create barriers for development and everyday functioning (APA, 2013; Barkley, 1997). ADHD manifests in three different presentations - primarily hyperactive/impulsive, primarily inattentive, and combined presentation, and within each there is a variety of possible symptom manifestations (APA, 2013; Murphy, Barkley, & Bush, 2002). These presentations may result in an inability to sustain attention for lengthy periods of time, a tendency toward inappropriate outbursts (impulsivity, or behavioural disinhibition), and extreme restlessness or motor activity (APA, 2013; Barkley, 1997).

Impairment in ADHD is widely considered to be neurologically based and affects people throughout the lifespan, generally with a childhood onset (APA, 2013; Clegg, Gillot, & Jones, 2013). Though research has often focused on the disorder as it presents in children and adolescents, there is increasing interest in ADHD in adulthood, with approximately 3-5% of adults affected worldwide (Faraone & Biederman, 2005; Kessler et al., 2006). The disorder results in consequences such as occupational difficulty, lower educational attainment, more

significant psychological distress, and higher risk for a number of comorbid disorders including anxiety and depression (APA, 2013; Barkley, Murphy, & Kwasnik, 1996; Biederman, 2005; Kessler et al., 2006). A number of social deficits have also been identified, exemplified inwardly by holding a perception of lacking social competence, as well as outwardly through inappropriate outbursts that are a hallmark of the behavioural disinhibition inherent to the disorder (Barkley, 1997; Friedman et al., 2003).

### **Personal Interest**

The current study uses a qualitative approach, meaning it employs methods that capture rich, detailed, and contextualized information about individual experiences, rather than the numbers characteristic of quantitative methods. Important to most qualitative studies, and inherent in the required reflexive process, is the consideration of the researcher's personal interest in the topic (Creswell, 2013), including personal perspectives, potential biases, and preconceptions.

My interest and passion for this topic stems from a combination of personal experience and previous research. Emotions have always fascinated me as complex human phenomena that can be powerful and wonderful, yet also have the potential to be crippling. I was driven to pursue a career in counselling psychology, a significant component of which involves helping people work through and cope with emotions arising from challenges in their lives. I conducted my undergraduate honours thesis on the topic of verbal irony and included a component that allowed the examination of emotion recognition and emotional perspective taking. That research further intensified my academic interest in emotions. I am constantly intrigued by the way people experience and subsequently describe their emotions, and I wanted to continue my academic pursuit of understanding emotions through my Master's thesis.

At the same time, I was seeing increasing numbers of children and teenagers throughout my numerous work experiences that were either diagnosed with ADHD, or were suspected to be struggling with symptoms and impairments of the disorder. ADHD is described in terms of impairments in attention, focus, and level of activity, but an additional component that seemed to involve the ability to cope with and manage emotions was often neglected. All too often, these individuals are seen as difficult, or as having problems with behaviour or character, which seems an unfair depiction, particularly if their struggles are the direct result of an underlying neurodevelopmental disorder. Understanding more about this population, what these youth were experiencing, and how best to support them became an interest that was naturally translated into a research thesis topic.

### **The Emotion Element**

There are numerous ways to define and categorize emotions (e.g., Russell, 2003). One enticing perspective considers them a multi-component process that includes the subjective feeling, the associated cognitive evaluation, and the behavioural expression (Scherer, 2005). The ability to manage the intensity and outward expression of an emotion, called *emotional regulation*, is one that not all individuals employ effectively (Gross, 1998; Rawana, Flett, McPhie, Nguyen, & Norwood, 2014). Emotions are ubiquitous and vastly important in our daily living, arising from a variety of situations and range of experiences. Consequently, if an individual is unable to manage their subjective experiencing and expression of such common phenomena, perhaps even exhibiting frequent inappropriate emotional outbursts in a manner that is not deemed the norm, social relationships and personal health may suffer (Aldao & Nolen-Hoeksema, 2012; Rawana et al., 2014; Zeman, Cassano, Perry-Parrish, & Stegall, 2006).

It has long been known that most individuals diagnosed with ADHD experience challenges in emotional functioning (Barkley, 2014; Barkley & Fischer, 2010; Shaw, Stringaris, Nigg, & Leibenluft, 2014). Hallmarks of emotional impulsiveness noted in individuals diagnosed with ADHD include a higher likelihood to express frustration (Barkley, 1997), an increased perception of being overwhelmed by emotions (Matthies, Philipsen, Lackner, Sadohara, & Svaldi, 2014), and a predisposition to being easily over-excited (Barkley, 1997). Emotional dysregulation contributes uniquely to impairment in up to 61% of adults with ADHD (Surman et al., 2013), impacting numerous areas of daily functioning including driving ability, occupational outcomes, and academic achievement (Barkley & Fischer, 2010). Consequences for social relationships (Barkley, 2014; Shaw et al., 2014) are of particular note, as connection with other human beings is paramount and almost universal in the human condition, offering a sense of belonging that can positively impact physical health and psychological well-being (Kawachi & Berkman, 2001; Umberson & Montez, 2010). Importantly, emotional problems have been found to have a greater impact on well-being and self-esteem than the core symptoms of hyperactivity and inattention – even in affected children (Riley et al., 2006). Emotional regulation emerges as an underlying construct that appears to interact with numerous deficits associated with ADHD.

Beyond the aforementioned consequences, young adults diagnosed with ADHD are at risk for academic impairment, post-secondary dropout, and lower self-esteem (Shaw-Zirt, Popali-Lehane, Chaplin, & Bergman, 2005; Weyandt & DuPaul, 2006), among others. This is a population uniquely challenged in transition – learning to cope with life after high school, developing their identity, and finding a sense of place in society (Arnett, 2000). At the same time, they are still progressing biologically in terms of brain development, specifically in the

prefrontal cortex (PFC), an area generally considered responsible for key aspects of cognitive control and inhibition (e.g., Kane & Engle, 2002; Ochsner and Gross, 2014). Barkley (1997) has posited that many deficits of ADHD are the result of impairments in just this type of *executive functioning*, a set of abilities encompassing attention/set-shifting, working memory, and inhibition (Blair, Zelazo, & Greenberg, 2005). This demographic reports higher levels of psychological distress than their peers (Barkley et al., 1996), and is at higher risk for suicidal ideation (Garlow et al., 2008). If these young adults are encountering difficulty managing emotions, building and maintaining social relationships, and additionally have limited or no support network to fall back on, the impact could be significant. Given the risks to mental and physical health that accrue to this population, this demographic emerges as one worthy of focus and support.

### **A Partial Picture**

A case has been made for the importance of paying attention to emotional regulation in ADHD. Despite noteworthy prevalence estimates of deficits in emotion regulation (Shaw et al., 2014) and its inclusion in theoretical conceptualizations of ADHD (Barkley, 1997, 2014), this domain of functioning and impairment has yet to be incorporated into the DSM's diagnostic criteria for ADHD (APA, 2013). It was indeed considered in the most recent revision of the DSM, but was eventually rejected in favour of retaining the historic criterion sets. Given the impacts already discussed, the lack of official recognition for emotional regulation deficits in adults with ADHD emerges as a significant concern.

While we can comfortably contend that problems with emotional regulation occur in the context of ADHD, given the mounting research in support of that claim, the mechanisms of operation and a full understanding of exactly what is occurring at the individual level are still

being explored (Shaw et al., 2014). This is due in part to quantitative methods being the main source of information for this domain of study (Barkley, 2014; Barkley & Fischer, 2010; Shaw et al., 2014; Surman et al., 2013). Quantitative research has strengths such as generalizability of results, but also limitations in terms of potentially missing the depth and nuance that an individual descriptive response can offer (Rao & Woolcock, 2003). Emotions are complex processes that necessitate detailed knowledge of the subjective experience in order to capture a full understanding of how they operate (Barrett, Mesquita, Ochsner, & Gross, 2007). As a constituent of the emotion process, emotional regulation is no different. It necessitates the involvement of a variety of potential underlying components and the implementation of various strategies (e.g., Rawana et al., 2014). In everyday situations, emotion management may incorporate a number of these strategies in parallel (Heiy & Cheavens, 2014). Quantitative methods diminish the researcher's capacity to understand the nuanced and complex nature of these processes and how they might impact an individual.

### **Incomplete Intervention**

As it has not been incorporated into diagnostic criteria (APA, 2013), emotional regulation does not always receive its due attention in treatment plans for individuals experiencing this diagnosis. The tendency for emotional deficits to contribute uniquely to impairment beyond the core recognized symptoms of ADHD (e.g., Surman et al., 2013) highlights a problem that requires attention, and ostensibly intervention. Emotional regulation deficits may help to explain comorbidities of ADHD such as oppositional defiant disorder, anxiety, and depression (Barkley, 2014; Seymour et al., 2012), yet treatment still focuses on these comorbidities as unique entities and embodies a large portion of the overall treatment cost for ADHD (Birnbaum et al., 2005).

Interventions are beginning to surface that target emotional regulation in adults with ADHD. There is some evidence that pharmacological treatments help with ‘non-core’ aspects of ADHD, such as emotion dysregulation (Reimherr et al., 2005; Sinita & Coghill, 2014). Mindfulness, emphasizing acceptance without judgment, has been shown to successfully improve emotion regulation abilities in ADHD (Chambers, Gullone, & Allen, 2009; Clen, Mennin, & Fresco, 2013; Zylowska et al., 2007). Dialectical behaviour therapy has also demonstrated promise to improve emotion regulation in college students (Rizvi & Steffel, 2014), with preliminary support in research with an ADHD population (Hesslinger et al., 2002; Philippsen et al., 2007; Fleming et al., 2014). However, many of these studies are currently in the emerging stages of development. They often include emotion regulation as only one component of a multi-modal program (Hesslinger et al., 2002; Philippsen et al., 2007); and typically only assess emotion regulation using non-specific measures of comorbidities like anxiety and depression (Zylowska et al., 2007), or examine benefits to ADHD as a whole entity, with few specific indicators of emotion regulation (e.g., Fleming et al., 2014).

The final piece of the puzzle is reflected once again in the quantitative nature of these studies. Those that include an emotional regulation component in their treatment plan (e.g., Hesslinger et al., 2002; Philippsen et al., 2007) have found that participants rate this topic as helpful, but questions about what specific components were helpful, and why, remain unanswered. By basing current interventions on knowledge drawn from quantitative methods and ignoring the complexities and nuances that qualitative research can obtain from individual responses, we may be falling short of our ethical responsibility to provide the best, evidence-based support we can for these individuals. Researchers and therapists need to capture the

concept of emotional regulation in comprehensive way in order to develop interventions that are relevant to the challenges, experiences, and needs of the individual.

### **The Problem**

The gap in knowledge that presents itself is the lack of in-depth inquiry into emotional regulation, and specifically how young adults with ADHD, a population at risk for a number of impairments that would benefit from increased focus and support, experience and conceptualize emotions and emotional regulation. Quantitative methods have provided us with the awareness that emotion dysregulation is occurring for these individuals, and has helped to delineate the type of consequences that may result. However, we have yet to fully understand what it is like for the individual person struggling to manage intense emotions evoked by real life situations.

Emotions and emotional regulation involve significant subjective components that cannot be readily accessed by quantitative methodologies.

### **Purpose of the Study**

The goal of the current study will be to address this limitation in the literature, utilizing qualitative methods to capture a more nuanced appreciation of the individual subjective experience of intense emotions and how they impact the functioning of young adults with ADHD in real life situations. Drawing on participants' unique perspectives, this study aims to identify and gain a deeper understanding of what experiences either help or hinder their ability to regulate these intense emotions. The following research questions have been developed to explore this topic:

- 1) How do young adults diagnosed with ADHD perceive intense emotions?
- 2) How do young adults diagnosed with ADHD respond to emotionally intense situations?
  - a) What helps these individuals to cope with intense emotions?

- b) What hinders these individuals' ability to cope with intense emotions?
- 3) How do young adults diagnosed with ADHD perceive their emotion regulation abilities?

The primary research question (number 2), has been framed on either side by the secondary research questions that will provide context to our understanding of the primary question. They are ordered in this way to reflect the sequence in which they will be presented in the results and discussion chapters.

### **Significance of the Study**

Results from exploring these research questions will offer a fresh perspective, expanding and extending our comprehension of emotional regulation abilities in young adults with ADHD to a deeper and more nuanced level than is currently available. This understanding will help further our understanding of the connection between emotional regulation and ADHD, and provide further support for why emotional regulation should be included in all major models of ADHD (Barkley, 2014). A greater understanding of these concepts will also lead to future research developing more appropriate and useful interventions for these young adults, offering treatment that emerges from a more comprehensive knowledge base and that may be ideally tailored to the individual, targeting aspects of emotion management that are personally relevant. This will in turn lead to a more justifiable and efficient cost to society, where treatment is being successfully targeted at the necessary deficits, rather than comorbidities that may be better explained by deficits in emotional regulation. All of this is in service of providing better support for individuals who are already at risk for significant struggles during a critical transitional period of their lives.

## **Organization of the Thesis**

The current chapter provides an introduction to current understandings of emotion regulation in ADHD and identifies the research paradigm deemed most suitable to answer the identified research questions. Chapter two will review the background literature in greater depth, delineating the pertinent models and definitions of ADHD, emotions, and emotional regulation relevant to the current study. It will review the importance of emotional regulation to daily functioning, how individuals go about managing their emotions, and the consequence of dysregulation, particularly for young adults diagnosed with ADHD. Chapter three presents the theoretical and philosophical foundation that informs data collection and analysis, followed by a step-by-step description of the Enhanced Critical Incident Technique in the context of the current study. Chapter four will introduce the results of the study, including the categories extracted from the participant interviews, while chapter five discusses these findings, their significance, their relation to previous literature, and their potential implications for knowledge, research, and future intervention development.

## CHAPTER II – LITERATURE REVIEW

*“I don't want to be at the mercy of my emotions. I want to use them, to enjoy them, and to dominate them.”*

- Oscar Wilde, *The Picture of Dorian Gray*

The stage has been set; now the foundations will be explored in depth. Conceptions of emotion and emotional regulation have been around for a long time, evolving over many years of philosophy, research and scientific development (e.g., Stearns, 2008). This chapter will briefly review various aspects of emotions before moving into a discussion of emotional regulation. Components and models of these ideas that are most pertinent to the current study will be identified and further contextualized within the literature specific to attention deficit/hyperactivity disorder (ADHD). A case will be made for emotional regulation as an integral concept among individuals struggling with impairments of ADHD, implications for their well-being, and the potential benefits that could be obtained from conducting the current study.

### **Emotions**

The roots of thinking about emotions go even further back to Socrates (Solomon, 2008) and likely before, but the idea of emotions in the field of psychology can be traced back to William James (1884), who first posed the question “what is an emotion?”. Of course, there remains much disagreement on the exact answer to James’ infamous question (Russell, 2003), although many modern theorists have conceptualized emotions as adaptive response tendencies (Barkley, 2014; Gross, 1998). To thoroughly review the many different theories of emotion would be an insurmountable task for a thesis focused primarily on the related but distinct concept

of emotional regulation. However, if we are to understand the regulation of emotions, they must be defined. This initial portion of the chapter provides a brief understanding of emotions and the definitions relevant to the current study, setting the stage to then discuss emotion regulation in more detail.

### **Defining Emotions**

The following section will elaborate on the key terms and conceptions included in definitions of emotion, with a particular focus on theories that are relevant to an understanding of emotion regulation in the human experience.

**Language.** The terms most commonly utilized to conceptualize emotions and related concepts have no universally agreed-upon system of definitions, and are often used interchangeably across different domains and researchers (Gross, 2014). In the early years of emotion research, emotions were defined, sorted and mapped in a three-dimensional theoretical space that helped people to understand the various tones and nuances of emotions within emotion families (e.g., anxiety, fear, nervousness, worry, terror), as well as the interrelationships between various emotions (e.g., jealousy vs. envy; Parrott & Smith, 1993). Some of this emotion mapping was done cross-culturally and cross-linguistically. In the next stage of research, theorists expanded their models to include physiology, biology, cognitive, social and functional aspects of emotion, each with its associated definition.

Emerging from conceptions of emotion, the construct of emotion regulation refers to the purposeful modulation of emotion. Gross' model of emotional regulation (1998, 2014) defines affect, emotions, moods, and stress responses. Within his framework, *affect* is a superordinate term that encompasses the following concepts: *Emotions* are affective states which, like the weather, fluctuate between conditions such as anger and happiness etc.; *moods* are typically

longer lasting, and are less often elicited by specific objects compared to emotions; *stress responses* are defined as more specific negative affective responses, whereas emotions may express both the positive and negative.

**Multifaceted nature.** In the psychological tradition, the term *emotion* points to mechanisms and processes that are largely intrapersonal (Frijda, 2008), yet have interpersonal influences and consequences (Fischer & Manstead, 2008). The complex and dynamic interplay of human and environment has been described as a process model. The *component process model* (Scherer, 2009) that integrally treats emotions as multifaceted constructs is similar to the model advanced by Gross (2014), allowing for a sequential mapping of the components of an emotion process, which becomes useful when discussing emotion regulation. Further, it balances an emphasis on objective components with subjective experience and individual variation (Scherer, 2009). The model allows for nuance and depth, important for a complex concept such as emotions.

A basic summary of the model postulates that a situation which is psychologically relevant attracts the attention of the individual. This situation may be external (e.g., a stranger yelling at you while walking down the sidewalk) or internal (e.g., the thought of never completing this thesis). Importantly, the individual appraises the situation in light of relevant goals (Ellsworth & Scherer, 2003; Scherer, 2009). The individual's appraisal of this situation is what ascribes meaning to the experience, and sets the stage for an emotional *response*. These responses are intended to be adaptive in nature, modifying the emotion-eliciting situation (Gross, 2014; Scherer, 2005). An emotion response is typically understood to be comprised of physiological reactions, behavioural expressions, and subjective feelings (Buck, 2014; Frijda, 2008; Gross, 2014; Mauss, Levenson, McCarter, Wilhelm, & Gross, 2005). Finally, the

individual links these previous components together in a subjective conceptualization that allows them to categorize or name their experience (Scherer, 2009), a skill that some are better at than others.

Emotions are complex, dynamic processes that are unique to the individual and the context in which they occur. Each component has a unique place within the emotion experience, yet they operate together to make up the superordinate concept of an emotion. These components, and how they come together, will now be discussed in further detail.

**Cognitive appraisal.** When a situation arises that draws an individual's attention, one must appraise it in light of its relevance to the individual, the implication for their well-being and/or goals, how well the individual believes they can cope with the situation, and the significance of the situation in relation to social norms or personal values (Barrett et al., 2007; Clore & Ortony, 2008; Ellsworth & Scherer, 2003; Scherer, 2009). This appraisal occurs at multiple levels of conscious and unconscious processing, including low level automatic processing, schemas based on past experience, and higher level conceptual processing based on conscious knowledge such as cultural meaning (Scherer, 2009).

Appraisal is a significant component of the process that brings meaning to the emotion for the individual (Scherer, 2005). If a friend supports one's goal of academic success by helping to study, one might appraise the interaction positively and experience happiness. If, on the other hand, a stranger obstructs one's goal of driving safely by cutting one off in traffic, the result might be a negative emotion like anger. These appraisals are treated as an ongoing process that influences emotional responses (Scherer, 2005; 2009). When emotional modulation is discussed shortly, we will see that some strategies like positive reframing (e.g., Clen et al., 2013) will target this appraisal component of the emotion experience.

**Behavioural expressions.** The response to an emotional experience may come in the form of direct, observable behaviour. Emotions act as a motivator (Buck, 2014; Scherer, 2005), preparing people for a number of action tendencies (Scherer, 2009), including behaviours that may modify the emotion-eliciting situation (Gross, 2014). Behavioural manifestations may take the form of approach, avoidance, and ‘freezing’ behaviours, among others (e.g., Carver & Harmon-Jones, 2009), and can accomplish both intra- and interpersonal goals.

Emotional response behaviours may serve protective functions, such as disgust motivating avoidance of spiders (Woody, McLean, & Klassen, 2005). They may also function socially, such as in the case of body language gestures or facial expressions that can differentially represent emotions and communicate them to others (Buck, 2014; Castellano, Villalba, & Camurri, 2007). Emotions have the ability to result in both adaptive and maladaptive consequences, such as empathy helping motivate prosocial behaviours (Hoffman, 2008), or anger distancing social relationships (Fischer & Manstead, 2008).

**Physiological reactions.** Different emotions have been related to neurochemical systems, such as dopamine with pleasure, endorphins with elation, and the pituitary-adrenal axis with stress and relaxation (for a review, see Buck, 2014). Differential patterns of autonomic responses (cardiovascular and respiratory changes) also appear related to clusters of emotions (Rainville, Bechara, Naqvi, & Damasio, 2006; Scherer, 2009), such as greater autonomic activity coinciding with negative emotions (Larsen, Berntson, Poehlmann, Ito, & Cacioppo, 2008). The determination of whether this autonomic responding precedes or follows from the emotion is inconclusive and has been persistently debated (James, 1884; Larsen et al., 2008), though the component process model suggests it follows from attending to and appraising the situation (Scherer, 2005). Finally, neuroimaging studies of the central nervous system implicate

numerous brain regions in the emotion experience, including the prefrontal cortex, amygdala, and the brainstem (Larsen et al., 2008; Wager et al., 2008).

**Subjective experience.** The phenomenological experience, or *qualia* (Dennett, 1988), of an emotion is an integral and foundational concept in understanding emotions holistically (Barrett et al., 2007; Scherer, 2009), encapsulating what an individual actually *feels* when an emotion is elicited. Qualia are private, sometimes indescribable experiences that represent an individual's central conceptualization of the emotion (Dennett, 1988; Scherer, 2009). Subjective experiences of emotions are largely garnered from self-report measures (e.g., Scollon, Koh, & Au, 2011), with people recounting multiple aspects of their experience, including what some call *core affect* – or bivariate constituents such as whether it was pleasurable or displeasurable (Barrett et al., 2007; Russell, 2009) – the level of arousal that they feel (activation versus deactivation; Barrett, 2004); and the level of intensity or how overwhelming a feeling is (e.g., Matthies et al., 2014).

The subjective experience of an emotion is the culmination of all that came before (Scherer, 2009), the point in which the components come together – the initial appraisal, the behavioural manifestation, and the physiological response – in a conceptualization that connects them, making up the actual feeling of the emotion experience, and according meaning to it. These conceptualizations are contextualized by the surrounding situation, culture, and the previous knowledge and beliefs of the individual (Barrett et al., 2007). It is in this stage that individuals are able to label their experiences and fit them into 'fuzzy' emotion categories (Scherer, 2009). Each experience of an emotion differs from the last on factors such as the exact situation eliciting it, how that situation is appraised, and how the individual responded. Therefore, though emotions can be grouped into loose categories such as anger, happiness,

sadness, shame, or fear based on ‘prototypical’ patterns of the individual components, the subjective experience is unique to the individual in the space and time in which the emotion occurs (Scherer, 2009).

### **Functions of Emotions**

Emotions are important processes that can greatly benefit us by serving functions that aid us in achieving our goals (Frijda, 2008). For example, they may act as adaptive response tendencies and prime us for behavioural action (Tooby & Cosmides, 2008); direct our attention toward salient features of the environment or situation (Phelps, 2006); provide us with important information about the situation and our appraisal of it (Clore & Tamir, 2002); and play a role in memory for important events (Phelps, 2006).

**Social functions.** Emotions arise in many social situations and integrally serve multiple social functions. The experiencing and expression of emotions can serve to create, maintain, and strengthen close or intimate relationships with others (Fischer & Manstead, 2008). This level of sharing and communication can increase cooperation and trust both in a relationship and within a group. Body language can communicate important messages to others, such as ‘shrinking’ in the case of shame (Lewis, 2008) or puffing up in the case of pride. Further, empathy can help provide motivation for prosocial actions (Hoffmann, 2008), and expression of positive emotions can increase the perception and effectiveness of a leader (Bono & Ilies, 2006). The opposite is also true, where expressing emotions and behavioural manifestations of anger and contempt, for example, serve to distance one away from others (Fischer & Manstead, 2008).

Social isolation has many negative consequences for individual well-being (Umberson & Montez, 2010), so it is important to understand the role emotions play in maintaining

interpersonal bonds. Elaborating on these communal functions lays the groundwork for further discussion on the social consequences of emotional regulation.

**Maladaptive functions.** Emotions do not always act in such a positive manner, instead impeding our ability to function or succeed in attaining our goals. Indeed, maladaptive emotions are a transdiagnostic feature underlying many psychopathologies (Kring, 2008). When emotions become a hindrance rather than a benefit, we may be required to intentionally manage them (Gross, 2014).

### **Emotions in Culture**

The component process model puts a heavy emphasis on the subjective appraisal and conceptualization of emotion experiences (Scherer, 2009). Humans exist within social structures and culture, and their appraisals and conceptualizations are inevitably influenced by these factors (Stets & Turner, 2008).

People may perceive and subsequently express their emotions, such as grief, differently across cultures based on what they have learned is appropriate (Charmaz & Milligan, 2006). An example finds Tibetan respondents more likely to describe anger as a dissociative experience in contrast to an American sample (Shweder, Haidt, Horton, & Joseph, 2008). Certain functions of emotions may also be emphasized differently, as exemplified by the social distancing function of anger and contempt that is more relevant within individualistic cultures (Fischer & Manstead, 2008). On a broader level, culture appears to correlate with greater variance in perceptions and experiences of positive emotions (Scollon et al., 2011). These examples portray a deep influence of culture, something that must be kept in mind when considering perceptions and experiences of both emotion and, subsequently, emotional regulation.

## **Summary**

Emotions may be understood as complex, multifaceted processes that involve appraising a situation in light of goals and values, exhibiting physiological and behavioural responses, and subjectively conceptualizing the individual components, resulting in unique qualitative feelings (Scherer, 2005; 2009). Emotions prime individuals for action response tendencies (Scherer, 2005), and can serve both personal and social functions (Fischer & Manstead, 2008; Gross, 2014), all while being influenced by the surrounding context and culture (Stets & Turner, 2008). It is with this understanding of emotions that we begin our discussion of their regulation.

## **Emotional Regulation**

In a socio-cultural context, emotions can be understood as multi-component processes that may require intentional management or coping (Diamond & Aspinwall, 2003; Gross, 2014; Thompson, 1991) to enhance or continue certain emotional experiences and expressions, and to control or subdue others. The skill of managing our emotions is commonly known as *emotional regulation* (ER; Gross, 1998; Rawana et al., 2014; Thompson, 1991). Emotional regulation has previously been defined as an ability to manage one's response to an emotion (Thompson, 1991), focusing on the outward behavioural expression, but has since encompassed broader aspects to include regulation of the subjective experience, intensity, and feeling of an emotion (Gross, 1998; Rawana et al., 2014). Emotional regulation can be both external and internal, and over the course of development tends to shift from external sources such as parental soothing and calming towards internal self-regulation (Thompson, 1991; Zeman et al., 2006). For the purposes of the current study, the concept of emotional regulation will be defined as the management of the occurrence, intensity, and/or duration of the internal emotional experience, as well as the

outward expression of an emotional response (Gross, 1998, 2014; Diamond & Aspinwall, 2003; Eisenberg, Fabes, Guthrie, & Reiser, 2000; Rawana et al., 2014).

As already mentioned, there can be conceptual differences between emotions, affect, and mood (Gross, 1998, 2014), and therefore the same can be said about the regulation of these concepts. In keeping with the definitions offered by Gross (2014), whose model is used as a foundation, the current study's definition of emotional regulation primarily considers the management of specific emotions. However, it is a complex concept so we must allow for some overlap of definitions, and therefore emotional regulation may extend to include regulation of broader physiologic and environmental states, such as stress (Koole, van Dillen, & Sheppes, 2011).

This section will delve into emotional regulation, providing a base of knowledge for the current study's exploration. The complexity of the concept will be outlined, highlighting influential factors such as culture and locus of control. Pertinent theoretical models will be reviewed, followed by a presentation of the most well-known and accepted regulation strategies and their outcomes.

### **A Distinct Process**

Emotional regulation was not always seen as distinct from the emotional experience, with some researchers conceptualizing regulation as an integral component of an emotion response, occurring naturally without any conscious effort (Frijda, 1986). However, the most prominent modern models of emotional regulation distinguish between the generation of an emotion and the intentional regulation of said emotion, while still allowing for the possibility of some overlap and bi-directionality in lived experience (e.g., Martel, 2009). They accomplish this by emphasizing *relative* regulation of emotions, suggesting that emotions may be automatically regulated during

a normal emotional experience before a distinct regulatory process is activated (Diamond & Aspinwall, 2003; Gross, 1998).

In perhaps a simple conceptualization, emotions and their regulation may be distinguished by the primary emotional response – the immediate and unregulated reaction to an emotion-eliciting event – and the secondary response, reflecting a person’s ability to cope with the primary response (Baumann, Kaschel, & Kuhl, 2007; Koole et al., 2011; Lazarus, 1991). The primary response may de-escalate due to habituation alone (Koole et al., 2011; Rankin et al., 2009), or to the intentional regulation resulting from a modified secondary response. This model can get fuzzy, as some emotional regulation strategies – such as avoiding an emotion-eliciting situation (Koole et al., 2011) – may occur in anticipation of an emotional reaction, and therefore before the primary response occurs. However, it serves to make a conceptual distinction between the emotion generative and emotional regulatory processes.

### **A Complex Concept**

Emotional regulation capacities develop over the lifespan, gaining more complexity and nuance as these abilities progress through childhood into adolescence and through into adulthood (Riediger & Klipker, 2014; Thompson, 1991). As individuals mature, they are able to engage in more intentional and cognitively taxing emotional regulation strategies, as opposed to when they are younger and tend to rely more on automatic processing (Rawana et al., 2014; Riediger & Klipker, 2014) or require external sources of regulation (Zeman et al., 2006). Emotional regulation capacities may also develop in context-specific ways as more internal and external factors like brain development, personal goals, and family environment have more of an influence (Riediger & Klipker, 2014).

In a real life context, there are a potentially unlimited number of situations and stimuli that could influence the management of one's emotional response, depending on the person's unique situation, personality, and preferences (Koole et al., 2011). Additionally, strategies may have differing consequences depending on the situation and context in which they are applied (Sheppes, 2014). Heij and Cheavens (2014) used a naturalistic assessment of emotional regulation strategies and found that a multitude of strategies are used, often in parallel with each other. The particular strategies we choose at any time can additionally be influenced by a number of considerations, including gender, developmental stage, cultural norms, and simple individual difference (Gross & John, 2003; Rawana et al., 2014; Stets & Turner, 2008; Thompson, 1991).

**Culture.** The social environment, as opposed to the individual, can act as the agent in emotional regulation (Mesquita, De Leersnyder, & Albert, 2014). Culture not only influences the emotions we experience and express, but also the manner in which we regulate them. Those in an interdependent culture, where expression of intense emotion is not deemed socially appropriate, may be more motivated to utilize emotion regulation strategies than those in an independent culture in order to maintain social relationships and avoid making others uncomfortable (for a review, see Ford & Mauss, 2015). European American social life promotes pride and individual self-esteem from a young age, in contrast to Japanese culture, which is more likely to endorse accommodation of others and the fear or shame associated with failing in this goal (Mesquita et al., 2014). Emotional regulation would be elicited differently between these cultures, based on what is considered appropriate.

**Subjective perceptions.** Emotions involve many aspects of subjective experience, including appraisal and conceptualization (Scherer, 2005), meaning it is important to understand

such phenomenological components and the ways they may influence emotional regulation. How an individual subjectively appraises a situation during the emotion process can motivate emotional regulation, and inform which strategies are identified as appropriate to use (e.g., Schmidt, Tinti, Levine, & Testa, 2010). Phenomenological aspects of emotions, such as intensity, influence which regulatory strategies might be chosen (Sheppes, 2014), and reciprocally, certain strategies can be successful in reducing phenomenological experiences of emotion, such as the feeling of being overwhelmed by sadness (e.g., Matthies et al., 2014). As few studies examine these types of influences on emotional regulation, it is precisely these subjective aspects of emotional regulation that require further exploration.

**Locus of control.** Emotional regulation can be accomplished both externally (e.g., social relationships; Coan & Maresh, 2014) and internally (e.g., cognitive reappraisal; Clen et al., 2013). How an individual attributes their locus of control (internal versus external; Rotter, 1966) may in turn influence their perceptions of their emotional regulation abilities. For example, if one emphasizes an external locus of control, they may believe they do not have any individual ability or responsibility to manage their emotional experiences, instead relying on others, or giving up altogether.

Much of the research on emotional regulation is inherently situated within an internal locus of control, focusing on regulatory strategies that require individual self-control, such as cognitive change, attentional deployment, or situational modification (Clen et al., 2013). Early in life, infants and children rely on external sources such as parents (Zeman et al., 2006), and there is a growing literature on the role of others in regulating emotion (interpersonal regulation; Zaki & Williams, 2013). However, there is little research that investigates how perceptions of locus of control influence an individual's ability to self-regulate their emotions. One can

nonetheless infer that it does have an impact. For example, someone who has a primarily external locus of control will believe their emotions are events they have no control over and therefore do not employ active emotional regulation strategies, such as cognitive reappraisal (Clen et al., 2013). Such individuals may be drawn more to strategies such as acceptance, which promote a stance of disengagement from, or a lack of attempting to control, emotions. Instead, they simply accept them as a natural event that happens (e.g., Chambers et al., 2009). Further, those with an external locus of control may rely more on external sources of emotional regulation like social relationships (e.g., Coan & Maresh, 2014).

We must acknowledge that emotional regulation is much more complex and prominent in a natural setting than perhaps has been highlighted in theoretical models and research. Taking into account multiple parallel strategies, cultural influences, subjective perceptions, and locus of control, one can appreciate the broad and multi-faceted nature of the concept. However, for the purposes of having a foundational theoretical basis, discovering common themes, and connecting real life to theory, it is useful to consider emotional regulation within the clear confines of a theoretical model.

### **The Process Model**

**Outlining the model.** Gross (1998, 2001, 2002, 2014) has provided one of the more widely known models of emotional regulation that has been adopted by others (Rawana et al., 2014; Shaw et al., 2014). His *process model* stems from a core theory of emotions as multi-component processes, wherein the emotion experience unfolds over a series of stages (Gross, 1998; Diamond & Aspinwall, 2003; Scherer, 2005). Similar to the component process model (Scherer, 2005, 2009), the process begins with a psychologically relevant situation that attracts our attention; we make cognitive appraisals of the situation in light of goals; we express the

emotional response through our behaviour and accompanying physiological changes; and finally we conceptualize these embodied components and experience subjective feelings. This last step is not included in Gross' theory, but is an important part of the model of emotions.

**Process model strategies.** The process model suggests that the ability to manage and regulate the emotional experience may happen at different points within the emotion-generative process (Gross, 1998; 2002). Emotional regulation strategies reflect this differential timing, and are broken down into two general categories - *antecedent-focused* and *response-focused*.

Antecedent-focused emotional regulation strategies occur before the full elicitation of the emotion, during the first stages of the generative process, including selecting or modifying the situation and cognitively changing the meaning of an event to subsequently alter the emotional impact. Response-focused emotional regulation strategies are utilized during the latter stages of the emotion process, after much of the emotion has been elicited, and are therefore focused on our behavioural responses and expression of the emotion, including exercise and progressive muscle relaxation (Gross, 1998).

**Biological correlates.** The process model of emotional regulation posits a degree of cognitive control over our emotions (Gross, 1998, 2014), which – along with self-regulation – are primarily situated in the prefrontal cortex (Johnstone & Walter, 2014; Ochsner & Gross, 2014; Ochsner, Bunge, Gross, & Gabrieli, 2002). As the individual develops, emotional control generally tends to become more capable and complex, parallel to prefrontal cortex development (Ochsner & Gross, 2014; Riediger & Klipker, 2014).

The process model is a widely used conceptualization of emotional regulation, and provides a framework for understanding emotional regulation strategies that individuals utilize in

their daily life. More strategies will be discussed in detail further on, and will be effectively embedded into the framework provided by Gross (1998, 2001, 2002, 2014).

### **Regulation Motivation**

Most modern research tends to refer to emotional regulation as a goal-oriented task, modifying our emotional experiences and responses towards more adaptive, appropriate expressions driven by goals (e.g., Shaw et al., 2014). However, as Koole et al. (2011) point out, this may offer a narrow understanding of what drives our emotional regulatory processes. Even Gross (2002) identifies that while many emotional regulation strategies are conscious and intentional, some may occur automatically or without our conscious knowledge, such as exaggerating happiness at receiving a gift we did not really want (Cole, 1986). There is an important distinction to be made between a goal defined in the broadest sense as any conscious or unconscious motivation factor of regulation – which Gross (2014) uses in his definition of emotional regulation – and a goal in the intentional, conscious sense.

**Goal-oriented.** It is important that we not downplay the idea of intentional goals motivating emotional regulation. This is the primary way in which the motivation to use emotional regulation strategies is discussed in modern research (e.g., Shaw et al., 2014). The essential understanding is that people engage in two processes: 1) a monitoring process, whereby discrepancies between the current and a desired emotional state are recognized; and 2) an action process, aimed at reducing the discrepancy, prioritizing one emotional state in line with goals (Carver & Scheier, 1998). These underlying goals may be decided independently by an individual or driven by social and cultural norms, but they serve to create an ideal that we strive towards (Gross, 1998; Rawana et al., 2014).

Koole et al. (2011) discuss cognitive control as a related, and perhaps a more modern version of the goal-oriented process, wherein one uses cognitive processes to monitor and modify emotional states and responses (e.g., Ochsner & Gross, 2008). This theoretical process has been supported by neuroimaging studies identifying activation in areas of the brain related to cognitive control during situations requiring emotion regulation, including the prefrontal cortex (Ochsner et al., 2002; Ochsner & Gross, 2014).

**Needs-oriented.** The drive to regulate emotional states and responses is not always conscious or as intentional as with these aforementioned goals (Gross, 2002; Koole et al., 2011). Human beings have a hedonic desire to avoid pain and seek pleasure, and this is no different in terms of our emotional responses, serving as a primary motivator in emotion regulation (e.g., Larsen, 2000).

In some circumstances, hedonic, short-term rewards can overrule goal-directed self-regulation (Tice, Bratslavsky, & Baumeister, 2001), but there is still room for emotions and their long-term consequences to outweigh the short-term pleasure a different response may lead to (Tamir, Chiu, & Gross, 2007). This suggests a conflict between the short-term and long-term consequences of different emotional states and behaviours, meaning needs-oriented emotion regulation plays a role that must be considered.

**Person-oriented.** A humanistic view (e.g., Maslow, 1962/2013) posits that people are not as easy to define as simple needs or black and white goals. Instead, everyone is viewed holistically as having many interlocking parts that all must be taken into account, resulting in a network of processes working in harmony (Koole et al., 2011). The main takeaway from this view of regulation is that people engage in complex regulatory processes for a range of reasons,

both goal- and needs-oriented, and to understand emotional regulation fully, this complex interlocking network of processes must be considered.

### **Emotional Regulation Strategies**

Emotional regulation in a real-life context is notably more complex than is often conceptualized in the literature, engaging a variety of strategies in parallel (Heiy & Cheavens, 2014). Broad categorizations of such strategies have been provided by the process model (Gross, 1998), and elaborated on by more recent researchers.

This section will briefly examine emotion regulation strategies that have been commonly researched in order to provide the reader with an understanding of the strategies that are implicated in the current study. Strategies that down-regulate negative or undesired emotions, as well as those that up-regulate positive or desired ones, will be discussed. Their relevance and sequence within the process model will be highlighted, as well as their use within specific therapeutic approaches. Pertinent strategies that will be reviewed include modifications to the situation, shifting attention elsewhere, changing cognitive processes, and seeking social support. This will be followed by a review of the outcomes of different regulation strategies, and the consequences of impaired regulation.

**Situation selection.** Gross (1998, 2014) proposes *situation selection* as the first strategy to be utilized in the timeline of the emotion generative process, in which a person may choose to engage in, or avoid, specific situations that may elicit an emotional response. This means this particular strategy can take place before an emotion is even generated. This requires self-knowledge regarding what situations, people, or objects could evoke certain emotions. Situation selection is context-specific and is inherently neither good nor bad, as avoiding certain situations may have short-term benefits at the cost of longer-term consequences, and vice versa. An

example of this is an individual with social anxiety who avoids social situations to enjoy immediate relief of anxiety symptoms but facing potential long-term social isolation and ultimately intensifying or perpetuating social anxiety (Gross, 1998; Hayes et al., 1996).

**Situation modification.** *Situation modification* involves altering aspects of the current situation or external environment to enhance or diminish its emotional impact. Most situations contain features that may be changed through intentional effort, such as bringing a friend to a doctor's appointment for emotional support (Gross, 1998, 2014).

**Attentional deployment.** The strategy of *attentional deployment* is also represented as a regulatory mechanism under the moniker of *directed attention* (Clen et al., 2013), in which the person may choose what aspects of the situation or emotion to attend to. The individual can focus and sustain their attention on specific target stimuli, or flexibly move their attention to a different desired mark (Clen et al., 2013). *Distraction* involves shifting attention away from the emotionally salient stimuli to preferably non-emotional aspects (Gross, 2014; Koole et al., 2011). *Concentration* directs attention towards a task that absorbs the majority of cognitive resources (Erber & Tesser, 1992). *Rumination* directs attention towards the emotion and its consequences (Gross, 1998), often resulting in negative outcomes such as interfering with problem solving (Hong, 2007), and has been strongly associated with more extreme emotional conditions and psychopathology (Aldao, Nolen-Hoeksema, & Schweizer, 2010). Gross (2002) contends, however, that emotional regulation strategies are inherently neutral, resulting in positive or negative consequences depending on the context. Even rumination can be adaptive in certain situations, such as when one must remain focused on a single goal, ignoring distractors (Altamirano, Miyake, & Whitmer, 2010).

Given the focus of the current study on individuals with ADHD, directed attention is a pertinent mechanism of regulation. The cognitive ability to engage in set-shifting and flexibility of attention has been found to be impaired in ADHD populations (Barkley, 1997; Mirsky, Pascualvaca, Duncan, & French, 1999), meaning they could be at risk for developing psychopathology in the form of comorbidities such as anxiety and depression that have been linked with impaired attention control (Aldao et al., 2010; Clen et al., 2013).

**Emotional acceptance.** Perhaps seen as having some overlap with the next two strategies discussed, *emotional acceptance* nevertheless carves out its own space for its apparent *lack* of action (such as seeking social support). This strategy requires one to allow and then to experience emotions, letting them pass through with an open-mind, without judgment or elaborate thought processes (Clen et al., 2013). This is a strategy that is emphasized in some religious traditions and some eastern philosophies which have been introduced to the field of psychology as mindfulness, a therapeutic approach used to address emotional regulation (Chambers et al., 2009; Gratz & Gunderson, 2006; Zylowska et al., 2007).

**Cognitive distancing.** Whereas emotional acceptance requires non-judgmental experiential engagement with an emotional response, *cognitive distancing* encourages taking a mental step back from the emotional response, resulting in the ability to analyze the situation and one's inner processes, recognizing them as temporary rather than permanent (Clen et al., 2013; Fresco, Segal, Buis, & Kennedy, 2007).

**Cognitive change.** For an emotional response to occur, emotional stimuli that are attended to must have some sort of meaning to the person, attained from an appraisal of the situation or stimuli (Gross, 1998; Scherer, 2005). This is where the *cognitive change* strategy comes into play. This approach has been used in prominent therapeutic methods such as

cognitive therapy (Beck, 1976) and is characterized by the ability to think flexibly, modifying the meaning one is placing on emotional stimuli (Clen et al., 2013; Gross, 2014). Examples include interpreting events through a more positive lens, or cognitively *reappraising* an event so as to alter the emotional impact, such as reinterpreting a failure to instead be seen as an opportunity to continue to challenge oneself (Gross, 2014; Tugade & Fredrickson, 2007).

**Response modulation.** A regulatory strategy occurring late in the timeline of the emotion-generative process, *response modulation* modifies our behavioural, experiential, or physiological response (Gross, 1998). This category includes physical and behavioural strategies such as deep breathing, progressive muscle relaxation (Gross, 2014), or modifying the actual behavioural expression of an emotion, such as smiling while feeling a negative emotion (Ekman, 1989; Tugade & Fredrickson, 2007).

**Social support.** Interpersonal relationships and social proximity can influence our emotions (Coan & Maresh, 2014; Zaki & Williams, 2013), showcasing a more external source of emotional regulation referred to under the umbrella term of *social support*. Close friendships can serve to help regulate emotions by lowering perceptions of risk and increasing comfort with the sense that another is concerned for their well-being (Coan & Maresh, 2014). Social relationships not only aid in down-regulating negative emotions, but also serve to help maintain or enhance positive emotions (Coan & Maresh, 2014), an aspect of emotional regulation that will be expanded upon in the next section.

Since social relationships play such a strong role in general psychological well-being (Umberson & Montez, 2010) they are worth emphasizing as a form of emotion regulation. In fact, this is becoming a burgeoning area of research known as *interpersonal regulation*, in which studies are examining the effect other people can have on our emotions (Coan, 2011; Gable &

Reis, 2010; Rimé, 2007; Zaki & Williams, 2013). Within this emerging field of study, Zaki and Williams (2013) have framed a model that makes a distinction between *response-dependent* regulation, which relies on particular aspects of the other persons' actions or feedback, and *response-independent* regulation, which does not require any specific action on the part of the other person. In essence, a strategy such as cognitive reappraisal could be happening in the context of a conversation, without any specific feedback needed from the other person; although no overt interaction is required, the social context is nonetheless relevant, and influences emotions.

### **Positive Emotion Regulation**

The focus in emotion regulation research has often been on the down-regulation of negative emotional experiences, as these are most often associated with clinical distress and psychopathology (e.g., Kring, 2008). However, positive emotional experience can also be managed and regulated (Gross, 1999; Tugade & Fredrickson, 2007), and relevant strategies must be included in a comprehensive discussion of emotional regulation. Many strategies already reviewed may be applied to the regulation of positive emotional experiences, but those identified below are more specific to the context of positive feelings.

**Maintenance.** As its name implies, the strategy of *maintenance* involves efforts to prolong the current emotional state that one is experiencing (Tugade & Fredrickson, 2007). In most cases, this occurs with a positive emotion, wherein the subject wants to continue feeling that happiness or excitement for as long as they can. This may be accomplished through behaviours that maintain the positive feelings, such as sharing the news with a friend (Coan & Maresh, 2014; Tugade & Fredrickson, 2007), or through cognitive awareness of, and attention towards, the positive emotions (Bryant, 1989; Tugade & Fredrickson, 2007). Cognitive

resources can be directed towards anticipation of a positive event, appreciating current events, and when reminiscing about past events (Bryant, 1989).

**Increasing.** Besides simply maintaining and savouring the positive feelings in a situation, one can work to magnify certain feelings (Tugade & Fredrickson, 2007), a process referred to as *increasing*. Examples include focusing on giving gratitude (Emmons & McCullough, 2003) or smiling while experiencing mixed feelings of happiness and sadness (e.g., when a child moves away for studies), which can serve to decrease the impact of the co-occurring negative emotions (Ekman, 1989). Ascribing positive meaning to events, such as during positive reappraisal discussed earlier, is also a strategy that can effectively increase or enhance positive emotions (Gross, 2001; Tugade & Fredrickson, 2007).

### **Consequences of Emotional Regulation**

Emotional regulation plays an integral role in the functioning and well-being of individuals, particularly in terms of their social relationships. Emotion dysregulation is implicated in numerous negative consequences for physical and mental health, and interpersonal functioning. Adaptive regulation, on the other hand, plays a potentially protective role against some of these consequences, promoting positive outcomes. This section highlights outcomes of emotional regulation, showcasing it as a concept worthy of study and support.

Impaired emotion regulation is effectively a transdiagnostic feature underlying many psychological disorders and impairments (Aldao & Nolen-Hoeksema, 2010; Aldao et al., 2010; Rawana et al., 2014), including borderline personality disorder (Linehan, 1993), major depressive disorder, anxiety, and, most relevant to the current study, ADHD (Barkley, 1997; Barkley & Fischer, 2010; Shaw et al., 2014).

**Emotion dysregulation.** Emotion dysregulation in general – composed of inappropriate expression, lack of emotional understanding, and use of maladaptive regulation strategies – is found to be predictive of numerous negative psychological consequences, including symptoms of depression, anxiety, and eating disorders (Aldao & Nolen-Hoeksema, 2010; McLaughlin, Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011). Even in the absence of maladaptive strategies, the lack of adaptive strategies alone is linked to emotional and behavioural problems in children (Braet et al., 2014). Across the lifespan, emotion dysregulation is associated with increased risk for stress, anxiety, depression, and substance use behaviours, whereas positive emotional regulation results in better academic performance, increased prosocial behaviour, and more positive social relationships (Rawana et al., 2014).

**Impact of different strategies.** Specific emotional regulation strategies are linked with differing impacts on well-being. Rumination, suppression, and avoidance (cognitive or behavioural) are largely considered to be maladaptive emotional regulation strategies, and have been associated with increased symptoms of substance use, depression, and anxiety, respectively (Aldao et al., 2010), and decreased experience and expression of positive emotions (Gross & John, 2003). Suppression specifically may be successful in reducing the external behavioural expression of a negative emotion though it does not decrease the internal subjective emotional experience, leading to increased physiological responding with potential ramifications for physical health including risk for cardiovascular disease (Appleton & Kubzansky, 2014; Gross, 2002). Reappraisal, on the other hand, is successful in reducing both the behavioural expression and subjective experience of negative emotions, increasing positive emotionality, and ultimately has positive implications for social and personal well-being (Gross, 2002; Gross & John, 2003).

Adaptive emotional regulation strategies, such as reappraisal, acceptance, and problem solving, are associated with lower risk for psychopathology, though interestingly they may have the greatest impact when in the presence of maladaptive strategies, suggesting a possible compensatory effect (Aldao & Nolen-Hoeksema, 2012). Regulating positive emotion (e.g., happiness, joy) is implicated in numerous benefits for mental health including increased self-esteem and life satisfaction, along with a decrease in hopelessness and depressive symptoms (Bryant, 2003; Diamond & Aspinwall, 2003; Tugade & Fredrickson, 2007).

**Social functioning.** Emotions serve social functions, such as anger attempting to impose change on someone else (Fischer & Manstead, 2008). Gross, Richards, and John (2006) found that 98% of emotional regulation incidents occur in the presence of others. Therefore, it is not surprising that emotional regulation is critically found to have a significant impact on social functioning (e.g., Barkley, 2014; Eisenberg et al., 2000). Across the lifespan, emotional regulation abilities are heavily implicated in individuals' ability to establish and maintain positive peer relationships, with examples such as inappropriate expressions of anger and deficient conflict management creating barriers to healthy social interaction (Thompson, 1991; Rawana et al., 2014; Zeman et al., 2006).

Certain strategies such as suppression are related to lower social support, and undesirable responses in conversation partners (Gross, 2002). Emotional regulation can also have notable influences on the quality of couple relationships (Levenson, Haase, Bloch, Holley, & Seider, 2014). The inability to hone emotional regulation strategies in peer relationships may predispose individuals to relationship instability and high turnover of romantic relationships, with an inability to manage conflict and express negative emotions appropriately (Dhariwal, Connolly, Paciello, & Caprara, 2009). Crucially, competent emotional regulation abilities in college

students is predictive of prosocial behaviour, positive perception by others, reciprocal friendship, and interpersonal sensitivity, along with less conflict and antagonism (Lopes, Salovey, Cote, & Beers, 2005; Lopes, Salovey, & Straus, 2003).

Interpersonal relationships and a sense of belonging are strongly linked with health outcomes (House, Landis, & Umberson, 1988; Nikelly, 2005), and sources of social support are intricately tied with psychological well-being (Cohen, 2004; Kawachi & Berkman, 2001). Lack of social relationships and supports have specifically been linked with mortality, cardiovascular disease, immune functioning, and mental health (for a review, see Umberson & Montez, 2010). Therefore, emotional regulation – with its strong role in mediating interpersonal relationships – has an impact on health and psychological well-being (Appleton & Kubzansky, 2014).

## **Summary**

Emotional regulation is a distinct process that involves the activation of a number of potential strategies to manage the intensity, occurrence, duration, and expression of emotions (Gross, 1998, 2014). These strategies may take the form of cognitively reappraising the situation and our experience of it, accepting the emotions as they are, modifying the emotion-eliciting situation, or avoiding a particular situation altogether (Clen et al., 2013). In a real life context, humans use a potentially endless variation of these general groupings of strategies, often in parallel with each other (e.g., Heiy & Cheavens, 2014). The inability to regulate emotions effectively has a number of consequences for both psychological and social functioning, making it an integral ability of everyday functioning (Aldao & Nolen-Hoeksema, 2010; Rawana et al., 2014). Emotional regulation is influenced by the cognitive appraisals and subjective conceptualizations we make of our emotional experiences (e.g., Gross, 1998), and requires further research elaborating on perceptions and experiences of said regulation. The unique

presence of emotional regulation within ADHD will now be explored, bringing together the two primary conceptual avenues relevant to the current study.

### **Attention Deficit/Hyperactivity Disorder**

As outlined in chapter 1, young adults diagnosed with ADHD face a number of risks across numerous areas of impairment, including social functioning, academic achievement, and occupational success (Shaw-Zirt et al., 2005; Weyandt & DuPaul, 2006). This final section will examine how intense emotions and emotional regulation are experienced within the context of ADHD. This will include an exploration of relevant theoretical models; the difference between emotional impulsiveness and deficient emotional self-regulation; emotional impairment frequently seen in the disorder; and connections between ADHD and common emotion regulation strategies. By the end of this chapter, the current state of literature regarding the role emotional regulation plays in ADHD will be reviewed, as well as the areas still ripe for inquiry including the topic of the current study.

### **Intense Emotions and ADHD**

Research suggests that ADHD is linked to both maladaptive emotions and emotion regulatory processes (Martel, 2009), wherein individuals diagnosed with ADHD more commonly experience and display emotions more intensely than non-ADHD counterparts, particularly during interpersonal interactions (Barkley, 1997; Friedman et al., 2003; Maedgen & Carlson, 2000). Some contend that ADHD does not inherently lead to increased emotional intensity (Barkley, 2014), emphasizing the importance of considering the influence of individual context, perspective, and differences. Experiences of elevated intensity may be due to a sense of being overwhelmed by the emotional experience (Matthies et al., 2014; Ramirez et al., 1997), highlighting the importance of subjective perception when examining emotions. Individuals

with ADHD often exhibit impairment in their ability to manage and appropriately express their emotions (Barkley, 2014; Barkley & Fischer, 2010; Shaw et al., 2014), which may also contribute to their feelings of being overwhelmed by them (Matthies et al., 2014).

### **Emotional Regulation and ADHD**

A **‘core’ feature**. ADHD is oft-associated with deficits in executive functions (Barkley, 1997, 2014; Willcutt, Doyle, Nigg, Faraone, & Pennington, 2005) which are related to the prefrontal cortex region of the brain (e.g., Kane & Engle, 2002). The prefrontal cortex has also been heavily implicated in emotional regulation abilities (Ochsner & Gross, 2014). This may point to a connection between emotion dysregulation and ADHD; indeed, research consistently finds the two coinciding, despite emotion dysregulation not being considered a core diagnostic feature of the disorder (APA, 2013; Shaw et al., 2014).

Within the ADHD literature, emotional regulation is most often conceptualized as the emotional branch of broader impairment in self-regulation (Surman et al., 2013), keeping true to Barkley’s (1997) model of executive functioning and self-regulation deficits. This model conceptualizes self-regulation as an overarching capacity that encompasses management of behaviour, attention, affect, and arousal (Barkley, 1997; Nigg 2005). The model allows for both effortful and automatic forms of self-regulation, matching the process model that includes both conscious and unconscious forms of emotional regulation (Gross, 2002). The importance of the model is emphasized by Nigg (2005), who has criticized the diagnostic criteria of ADHD for being purely behavioural in focus, whereas in contrast, the self-regulation model goes deeper and integrates neuropsychological factors like executive functions and mechanisms that underlie behaviours in order to comprehensively define the disorder and its relevant impairments.

Barkley (2014) has made a strong case for the inclusion of *deficient emotional self-regulation* (DESR) as a core component of ADHD, providing extensive reviews of the history and evidence of DESR in the disorder. Deficient emotional self-regulation is defined as a lack of ability in moderating the emotional response rather than increased intensity of the emotions themselves (Barkley, 2014). Despite not having been included in current diagnostic criteria (APA, 2013), dysfunctional emotional regulation has long been considered an aspect of the disorder, and is included in some of the original writings on adult ADHD and the prominent Wender Utah Diagnostic Criteria (Barkley, 2014; Wender, Reimherr, & Wood, 1981).

**Building a conceptual bridge.** Barkley (2014) has conceptualized emotional impairment in ADHD as consisting of two main components. *Emotional impulsiveness* (EI) denotes impairment in inhibiting inappropriate expressions of the primary emotional response, the first step of the emotional regulation process. *Deficient emotional self-regulation* is the second component that involves the more effortful, intentional regulation of the emotional response, encompassing self-soothing of physiological arousal and refocusing attention. To some extent, deficient emotional self-regulation can be mapped onto the process model of emotional regulation established by Gross (1998, 2014), which places more emphasis on conscious and intentional methods of regulation, in contrast to the more automatic inhibition processes that are identified in emotional impulsiveness (Barkley, 2014).

While emotional impulsiveness overlaps with the hyperactive/impulsive symptom cluster, Barkley (2014) has suggested that deficient emotional self-regulation aligns more closely with the inattentive component. Adults with emotional impairment are found to have deficits orienting and allocating attentional resources to emotional stimuli, a major explanatory factor in their emotion dysregulation (Friedman et al., 2003; Shaw et al., 2014). Attentional deployment

is a prominent method of emotional regulation (Gross, 1998; Clen et al., 2013), along with further strategies that require cognitive control, and therefore executive functions. Barkley (1997, 2014) has suggested that self-regulation in ADHD requires use of multiple executive functions, including attention shifting, inhibition, and working memory – any or all of which may be impaired.

Shaw et al. (2014) outline three prominent models for conceptualizing the link between ADHD and ER. The first is that emotion dysregulation is a core defining feature of ADHD as much as the three core symptom clusters. This is the model that Barkley (1997, 2014) would adhere most closely to. The second model posits that the combination of ADHD and emotion dysregulation creates a unique entity, though deficient emotional self-regulation is not seen as core to all cases of ADHD. The third model views both ADHD and DESR as separate and distinct, with significant overlapping and correlating components. Given the evidence of emotion dysregulation as a transdiagnostic feature (Aldao & Nolen-Hoeksema, 2010; Aldao et al., 2010; Rawana et al., 2014), along with research that finds ADHD is a heterogeneous disorder in relation to emotional regulation (e.g., Musser, Galloway-Long, Frick, & Nigg, 2013), this position appears to be the most defensible and reasonable. Challenges with emotional regulation are not ubiquitous in ADHD (e.g., Shaw et al., 2014), and the disorder itself is subject to much individual variation (Nigg, Willcutt, Doyle, & Sonuga-Barke, 2005). This evidence lends further support to the third model offered by Shaw et al. (2014) to explain the connection between ADHD and emotional regulation.

### **Emotional Impairment**

This section will expand upon the connection between emotional regulation and ADHD by reviewing the emotional impairment commonly seen in those diagnosed with the disorder.

Due to ADHD's association with a number of comorbid disorders, it can be difficult to parse out what symptoms and impairments might be attributed to emotion dysregulation alone, above and beyond the effect of said comorbid disorders (Surman et al., 2013). Nevertheless, research suggests emotional deficits do contribute uniquely to impairment in adults with ADHD (Barkley & Fischer, 2010; Reimherr et al., 2005; Surman et al., 2013). Emotion dysregulation sees an estimated prevalence between 24-50% in children with ADHD, and 34-70% in adults diagnosed with the disorder, representing a major source of impairment (for a review, see Shaw et al., 2014).

When compared to other adults with ADHD, those meeting clinical criteria for emotion dysregulation were found to have increased impairment in the core ADHD symptoms of inattention, hyperactivity, and impulsiveness, according to multiple measures (Reimherr et al., 2005). Further, emotionally dysregulated individuals with ADHD are at increased risk for comorbid disorders and social impairment when compared to non-dysregulated ADHD controls. Individuals with an ADHD diagnosis are more prone to increased inappropriate emotional reactivity, elevated irritability, decreased frustration tolerance, difficulty directing attention toward or away from emotional stimuli, and an overall reduction in ability to self-regulate emotions (Barkley, 1997; Shaw et al., 2014). Adults with ADHD have also been found to be less attuned to emotional stimuli, and are less expressive in terms of their emotional vocabulary (Friedman et al., 2003).

**Emotional impulsiveness.** Tying into the core symptom grouping of impulsivity, a prominent expression of emotional impairment in individuals with ADHD is emotional impulsiveness, or the lack of inhibiting emotions and emotional responses (Barkley, 2014). A number of studies utilizing rating scales and direct observation methods have identified

emotional impulsiveness in individuals with ADHD, reporting symptoms of increased irritability, frustration, outbursts of anger, etc. (for a review, see Barkley, 2014).

Emotional impulsiveness is implicated in numerous major areas of impaired functioning, including social interactions, occupational functioning, education, dating relationships, and driving (Barkley & Fischer, 2010). These adults were more likely to have been the recipient of suspensions/expulsions in school, to experience hostility with their employer, and to engage in unsafe driving. The effects of emotional impulsiveness found in this study were above and beyond impairment attributed to the core symptom clusters of ADHD. Similar results have been found across other studies after controlling for comorbid disorders (Shaw et al., 2014).

Emotional impulsiveness is the first segment of emotional impairment in ADHD according to Barkley (2014), but the resulting functional impairments are also a consequence of deficient self-regulation of these emotions. Much of the research in ADHD focuses on the emotional impulsivity component, with more attention needed on the intentional and effortful self-regulation aspect (Barkley, 2014).

**Social impairment.** Perhaps most importantly, emotion dysregulation is linked with social impairments for individuals diagnosed with ADHD (Barkley, 2014). ADHD alone is indicated in numerous social consequences, including deficits in communication skills, conflict in familial relationships, and lower popularity with peers (Barkley, Fischer, Smallish, & Fletcher, 2006; Hoza, 2007; Shaw-Zirt et al., 2005; Wehmeier, Schacht, & Barkley, 2010), all of which are made worse in the presence of a comorbid disorder like oppositional defiant disorder that overlaps with many emotion dysregulation symptoms (Barkley, 2014).

Difficulties in relationships for individuals struggling with ADHD are often characterized by emotional outbursts, temper, and irritability (Barkley, 2014; Maedgen & Carlson, 2000;

Surman et al., 2013). Child research finds that the combined presentation of ADHD is most strongly related to emotion dysregulation, with resultant aggression and emotional outbursts leading to poor peer relationships (Maedgen & Carlson, 2000). These individuals display a social performance deficit, in which their impulsivity creates an obstacle for self-control, resulting in socially inappropriate behaviours.

More research is needed with young adults, but again there is a foundation that provides evidence of emotional impulsiveness and difficulties managing and expressing anger in socially appropriate ways, harming interpersonal relationships (Barkley & Fischer, 2010; Ramirez et al., 1997; Surman et al., 2013). In particular, there are numerous sources indicating that college students diagnosed with ADHD struggle with social impairment (DuPaul, Weyandt, O'Dell, & Varejao, 2009; Shaw-Zirt et al., 2005). In light of this finding, it is perhaps surprising that college students with ADHD identify peer relationships as a significant source of social support as they make the transition of young adulthood (Meaux, Green, & Breaussard, 2009). If they are impaired in their ability to create and maintain these social relationships, they could be at greater risk for negative consequences to health and psychological well-being (e.g., Umberson & Montez, 2010).

### **Locus of Control and ADHD**

Research on locus of control in ADHD is sparse but suggests that male children and female adolescents with ADHD may hold a more external locus of control as compared to their non-ADHD peers (Linn & Hodge, 1982; Rucklidge & Tannock, 2001). In contrast, however, Barkley, Anastopoulos, Guevremont, and Fletcher (1991) have found that adolescents with ADHD attribute significantly less of their successes and failures to external forces when compared to their peers. These studies relied on self-reports and certainly need to be considered

in light of findings that suggest children and adolescents diagnosed with ADHD are poor estimators of their own abilities (Hoza et al., 2004).

Adults with ADHD have been found to hold a more external locus of control (e.g., Rucklidge & Kaplan, 1997), but this emerges as only a partial picture. Taking a more nuanced view of attributional styles, Rucklidge, Brown, Crawford, and Kaplan (2007) determined that adults with ADHD attribute negative events in an internal-uncontrollable style, meaning they placed the responsibility on themselves, but believed they had no control over it. This may be in contrast to findings identifying an external locus of control, as they held an internal sense of accountability, but the similarity is that they lack a sense of control over their abilities. This is in line with ADHD research positing deficits in executive functions and a resulting lack of ability to control emotions (Matthies et al., 2014; Walcott & Landau, 2004).

The role of locus of control in ADHD remains unclear, but sets the stage for the current study to proceed in an exploratory manner. Individuals with ADHD report a sense of being overwhelmed by intense emotions, partially due to an impairment of self-control around management and expression of emotions in appropriate ways (Matthies et al., 2014). The tendency for an internal-uncontrollable attributional style fits well with these ideas, as participants may feel it is their responsibility to manage their emotions but lack control over them. Therefore, the current study may uncover themes directly connecting emotional regulation with attributional styles or locus of control.

### **ADHD and Emotion Regulation Strategies**

ADHD has been linked with both adaptive and maladaptive emotional regulation strategies, though the literature is sorely lacking. More research will be needed in order to

further identify what strategies are being utilized or potentially mis-utilized by people diagnosed with ADHD, and how interventions can use this information to best support these individuals.

Children diagnosed with ADHD have been found to demonstrate difficulty utilizing effortful regulation strategies to manage anger and happiness above and beyond the impact of neuropsychological deficits (Sjöwall, Roth, Lindqvist, & Thorell, 2013). The evidence in adults partially comes from the many studies indicating an apparent lack of regulation, characterized by inappropriate outbursts of anger and low frustration tolerance (Barkley, 2014; Shaw et al., 2014). We can infer that these adults are failing to use adaptive emotional regulation strategies.

**Resignation.** Braet et al. (2014) explored emotional regulation strategies in children and adolescents related to specific symptom clusters, according to the DSM (APA, 2013). ADHD specifically connected to an absence of strategies, described by the authors as *giving up*. The researchers found no link to specific maladaptive strategies; rather, they identified a lack of utilizing any adaptive strategies to manage emotions. Though this study was conducted with children and adolescents up to 18 years old, the information remains pertinent to young adults who are continuing along the same developmental trajectory. Confirming this, Bresner, Moussa, and Reschke (2009) found that adults with ADHD had a tendency towards resignation when it came to managing emotions (as cited in Matthies et al., 2014, p. 461).

**Rumination.** Bresner et al. (2009) also identified that adults with ADHD would utilize rumination (as cited in Matthies et al., 2014, p. 461), another emotional regulation strategy commonly considered maladaptive (Aldao et al., 2010). Rumination requires attentional deployment (Gross, 1998), which we know to be impaired in ADHD, strongly suggesting a link between this strategy and ADHD.

**Suppression versus acceptance.** Matthies et al. (2014) induced sadness in adults diagnosed with ADHD, and had them use either suppression or acceptance emotional regulation strategies. They found that those that used suppression reported feeling more overwhelmed by their emotions than those using acceptance. The authors suggest this may be due to self-regulation deficits in ADHD making it more difficult for participants to attain a sense of ‘control’ over their emotions, which suppression requires much more than acceptance (e.g., Walcott & Landau, 2004).

**Problem-solving.** This may not be considered a specific emotional regulation strategy, but it is identified as a method of emotion management that may involve specific emotional regulation strategies such as situation modification (e.g., Gross, 1998). Problem-solving is often an impaired ability in ADHD due to a limited inability to look ahead and subsequently acting impulsively (Barkley, 2006; Burns & Martin, 2014; Young & Bramham, 2012). However, interventions targeted at improving problem-solving in ADHD has seen some success, which supports this as a potential adaptive method of emotion management for this population.

### **Comorbidities and Emotional Regulation**

Barkley (2014) has suggested that the emotion dysregulation component of ADHD largely explains the significant comorbidity rate between ADHD and oppositional defiant disorder (ODD; 65%). Many of the symptoms overlap, and those that appear unique to ODD may be a logical behavioural/social consequence of the emotion dysregulation deficits of ADHD (Barkley, 2014). The current study considers emotion dysregulation as distinct but overlapping with ADHD, in contrast to the all-or-none core component model Barkley would support. However, this remains an important avenue of research to review, as emotional regulation may still help explain comorbidity. Emotion dysregulation, as a transdiagnostic feature, can also help

explain the risk for depression and anxiety in individuals diagnosed with ADHD (Barkley, 2014), a position supported by Seymour et al. (2012), who have found that emotional regulation fully mediates the relationship between ADHD and depressive symptoms in youth.

Treatment often focuses on such comorbidities, particularly when targeting emotion dysregulation (Burns & Martin, 2014; Pliszka, 2009). This information is important for informing future interventions, as the high cost of ADHD could be lowered if treatment instead targeted the underlying issues (such as deficient emotional self-regulation) more effectively, rather than comorbid disorders that currently carry a significant portion of the burden of total treatment costs of ADHD (e.g., Birnbaum et al., 2005).

### **Post-Secondary Students and ADHD**

Emotion dysregulation is a transdiagnostic concept that is prominent in adults with ADHD, and therefore may contribute to a number of the impairments faced by young adults diagnosed with ADHD (Aldao & Nolen-Hoeksema, 2010; Barkley, 2014; Ramirez et al., 1997; Rawana et al., 2014; Shaw et al., 2014). Indeed, college students diagnosed with ADHD are found to be more aggressive than their peers and experience higher levels of psychological distress (for a review, see Weyandt & DuPaul, 2006). Lacking adaptive emotional regulation strategies or utilizing maladaptive ones could underlie numerous impairments and increase risk for psychopathology (Aldao et al., 2010; Rawana et al., 2014). Consider as well that young adults are still progressing in terms of prefrontal cortex development, an area responsible for executive functions that have been associated with both ADHD deficits and emotion regulation abilities (Kane & Engle, 2002; Ochsner & Gross, 2014; Riediger & Klipker, 2014). Evidence points to a delay in cortical development in ADHD (e.g., Shaw et al., 2007), meaning that young adults with ADHD may be further behind their typically developing peers. This underscores the

connection between emotion regulation and ADHD, and highlights the potential delays young adults experience in the development of pertinent brain regions.

The difficulties faced by young adults diagnosed with ADHD who are attempting to succeed in post-secondary settings highlight a population that would benefit from support. Add in the unique contribution of emotion dysregulation and the relevance of a still-developing prefrontal cortex, and it is a population ripe for study in order to inform future supports and interventions.

### **Quantitative Evidence Base**

Barkley (2014) has provided an excellent review of emotional impulsiveness and dysregulation occurring within ADHD, with information on the history, prevalence, and consequences of this type of emotional impairment. He has presented evidence from numerous sources, including rating scales (e.g., the Behaviour Rating Inventory of Executive Functioning, the Connors Adult ADHD Rating Scales, and Barkley's own scales assessing executive functions in children), direct observations (e.g., how individuals with ADHD respond in a situation of induced frustration), and psychophysiological research (measuring sympathetic and parasympathetic nervous system responses).

The methods Barkley draws on, and that are utilized by most other studies cited within this literature review, are primarily quantitative in nature. It has been established that emotions, and subsequently emotional regulation, involve significant components of subjective experience (e.g., Scherer, 2009), a well of knowledge that quantitative methods are not readily able to tap into. Qualitative methods will be able to obtain information from the source of these phenomenological emotional experiences, exploring in depth how these individuals describe their emotions, what strategies they employ to regulate them, and what types of situations they

perceive as requiring emotional regulation. Indeed, such methods have been helpful in shedding light on individual goals and perspectives related to emotion regulation (Gross et al., 2006). These methods have the potential to help validate the existing knowledge about emotion dysregulation in ADHD by expanding our comprehensive understanding of it, adding to the push for including deficient emotional self-regulation as a significant component of ADHD impairment. Further, this type of comprehensive understanding of how individuals experience and utilize emotional regulation may help improve interventions, allowing us to provide the most suitable treatment for each individual.

### **General Summary**

Emotions are complex, multi-component processes that serve multiple functions, but can also impede daily functioning in a consequential manner. Emotional regulation is the intentional management of these emotions in order to achieve goals and improve functioning. Attention deficit-hyperactivity disorder is associated with numerous impairments for young adults, resulting in a number of psychological, academic, and social consequences. Deficits in self-control and executive functioning in ADHD have provided a conceptual bridge to impairments in self-regulation of emotions, and the real-life consequences to emotional impairment in ADHD appear quite clear. Research has begun to elucidate the role of emotion regulation in ADHD, but has relied primarily on quantitative methods and often ignores the subjective experience of the individual. What remains to be explored is how young adults diagnosed with ADHD actually perceive and experience emotional regulation. This information will help validate what has been found with quantitative measures, while thickening the narrative and our subsequent understanding of what is going on for these individuals in emotionally intense situations. This knowledge will help expand our comprehensive understanding of emotion dysregulation in

ADHD, and has the potential to inform current and future interventions specifically for emotional regulation abilities in individuals diagnosed with ADHD.

## CHAPTER III – METHODOLOGY AND METHODS

*“If we knew what it was we were doing, it would not be called research, would it?”*

- Albert Einstein (unconfirmed)

The approach that the current study employs in order to answer the pertinent research questions will now be discussed in detail. The rationale for the qualitative methodological approach and the relevant theoretical framework of social constructivism will be outlined first. This will be followed by an in depth discussion of the Enhanced Critical Incident Technique (Butterfield, Borgen, & Amundson, 2009), the logic of choosing this method, and the procedure that was followed. Finally, the manner in which the current study ensured validity and integrity of the research will be elaborated on.

### **Methodology**

In order to answer the research questions appropriately, the current study employed a qualitative methodology. This broad research paradigm arose as a response to the dominant approaches couched in positivism/empiricism, and offered an alternative method that could capture the nuance of individual experience (Creswell, 2013; Snape & Spencer, 2003). In this sense, quantitative avenues of research are limited, as they are unable to take individualized context and perspective into account (Rao & Woolcock, 2003). Many areas of research such as ADHD predominately apply quantitative methods, but those that have utilized a qualitative approach have been able to capture a much richer account of participants’ lived experiences (e.g., Williamson, Koro-Ljungberg, & Bussing, 2009). Qualitative research is regarded as both interpretive and naturalistic, as it explores the individual’s subjective, unique experience and

understanding of the world around them, and it does not require the experimental manipulation of variables (Creswell, 2013; Snape & Spencer, 2003). Qualitative research methods are a successful approach to answering research questions exploring the experiences and perceptions of participants, and are able to reflect the uniqueness of individual lived knowledge, while also identifying commonalities, or themes, across multiple exemplars (Snape & Spencer, 2003).

*Ontologically*, qualitative research advances the possibility that there can be multiple realities based on the subjective interpretations of individuals situated uniquely within their context; as a result, evidence provided by these individuals substantiates *epistemological* knowledge (Creswell, 2013). All qualitative methods must accept that research is value-laden, and that biases are inevitable. The process of qualitative research studies phenomena within their context, and uses inductive logic in order to arrive at results and conclusions (Creswell, 2013; Snape & Spencer, 2003).

Emotions, and subsequently emotional regulation, have been established as concepts based on individual cognitive appraisals and subjective conceptualizations (Gross, 2014; Scherer, 2005), sharing theoretical assumptions with qualitative methodologies. This suggests that a qualitative approach is the most suitable when trying to adequately understand how individuals are experiencing emotions and their management of them within the context of their lives.

### **Social Constructivism**

*Social constructivism* is a prominent paradigm within qualitative research methodologies, and serves as the guiding theoretical framework that informs the current study. At its core, social constructivism posits that reality is constructed by individuals – situated within their social and cultural context – subjectively interpreting their unique experiences (Creswell, 2013). Reality is both complex and based in subjective interpretation, a framework that maps onto our model of

emotions (Scherer, 2005, 2009). Emotional regulation is subsequently reliant on how individuals interpret their emotions (e.g., Matthies et al., 2014). The current study asks participants to reflect on their perceptions of their emotions and emotion regulation. Social constructivism has a longstanding interest in these cognitive processes of constructing reality, as opposed to *social constructionism*, which has little to no focus on cognitive factors (Andrews, 2012; Young & Collin, 2004).

This framework also believes in the construction of reality through social interaction and processes, offering a natural fit with ECIT, which utilizes an interview as the primary data collection method (Butterfield et al., 2009). The further inclusion of a follow-up interview that gathers in-depth feedback from participants reflects a method that relies strongly on their own views and interpretations and places them as co-constructors/interpreters of knowledge during certain stages in the research process, consistent with a social constructivist paradigm (Creswell, 2013). Finally, it is recognized that the researcher's own interpretations of the data are based on subjective experiences couched within a personal, sociocultural, and historical context. The emphasis on both cognitive and social processes makes social constructivism an applicable framework from which to approach the current study.

### **Biases and Assumptions**

Qualitative research is often concerned with the role of the researcher, necessitating reflexivity on how pre-held beliefs, assumptions, and biases may influence methodological choices and interpretation of results (Spencer & Ritchie, 2012). The researcher may then attempt to bracket their beliefs out of the process (Creswell, 2013) or acknowledge them as potential limitations. As the primary researcher, I engaged in such a reflexive process, and have identified the following that I am bringing to the current study topic:

1. Though I intend my work to be research based, I am biased towards a model of emotions and emotional regulation that hinges upon subjective individual perceptions, informing much of the current study's frame of reference.
2. I believe that people have the ability to be self-aware (and self-reflective) about their emotions and emotional regulation.
3. I believe individuals diagnosed with ADHD will be self-aware of their diagnosis and have some awareness of how it is impacting their emotions and emotion regulation abilities.
4. Consistent with a bias also seen in the literature (Gross, 1999) – and reflected in my own thesis title 'Calming the Tide' – I tend to see emotional regulation in the context of down-regulating negative emotions, and have attempted to balance this pre-held bias during the current study.
5. I tend to subscribe to a deficiency model of ADHD based in impairments in functioning that could colour interpretation of results by framing certain factors as impairments, rather than differences in ability.
6. I assume that people desire to regulate their emotions during emotionally intense situation, though this may not universally be the case.
7. I assume that all participants will have an ability to regulate their emotions, at least to some degree, though it is possible these abilities may not be developed much, if it at all, in some individuals.

## Method

### Enhanced Critical Incident Technique

**Background.** The current study employs a version of the *Enhanced Critical Incident Technique* (ECIT; Butterfield et al., 2009; Flanagan, 1954) as a qualitative research method that provides the data necessary in order to answer the research questions. ECIT is a modern innovation of the *Critical Incident Technique* (CIT) that was originally developed by Flanagan (1954), examining activities and behaviours of pilots during World War Two, and which was subsequently used as a method of identifying effective and ineffective workplace practices. The CIT has been used prominently in industrial and organizational psychology research for over fifty years (Butterfield, Borgen, Amundson, & Maglio, 2005), but has expanded to be implemented in a variety of areas such as nursing (Schluter, Seaton, & Chaboyer, 2008) and counselling psychology (Butterfield et al., 2009; Woolsey, 1986), as has ECIT. Currently, ECIT is a rather widely used method of exploratory research (Chell, 1998; Woolsey, 1986).

ECIT is a flexible method that is not tied down by any one specific theory or worldview (Butterfield et al., 2005; Flanagan, 1954), but lends itself well to interpretive methodologies (Chell, 1998). ECIT focuses on significant events that either have meaning to the participant, or that impact the effective performance of an activity (Butterfield et al., 2005). Originally designed for use with direct observation of behaviours and activities (Flanagan, 1954), ECIT has evolved to utilize retrospective self-report gathered through interviews (Butterfield et al., 2005). Analysis involves the emergence of categories from the data (similar to themes) that adequately represent the critical incidents and their components. Modifications and improvements that have been incorporated in the Enhanced Critical Incident Technique include refinement and

standardization of the procedure, along with the development of nine credibility checks (Butterfield et al., 2009).

**Relevance.** ECIT has been chosen for the current study due to a number of factors. It fits well within a qualitative and social constructivist framework, able to collect and analyze data that reflects individual, subjective experiences and perceptions of a phenomenon, while also allowing for influence of social and cultural context (Chell, 1998). As an exploratory method (Woolsey, 1986), it aligns with the goals of the current study, which are to explore the concept of emotional regulation in young adults with ADHD from the individual, subjective, and contextual perspective. The current study is also interested in understanding what helps or hinders participants' ability to manage intense emotions, and ECIT is most often concerned with research questions about the helping and hindering factors of a phenomenon (Butterfield et al., 2009). Findings emerging from an ECIT study can inform clinical tools (Butterfield et al., 2009), coinciding with the current study's goal to inform future research improving emotional regulation interventions for those diagnosed with ADHD.

The focus on critical events allowed the current study to narrow participants' focus and encourage them to share their experiences and perceptions of significant instances in which they were called upon to manage their emotions. This prevents participants from offering broad answers about emotional regulation that would not deliver the desired detail and specificity. Furthermore, with an ADHD population, it will give them important specific guidance and structure as to what they are being requested to speak about, potentially aiding in keeping their attention on the task at hand (e.g., Farrelly & Zwiers, 2014; Pfiffner, Barkley, & DuPaul, 2006). Other qualitative methods such as interpretative phenomenological analysis (IPA; Smith, Flowers, & Larkin, 2009) have a comparable frame of reference, exploring individual lived

experience (Larkin & Thompson, 2012). However, the current study is investigating intentional emotional regulation that is called upon in situations where, left unmanaged, the emotions might result in notable negative consequences. Whereas a method such as IPA may be suited to answering research questions about more general, overarching perspectives and beliefs emerging from experiences, ECIT is able to elicit experiences of specific situations, events and constituent components. Finally, ECIT allows for additional contextual information to be gathered from the interview (Butterfield et al., 2009), pairing with a number of potential secondary methods such as Thematic Analysis (e.g., Howard, Butterfield, Borgen, & Amundson, 2014) to analyze the secondary research questions of the current study.

## **Participants**

The researcher interviewed six participants (4 female, 2 male). Participants were recruited through multiple methods, including direct advertisement through an on campus clinic that provides academic support to post-secondary students with disabilities (student accessibility services); recruitment posters placed throughout campus, distributed via social media, and handed out at presentations given to the relevant demographic; and professional colleagues asked to pass information to prospective participants where appropriate. One participant was recruited through a snowball method (i.e., referred by another participant). ECIT does not pre-specify a requisite number of participants, instead calling for as many as needed to achieve data saturation (Butterfield et al., 2005). Given the nature of recruitment through social media, three of the participants were previously known to the researcher who had met them in a general community context. This was not deemed a significant obstacle to the purposes of the study, and the role of the researcher and participant was clarified prior to beginning the interviews.

All participants reported having an ADHD diagnosis (2 from a psychiatrist, 3 from a psychologist, and 1 from a medical doctor) that was conferred during childhood (3) or recent adulthood (3). Recruitment targeted individuals between the ages of 18 and 25; participants in the study were 19-22 years old ( $M = 20.33$ ;  $SD = .94$ ). All six participants were enrolled at a Canadian post-secondary institution; four of six attended a Calgary institution; one in Vancouver; and one in Edmonton. Although ethnic background of participants was not requested, two of six participants were from a visible minority, the rest being Caucasian in appearance. Four of six participants mentioned coping with, or being treated for, comorbid symptoms (depression/anxiety) in the past, but none that were currently significant. Five of six participants were taking prescribed stimulant medication to help manage their ADHD symptoms at the time of the interview. Two of six participants reported engaging in some form of counselling or psychotherapy in the past for comorbid conditions or life experiences (e.g., parental divorce).

All six participants engaged in the initial research interview, with four electing to participate in the optional follow-up interview. All of these participants agreed with the proposed categories and suggested minimal revisions that were discussed collaboratively by the researcher and participant(s). These revisions were for clarification of details relating to specific events or experiences described in the initial interview, which in some cases led to a different categorization of the incident involved.

## **Procedure**

The procedure was modelled after a typical implementation of the ECIT (Butterfield et al., 2009), founded on the procedure initially developed by Flanagan (1954). The procedure involves five prototypical steps that will be described in the context of the current study.

**Aims of the activity.** The first step requires ascertaining the aims of the primary activity to be studied (Flanagan, 1954), which in our case is emotional regulation. Delving into the literature reveals that the preeminent purpose of emotional regulation is to manage the occurrence, intensity, duration, and expression of emotions (e.g., Gross, 1998). Emotions may be managed in a number of different ways, and the current thesis aimed to explore how this occurs in emotionally intense situations in young adults diagnosed with ADHD.

**Making plans and setting specifications.** The second step calls for defining the types of situations to be reported on (i.e., critical incidents), and in this case clarifying the relevance and effect of specific behaviours to the general aim of emotional regulation (Butterfield et al., 2005; Flanagan, 1954). The situations to be recollected in the current study were emotionally intense situations, times when participants were most likely to have been motivated to engage in management of their emotions. These situations were specified to have occurred within the past year to ensure they captured participants' current emotional regulation abilities, and also supports credibility by having recent situations for recollection and retrospective reporting (Flanagan, 1954). The relevance and effect of specific behavioural, affective, and cognitive activities to the general aim was determined by the participants themselves, as the study intended to investigate subjective perceptions. Any activity participants saw as helping, hindering, or otherwise impacting their ability to regulate their emotions was deemed relevant to the current study. The researcher also had a hand in determining these factors, having the option to use prompts in the interview to clarify the relevance or effect of a particular behaviour, and later during data analysis when identifying critical incidents and creating categories through a process of inductive logic (Woolsey, 1986).

**Collecting the data.** The researcher obtained ethics approval for the current study through the University of Calgary Conjoint Faculties Research Ethics Board (CFREB). The researcher engaged in a variety of recruitment methods described above in order to garner interest in the study. Interested prospective participants who contacted the researcher directly were given a recruitment letter containing more detailed information about the study, with the option to follow up and arrange for a research interview.

The researcher conducted an initial screening interview with potential participants over the phone (and in one case over email when a phone call was unable to be scheduled) in order to determine whether they were eligible for the study. This conversation reviewed inclusionary and exclusionary criteria.

***Inclusion criteria.*** All participants were required to have received an ADHD diagnosis from a reliable source (e.g., family doctor, paediatrician, psychologist, psychiatrist). No official documentation of diagnosis was required in order to accommodate logistical and time commitments of both the researcher and participant. Participants were also required to be enrolled in a post-secondary institution. In order to ensure a young adult population, participants were required to be between the ages of 18 and 25 at the time of the interview, with 25 as the maximum age for inclusion given existing research on brain development suggesting that pertinent areas involved in emotional regulation (e.g., prefrontal cortex) remain in development throughout this time period (Diamond, 2002; Riediger & Klipker, 2014). All six participants possessed a level of English proficiency necessary to participate in an interview.

***Exclusion criteria.*** Participants were excluded if they presented with significant unmanaged comorbid disorders (e.g., depression, anxiety, personality disorders) or past trauma that would detract from their ability to partake in research or otherwise impact their emotional

regulation abilities above and beyond what might be expected for a typical ADHD population. No prospective participants were excluded based on these criteria.

Once participants were determined to be eligible and expressed continued interest in the study, a research interview was arranged. Four of the interviews took place at a clinic on campus that houses rooms designed for confidential psychological assessments with audio recording equipment readily available, and are therefore appropriate for conducting a research interview. The remaining two interviews were conducted at an off-campus location agreed upon by the participants that included confidential offices also appropriate for conducting research interviews. The interviews were semi-structured, and followed the general guideline of an interview script (Appendix E) as is often utilized in ECIT (Butterfield et al., 2009). The interviews ranged from 60-90 minutes, and were audio recorded to allow for later transcription and data analysis. All participants were given the option to participate in a secondary, follow-up interview, consistent with typical ECIT procedures (Butterfield et al., 2005). The follow-up allows for participants to review the initial categories created, whether categories adequately reflect their lived experience, and to provide feedback or clarification if relevant. This interview was made optional in order to lessen the required time commitment, a valuable commodity for post-secondary students.

The research interviews were transcribed by the researcher, consistent with the procedure and one of the credibility checks of ECIT (Butterfield et al., 2005). Transcriptions were aided with the use of ATLAS.ti software, which is designed to aid in coding and organization of qualitative data. Once transcriptions were complete, the researcher contacted the participants who elected to be a part of the follow-up interview. These interviews took place over the phone or email, with two of the interviews scheduled in-person as the researcher had more follow-up

clarifications than expected. The follow-up conversations were neither audio recorded nor transcribed, instead requiring the researcher to take detailed notes on pertinent feedback that was given.

**Researcher reflection.** The process of interviewing and subsequently transcribing the interviews was not always a straightforward one. Given the nature of ADHD, which manifests in tangential asides and distractions during conversation, the role of researcher was often to refocus conversation to keep it on track. Multiple ideas were often presented in one segment of conversation, and sometimes included ideas that were not connected to the question. The participants were always willing and interested in the topic, but simply got off track, as may be seen in the following example from Participant 4:

Um, but I, like, I guess like there's times where I'm distracted and, like, I can't concentrate on stuff and, like, I feel like everyone has this but they can't read long articles on the internet and stuff, um, but, like, uh, yeah. Yeah and sometimes I don't finish sentences, um, and sometimes I forget the question. – What *was* the question?

Furthermore, I found it challenging to embody the role of researcher more prominently than my natural role of counsellor. There were numerous instances when foundational counselling communication skills were quite useful in building rapport, helping to paraphrase and summarize what a participant said, and probing to a degree that someone without training may not have had the skills to be able to do. However, it also meant I had to be self-aware of my tendency to analyze and even interpret through a counselling lens communications offered by participants, seeing maladaptive coping strategies or developing conceptualizations beyond what the participant may have been describing. Given the context of research interviews, this would have impacted my ability to view the data objectively as researcher. In the end, I felt I was

successful most of the time at wearing the researcher hat and only utilizing counselling skills where appropriate to maintain communication.

Beyond the interviews, the actual transcription process then required me to take these tangential narratives and punctuate them for comprehension and readability. As one can imagine, a single passage that contains multiple incomplete sentences and abruptly shifts ideas mid-sentence can be challenging to insert appropriate punctuation in order to accentuate the ideas in a coherent manner. This was particularly noticeable if the participant talked quickly without pause (a practice that was also quite common). Sections of uninterrupted participant speech could reach up to 1,946 words, often without obvious punctuation in their manner of speaking. Below is an exemplar of an un-edited, un-broken text:

Which could like be um like I cannot I cannot how people will act and such and as such I don't depend on people's reactions so I like I focus on just venting out my emotions and if people agree with me let it be if people are willing to respectfully like argue with me about stuff that let that be too I don't mind but the people who are like are not quite well a lot of people would like to call neurotypical people um the stubbornly neurotypical people who are who don't who only are willing to understand like the media's stereotypical group of that as opposed to like trying to understand how it feels like on a personal level or like remove all stereotypes and myths and just try to understand how this feels and stuff but yeah what were we talking what were we talking about? I lost my train of thought. (Participant 2)

The use of punctuation and construction of sentences can help, but may not entirely resolve the challenges inherent in following such a meandering communication.

Overall, these participants were an absolute delight to speak to, freely providing examples of their experiences and their own perceptions and insights into them. The obstacles I mention here are not to disparage any participants, but instead to give the reader an appreciation of some of the challenges involved in using qualitative methodologies, perhaps further accentuated with this population.

**Data analysis.** In ECIT, the data analysis procedure is similar to that of other qualitative methods, requiring time and patience to review transcripts of the interviews (Butterfield et al., 2005; Woolsey 1986). The objective of this process is to provide a comprehensive account of the phenomenon in question.

First, the researcher selects a *frame of reference*, based on the intended use of the data (Flanagan, 1954; Woolsey, 1986). This aids in the formation of categories, providing a framework in which to understand the data. The current study is exploratory in manner, with the primary intention to expand knowledge about subjective perspectives on, and naturalistic implementation of, emotional regulation strategies in real situations, while also aspiring to use this knowledge to inform future development of counselling interventions.

Next, the researcher engages in *category formation* (Flanagan, 1954; Butterfield et al., 2005). This is a process wherein, through insight and inductive reasoning, the raw data from the interviews is organized into categories created by the researcher to responsibly represent the essence of the results. The frame of reference helps determine how categories are formed and their level of specificity (Butterfield et al., 2009). In order to accomplish this, the researcher poured over transcripts, identified critical incidents (CI), and extracted initial patterns or themes among them. This included CIs that fell in the categories of helpful, hindering, or wish list items. In analyzing each transcript, new categories were formed as new patterns emerged. All

of these categories were retained in an electronic document that included the CI, the category, the participant number, and which was used to track how many new categories were added per transcript (Butterfield et al., 2009). This was helpful in managing and implementing many of the credibility checks that will be discussed later. As each transcript was reviewed, categories were considered for their comprehensiveness and level of specificity, at times needing to be redefined, merged with other categories, or split into multiple categories. Butterfield et al. (2009) recommend holding back 10% of the interview transcripts to be analyzed later, after finalization of category names and definitions. With only six transcripts to work from in the current study, one transcript was randomly chosen to be set aside for later analysis. Once all but one of the interview transcripts had been analyzed, the category names and operational definitions were finalized (Butterfield et al., 2009). The final transcript was then analyzed following a similar process using the now-established categories.

***Credibility checks.*** Throughout data analysis, the current study went through the nine credibility checks of ECIT as thoroughly as possible in order to help ensure the quality of the research (Butterfield et al., 2005). These included: audiotaping interviews; interview fidelity; independent extraction of CIs; exhaustiveness; participation rates; placing incidents into categories by an independent judge; cross-checking by participants; expert opinions; and theoretical agreement. *Audiotaping interviews* allowed the researcher to directly analyze the participants' words to help ensure accuracy of the results. Butterfield et al. (2005) suggest *interview fidelity* may be upheld by having the researcher's thesis supervisor listen to every third or fourth interview to ensure that the researcher is properly implementing ECIT methods, is not using leading questions, and is following the interview guide. For the current study, the research supervisor reviewed several of the interview transcripts in detail and provided extensive

feedback to the researcher. Though different than the original guideline for ECIT, we believe this process was similar and thorough to a degree that successfully upheld interview fidelity.

The researcher provided 25% of the transcripts to an independent observer – or second-coder – to *independently extract CI's*, and after discussing discrepancies, a concordance rate of 100% was reached. Discrepancies did not reflect significant disagreements, only incidents that were missed in the initial coding, or incidents that had yet to be elaborated upon in the follow-up interviews. Following this, the researcher randomly chose 25% of the CI's from each category, and had a separate *independent judge place them in categories*, garnering a concordance rate of 93%, considered above the minimum standard of 80% (Andersson & Nilsson, 1964). The only discrepancies that arose were due to the complexity of participant responses making them viable for two potential categories, resulting in the researcher and second-coder not able to agree on the category that best represented that example. These few responses were later categorized according to participant feedback in the follow-up interview (Butterfield et al., 2009).

*Exhaustiveness* is achieved when no new categories emerge, and in the current study was reached following the fourth interview. *Participation rates* calculate the percentage of participants that provided a supporting CI toward a particular category, which adds to the credibility and strength of the chosen categories (Borgen & Amundson, 1984; Butterfield et al., 2009). The current study was examined for categories with participation rates below 25%, which is considered the minimum standard (Borgen & Amundson, 1984). Only one sub-category, *Maintaining the Emotion*, had a below-standard participation rate of 17%. However, the decision was made to retain this sub-category in the results as it offers a unique type of emotional management technique. Qualitative research is designed to capture this exact type of

nuanced result, meaning it would be working against the purposes of this exploratory study to exclude a category based solely on a predetermined rate of prevalence.

*Cross-checking by participants* is typically conducted in a second (follow-up) interview in which the participant has the chance to provide feedback about the chosen categories, and clarify any discrepancies that arose during the independent coding and categorization process (Butterfield et al., 2009). The current study made this follow-up interview optional, allowing participants to elect whether to engage in a second interview. This decision was made in order to lessen the time commitment required of participants who are busy post-secondary students. Four out of six participants decided to engage in the follow-up interview, with the other two either not having time (one), or not responding to the researcher's communication (one). The follow-up interviews that were conducted were primarily (three out of four) in person, and provided quite in-depth feedback and information that elaborated on the initial interview. At the request of the participant, one was conducted over email, a format that - although not dialogic - still allowed them to provide in-depth responses to the researcher's follow-up questions.

*Expert opinions* about the categories were sought from two content experts, who were asked about the usefulness of the categories, if anything was surprising, and if anything appeared to have been missed (Butterfield et al., 2009). Both experts have significant research experience in the field of emotional regulation, with one of them helping develop a prominent theory in the field, and the other having more specific experience writing and researching ADHD and emotion regulation. One expert confirmed the chosen categories and provided no further feedback. The second expert provided helpful feedback from their own theoretical perspective, suggesting areas in which theoretical concepts were overlapping in the categories. This feedback was taken into consideration – particularly in the discussion section – as ECIT categories need to arise from

participant perceptions. This meant that categories did contain conceptual overlap, which is identified and reviewed in the discussion chapter. Finally, *theoretical agreement* was achieved by comparing categories with existing literature. Given the vast literature base for both ADHD and emotional regulation, the discussion chapter was used to draw a number of connections between results and previous research.

### **Reporting the Results**

The final step of the ECIT procedure involves reporting and disseminating findings, and is viewed as one of the most important responsibilities of the researcher (Flanagan, 1954). This communication must include a discussion of the limitations as well as the strengths and value of the findings, all which will be seen in the following chapters of this thesis. A summary of the results was also sent to all participants who took part in the study to ensure that communication of findings included the initial contributors to the research project.

### **Thematic Analysis**

A secondary analysis was conducted in order to analyze contextual information offered by participants and to answer the two secondary research questions of the current study: 1) How do young adults diagnosed with ADHD perceive intense emotions? And 2) How do young adults diagnosed with ADHD perceive their emotion regulation abilities?

Thematic analysis (TA) is a popular qualitative method that does not adhere to any one theoretical framework, instead flexibly adapting to the needs of the study in which it is employed (Braun & Clarke, 2006). TA identifies patterns in the data of multiple participants, relevant to the research questions of interest. This positions it as a suitable fit for the current study's exploratory research questions, getting a general sense of perceptions across the participants. Due to the current study's interest in identifying common themes of participant experiences,

while also acknowledging that these will be based on participants' unique world-views and the researcher's subsequent interpretations, TA fits nicely within the overall framework of social constructivism (Braun & Clarke, 2006; Creswell, 2013).

Thematic analysis follows a procedure of reviewing and gaining familiarity with the data, followed by beginning to generate initial codes that denote the essential value or concept being presented (Braun & Clarke, 2006). Next is a higher-order analysis involving the search for themes among the codes that have been generated. Themes represent a pattern of codes that share a similar important concept. The next step involves reviewing themes further, identifying whether themes need to be merged or divided, and deciding if themes work both with individual codes and the greater data set. Finally, once themes are settled on, they are given a name and definition that captures the essence of the codes that made it up in the first place (Braun & Clarke, 2006).

For the current study, interesting aspects of the data were coded simultaneously with the ECIT coding as part of familiarizing myself with the data, while full thematic analysis was completed after the ECIT analysis was finalized. This was to ensure I had a clear mind when conducting the secondary analysis, and was properly situated in identifying information from the transcripts that answered our secondary research questions. In addition, themes were identified that provided context to participants' examples of emotional situations, the types of situations that gave rise to emotions, and the types of emotions they were experiencing.

### **Quality of the Research**

The quality of research is important in order to determine how useful the results are for consumers of information and future researchers. In qualitative methods such as ECIT, these quality checks have at times been lacking or fuzzy in definition (Butterfield et al., 2005), but the

current study was able to engage in processes that aided in the credibility, transferability, dependability, and confirmability of the research, the four key constructs of qualitative research quality identified by Lincoln and Guba (1985).

### **Credibility**

As defined by Lincoln and Guba (1985), *credibility* is the parallel to internal validity in quantitative research, and considers the accuracy and defensibility of research findings. As discussed in the details of the procedure section, the current study followed the nine credibility checks outlined by Butterfield et al. (2005) as thoroughly as possible. These credibility checks match nicely with those proposed by Shenton (2004), including peer scrutiny, debriefing with supervisors/experts, seeking feedback from participants, and corroborating findings with previous research and theories. Further, the current study has aided the defensibility of findings by providing a clear rationale for the chosen methods, and the logic surrounding sample composition (Spencer & Ritchie, 2012).

### **Transferability**

Qualitative research is markedly less concerned with the generalizability of findings than quantitative approaches, as it is investigating more personal, individual experiences within their unique context (Shenton, 2004). However, there remains a level of *transferability* possible by providing readers with enough contextual detail of both the phenomenon in question and the study itself, that they could reasonably draw conclusions about similar individuals in similar situations (Lincoln & Guba, 1985; Shenton, 2004). The current study has provided a rich in depth discussion of results, along with information on the inclusionary and exclusionary criteria for participants, the number of participants involved, and a detailed account of data collection and analysis procedures (Shenton, 2004). Emotion dysregulation is common in many adults

diagnosed with ADHD (Shaw et al., 2014), and limiting the sample to young adults enrolled in a post-secondary institution means results may be representative of individuals in a similar context. However, emotion dysregulation is heterogeneous in ADHD (Musser et al., 2013), which must be taken into account when attempting to make extrapolations from the current study's findings.

### **Dependability**

The construct of dependability is primarily concerned with repeatability of the methods of the study, but not necessarily in aims of achieving the same results, considering qualitative research occurs within a unique context each time it is conducted (Shenton, 2004). The methods employed to ensure credibility, along with the detailed account of the procedure that aided transferability, all similarly support *dependability* of the current study.

### **Confirmability**

The construct of *confirmability* is considered parallel to the quantitative notion of objectivity, with a goal of ensuring results are a reflection of participants' perceptions and experiences rather than those of the researcher (Shenton, 2004). To achieve this, the researcher must engage in a reflexive process and discuss the biases and assumptions he or she brings to the table, and how they may have impacted methodological decisions or interpretations of results. Reflexivity is considered an integral component in qualitative research studies (Spencer & Ritchie, 2012).

My beliefs, biases, and assumptions were delineated near the beginning of this chapter in order to have them be up front and salient in how they may have informed methodological choices that were subsequently discussed. During the data analysis process, I attempted to bracket myself out of the study and set aside these beliefs and assumptions in order to focus on

the participants' perceptions and experiences (Creswell, 2013), allowing for unexpected results, unhindered by personal biases, to arise (Rao & Woolcock, 2003). The logic and assumptions that accompanied methodological decisions have been detailed throughout this thesis, and a further deliberation of the limitations of the study and its' chosen methods will be provided in the discussion chapter.

### **Contribution**

One final construct that is not included by Lincoln and Guba (1985), but is considered important in many discussions of valid qualitative research, is that of the *contribution* it makes to knowledge and/or practice (Spencer & Ritchie, 2012). It is believed that the current study fills an important gap in the literature on emotional regulation and ADHD by exploring the individual lived experience, something that has not been achieved with previous quantitative methods. This expands knowledge on emotional regulation, a prominent phenomenon for many, particularly those diagnosed with ADHD. Furthermore, it may help inform future interventions by relaying strategies that individuals themselves endorse as useful within real-life, emotionally intense situations.

### **Summary**

Informed by a social constructivist theoretical framework, situated within the greater interpretive qualitative grouping of methodologies, the current study explores the individual lived experience of emotional regulation in young adults diagnosed with ADHD by employing the Enhanced Critical Incident Technique (Butterfield et al., 2005; Flanagan, 1954). The ECIT allows for exploration of subjective perceptions and experiences within the context of significant situations, while also identifying helping and hindering factors of emotional regulation. The secondary research questions concerning participant perceptions of emotions and emotional

regulation are examined using a thematic analysis of content (Braun & Clarke, 2006). The quality of the research has been discussed in detail, and is in line with checks and constructs specific to ECIT (Butterfield et al., 2009), as well as qualitative research in general (Creswell, 2013; Shenton, 2004; Spencer & Ritchie, 2012).

## CHAPTER IV – RESULTS

*“A learning experience is one of those things that say, ‘You know that thing you just did? Don’t do that.’”*

- Douglas Adams, author of *The Hitchhiker’s Guide to the Galaxy*

The results gathered from the ECIT and thematic analysis procedures will be presented throughout this chapter. To begin, I will offer a reflection of the process that generated these results in order to situate the reader in the mindset that was required to understand and respond to the challenges of this particular analysis. Next, the contextual themes that answer the first research question of how intense emotions are perceived will be presented. This data will offer the reader an appreciation of the lens through which participants view their emotions. The categories created from the helping, hindering, and wish list critical incidents will then be presented in detail. Finally, the themes answering the second contextual research question of how participants perceive their emotional regulation will be presented. These provide a further understanding of how participants view their regulatory abilities and, as will be elaborated on in the discussion chapter, provide a higher-order understanding and bridging of concepts across various ECIT categories.

In order to ensure anonymity, participants will be referred to by arbitrary participant numbers. At the time of the interview, participants were offered the choice of selecting a pseudonym; not all chose one, and in order to retain consistency it was decided to refer to them by numbers. Throughout the text, participants will be associated with a specific number in order to help the reader gain a picture of who each participant is, and the type of responses each gave.

Gender neutral pronouns are used throughout the chapter, partially in service of anonymity, and to avoid making assumptions about preferred pronoun when the question was not explicitly asked. The term “they” has become an accepted and non-sexist 3<sup>rd</sup> person singular pronoun (‘He or she’ versus ‘they’, 2016) and will be utilized in this document.

### **Researcher Reflection**

Analyzing the data presented a challenge unlike any I had previously encountered in my academic career. The tendency for participants to provide multiple ideas in parallel and to go on tangents generated data that contained rich, multi-layered information that was challenging to analyze and break down into its key components. My best effort was required in order to extract the most salient and important ideas, keeping as much of the contextual influence as possible. In some cases, contextual information had to be left out if it did not directly feed into a critical incident, revealing a limitation of using the ECIT method for this type of inquiry.

I mention this to help the reader grasp the complexity of the constructs being explored and the challenges I faced when developing the categories presented in this chapter. Given this complexity, although I made the greatest attempt to analyze and categorize the data to accurately represent participant experiences, there is always potential for error. An example of this is cases where participants presented the same idea using different language, or conversely used the same words to describe distinct concepts. For example, participant 3 talked about acceptance in the context of accepting their emotion, a common emotional regulation strategy, “So with the extreme emotions how can I just accept that my emotions yes, are extreme, but it’s gonna be okay.” The same participant, at a different point in the interview, talked about acceptance in terms of appraising their current situation as one they could not control, “...acceptance is possibly, like, the biggest thing for me ... I’ve never been good accepting that it is the way it is,

and I'm just teaching myself that sometimes you can't change it, no matter how much you want to." In both these cases, acceptance was a key construct, yet the same word meant something contextually different, as accepting an emotion is a different idea than accepting the inevitability of a situation.

This complexity was confirmed by the second-coder who independently coded critical incidents as a key credibility check of the ECIT method (Butterfield et al., 2009). In discussing the alignment of codes, this individual described their own difficulty sifting through the dense sections of text in the transcript, attempting to extract the relevant information that constituted a critical incident in the context of the current study. We ended up finding agreement in our analysis, but this once again highlights the challenges involved in such a qualitative approach to data generation and analysis.

Another form of challenge saw participants presenting some ideas quite briefly with little or no detail or explication; however, upon further reflection during data analysis, I realized they were important ideas that begged revisiting. This is where the follow-up interviews became incredibly valuable, allowing me an opportunity to ask participants to elaborate on their initial remarks. This process of the follow-up interview required the researcher to be aware of preconceptions and assumptions and to consider carefully how to inquire and ask questions, attempting not to lead participants in a certain direction or toward a certain conclusion. Despite not wanting to lead participants, the researcher needed to explore connections between concepts that participants may not have been aware of initially. This was a fine line to walk, and by communicating openly and thoroughly with participants – and inquiring in a way that allowed ample opportunity to disagree and provide alternative conceptions – I attempted to reduce the

risk of leading participants, as can be seen in the following excerpt when I tried to clarify the participant's perspective while in conversation with them:

You talked about the importance of when you have a positive situation, you manage your expectations so that they are not unreasonable in a sense. It sounds like this is a preventative measure to not get caught off guard later by negative emotions if things don't meet those expectations – do I have that right, or would you explain it a different way?

Though it was a challenging process analyzing these results, it was an insightful and rewarding one. I was initially hesitant given the smaller sample size, but participants were able to provide such rich and nuanced information that I was able to analyze the data to a satisfying depth. I believe I achieved the goal set forth at the beginning of the study to obtain complex results about emotional regulation and ADHD not possible through previously employed quantitative methods. Hopefully this will be reflected in the categories presented below.

### **What Gives Rise to Emotions?**

This was not a research question, but the answer to this question can help the reader understand the context of participants' lives and the examples that they drew upon to illustrate their experiences.

Briefly, the types of situations that participants shared that elicited intense emotions included both individual and social elements. Internally, many examples involved self-expectations, and the pressures of either academia or work; in particular, feeling like they failed an assignment or a work-related task. Another individual or internal cause of emotions was passion or enthusiasm. When participants were exceptionally passionate about something, it

gave rise to either positive (e.g., overwhelming excitement) emotions, or – if something came in conflict with their passion – negative ones (e.g., blackout rage).

Social factors figured quite prominently in participant examples. These included conflict with friends or romantic interests, family difficulties, and challenges with strangers. The expectations that others held of participants gave rise to a melange of emotions including anxiety and shame, whether those expectations were unrealistic, based on misunderstandings, or not met by participants. In some cases, negative emotions were caused by friends who had the best of intentions, but who simply said the wrong thing – a common experience that will be shared by many.

In some cases, emotions were in response to perceived ADHD impairment, or consequences of the disorder, providing an important link in light of the current study. Some participants were aware of how ADHD impacted social functioning, while others experienced significant frustration with pragmatic impairments around time management and organization. Participant 1 shared one of the most compelling quotes of the thesis, saying, “...having ADHD’s not entirely unlike living with a brat that I have to constantly deal with.” Keeping this quote in mind, many of the emotional situations participants describe are not a direct result of ADHD, but may be complicated by virtue of having the disorder.

### **Research Question #1: How Do Young Adults Diagnosed with ADHD Perceive Intense Emotions?**

The first of our research questions asking, “How do young adults diagnosed with ADHD perceive intense emotions?” has been answered via a thematic analysis of content. The results that answer this question are relevant in providing context as to how this particular population views intense emotions, helping us understand subsequent emotional regulation attempts and

capacities and allowing us to draw potential implications or conclusions in the discussion chapter.

A total of 7 themes were identified from participant responses (one of which includes 2 sub-themes). Most are semantic themes identified explicitly by participants, but there were some latent patterns identified that will provide for interesting discussion. Given the scope of the current study, themes will be presented briefly in order to provide helpful context, but participants provided enough rich information that a separate study could likely be conducted on each research question alone.

### **Positive vs. Negative Emotions**

The first clear theme that emerged is the difference in how participants generally perceive their positive and negative emotions. Most participants acknowledged they experience intense versions of emotions at both ends of the spectrum. However, nearly every participant described negative emotions as being more intense, more visceral (i.e., more physical symptoms), more noticeable, and more easily remembered. Participants explicitly reported a higher intensity of negative emotions, and this theme additionally arose in a latent sense, as participants had a much easier time recalling intense negative emotions when providing examples for the ECIT portion of the interview.

Positive emotions, on the other hand, were often (though not in all cases) reported to be much more subtle and not as easily noticed (and thus not relevant for the current study). Positive emotions that were deemed relevantly intense were generally described as being more comfortable to feel, and in most cases, desirable to experience. Compared to the uncomfortable nature of negative emotions, intense positive ones were discussed readily. There was a pattern in positive emotions, however, of them still being overwhelming due to their intense nature.

## **Emotional Intensity**

The majority of participants articulated the overwhelmingly intense nature of their emotions. They spoke explicitly about this intensity, and it was also reflected in how they described the examples provided for ECIT categories. For some, this intensity was described as an all-or-none experience, in which the emotions would rocket from zero to one hundred in seemingly instantaneous fashion. Participant 3 used an apt metaphor, describing it as a Disneyland ride:

...my best example is, is a crappy ride at Disneyland. Whether they're, like, okay it's, it's a crappy ride at Disneyland when they're bad, and it's an amazing ride is at Disneyland when they're great. ... The only thing, like: I can't adjust it, so once I'm on the ride, it is what it is.

The intensity for this participant felt like something akin to a rollercoaster, and once the emotions grew it felt like there was no stopping them – they had to ‘ride it out’. Participant 6 communicated a similar intensity to emotions, describing the highest level as, “...hysterically, like, crying and, like, losing myself.” The participants clarified that these types of intense emotions were regular, attributing them to being high-stress people. For the majority of participants, reactions to emotional stimuli were either intensely positive, or intensely negative – there was little middle ground.

For some, there are situations where the intensity does build up or accumulate, as opposed to always being a sudden all-in experience. Anger and excitement were the emotions most commonly associated with a sudden onset, whereas other emotions such as guilt or shame would see more of a build-up over time.

**Different than others.** Participants generally perceived themselves to be experiencing emotions differently than those around them, particularly in relation to their intensity. Most participants believed themselves to be an outlier, or abnormal, compared to their peers. They shared that the intensity to which they felt their emotions is not the norm. This was difficult for some, who believed their experience and expression of such emotions was inappropriate.

There were two participants who believed that they did not experience emotions in a particularly intense manner. Even though in this study they were the minority in their communication of this perception of their emotions, these participants' experiences may in fact be reflective of many. One of the two, however, reflected a relative amount of intensity in the examples provided for the ECIT portion of the interview. They may in fact have been experiencing emotions more intensely than their peers, but did not incorporate this into their self-perception. Without a common comparator, it is impossible to know.

**Emotions cloud judgment.** A second sub-theme reflected the tendency for these intense emotions to cloud rational judgment. Due to the overwhelming flood of emotions participants' experience, their ability to think logically and see things through an objective perspective appears to be impaired. Other effects include a hyperfocus on the negative in a situation. Participant 1 shared the experience of a "rage blackout," in which the anger came on so suddenly it felt like everything had, "...gone white in my brain and I can't think anymore." This is related to a tendency for participants to engage frequently in immediate responses to their emotions, often in a frustrated sense, such as wanting to punch something or generally let it out physically, using phrases such as it "feels more like an instinct" (Participant 2), or a drive beyond their conscious control.

### **Lack of Attenuation**

Emerging from a theme of emotional intensity is one that showcases a tendency for emotions to persist. Multiple participants described their intense emotions lasting for a prolonged amount of time, not readily or naturally attenuating. This was true for both positive and negative emotions – participants described happiness and excitement persisting for days at a time. Participant 6 attributed some of the intensity of their emotions to the fact that they lasted for an extended period of time. Participant 2 spoke about how even after intentional regulation efforts, emotions will not go away completely, instead remaining at a low but noticeable level.

Returning to the Disneyland example, Participant 3 described their emotions as a ride that they could not get off of until it had completely run its course. The same participant went on to describe the reversal of the sudden onset, where the emotions in some cases do not gradually attenuate, but end suddenly and without warning, “...as soon as I get off, you don’t get that rush or anything, it’s just like: ‘it’s over!’” In this case there is a form of attenuation, but it is not what would be expected normally, going from overwhelming intensity to a sudden drop off to numbness.

### **Cocktail of Emotions**

A prominent theme endorsed by almost every participant, was one in which their lived experiences often included multiple emotions experienced in parallel. There is a recognition and self-awareness that emotions do not happen in isolation, but are mixed together in what participants described as a “cocktail of several things” (Participant 2), or an “emotional jambalaya” (Participant 3). Examples included combinations of anger and fear, shame and hurt, stress and happiness, or often anger being secondary to another emotion.

Participants described numerous challenges associated with this cocktail of intense emotions. They become harder to articulate to others, as there are so many happening at once, which can then cause further frustration. They are also more challenging to differentiate, making it more difficult to decide how to respond.

### **Locus of Control**

Participants described a number of different situations that gave rise to their emotions, but a latent theme reflecting differences in locus of control arose from how they spoke about these situations.

For some participants, the majority of their emotionally salient situations were in relation to high self-expectations within the context of academic or work pressures. They had an internal focus, seeing their emotions arising from their own actions or perceived failings. Participant 6 explicitly stated, “I don’t really think that I get, like, angry at other people, but I get, like, angry at myself,” and that they get “frustrated at myself more than other people.”

For others, the focus was much more external, where they more easily recalled examples involved the actions or presence of others. Emotional stimuli were more often discussed in relation to what others did or said, and being out of the participant’s own control.

There was not a clear internal or external leaning from this group of participants. Therefore, it does not make clear whether there is a specific locus of control pattern for young adults diagnosed with ADHD. However, it does identify that there are interesting individual differences in how these young adults perceive the causes of their emotions, and this perspective may influence how they are engaging in subsequent emotional regulation.

## **ADHD and Intense Emotions**

Not all participants made an explicit link between their diagnosis and their emotions, but those who did offered sufficient information relevant enough to form a theme. There were in fact a variety of ways that participants saw their condition affecting their emotions. Some made a direct link, describing frustration arising from consequences of ADHD impairment, such as being late, not being organized, etc. Participant 6 spoke about frustration with their father, who shared the diagnosis and experienced many of the same challenges. This participant made the connection that what frustrates them most in others is often something they are unhappy with in their own life. The same participant shared their belief that those diagnosed with ADHD process things differently and sometimes fixate on things, a tendency that may influence emotions. Other examples given by participants included impulsivity giving rise to difficult situations, or lack of focus causing significant academic struggles.

For others, it was the perceptions others may have about the diagnosis that gave rise to, or otherwise affected, their emotions. Misconceptions, stigma, and misunderstandings about ADHD were all identified as challenging. More than one participant mentioned worrying that others would perceive it as an excuse if they tried to explain that their behaviour resulted from ADHD.

Participant 2 described a book they read about ADHD that talked about its connection to intense emotions by using a metaphor of a physical burn. The different degrees of burns reflected severity of emotional damage, third degree being the deep impact and numbness that can be characteristic of highly intense negative emotions, or even a severe comorbidity. This participant advocated for more resources to educate people about the connection between ADHD

and emotions, as most that they have come across only focus on the practical impairments inherent in ADHD such as organization and focus.

In a latent sense, many participants spoke about having an immediate response to emotions, potentially reflecting an impulsive tendency. There was also a pattern of fixation on emotional stimuli, a hallmark of ADHD. These patterns will be analyzed further in the discussion chapter, but they are important to highlight initially in the results, given they did reflect a theme within participant responses.

### **Social Context of Emotions**

The final theme in response to the first research question of how participants perceive their intense emotions involves the ubiquity of social context. The majority of examples provided by participants involved some social dimension. There were a few that were internal or individually focused, but by and large there was often some other factor at play. Participant 3 explicitly acknowledged that most of their examples were in the context of an interpersonal relationship, romantic or otherwise. Participant 1 experienced numerous intensely positive emotions along with others, and responded to the majority of them by sharing with friends. Even examples that were primarily individual, such as Participant 6 failing to reach high academic self-expectations, were escalated by the competitive nature of the peers in their university program. Multiple participants spoke about how they felt their emotions were inappropriate, or abnormal; in turn, they were concerned about how others perceived them.

All of this goes to show that people with ADHD live in an inherently social world. This is not surprising; it merely provides important context to how participants perceive their intense emotions. We see that they are acutely aware of the social context they live in, and acknowledge that social factors influence how they perceive, experience, and express their emotions.

## Summary

This first collection of themes provides an understanding for the reader of how participants view and perceive their emotions. Any perceptions and comprehension of emotional regulation naturally stems from how one sees emotions. It was therefore important to provide this context for the reader to gain an appreciation for how participants are situated in these concepts and ideas.

### **Research Question #2: How Do Young Adults Diagnosed with ADHD Respond to Emotionally Intense Situations?**

In this section, I will outline the categories along with their definitions, and provide pertinent exemplars that were presented by the participants. Selected quotes will be used to accurately illustrate participant responses and experiences. For readability, filler words and false-start sentences were removed (replaced with ellipses). An example would be where Participant 6 talked about the importance of sharing emotions with trusted friends, “Cause like I said it helps when I share, but it - with people - but it has to be people that I’m close to, and people that I trust.” This is a fairly readable sentence, but it becomes easier for the reader to follow when the middle portion is edited, “Cause like I said it helps when I share ... but it has to be people that I’m close to, and people that I trust.” This amendment does not change the overt or intended meaning of the passage. The majority of quotes were selected from the primary research interview. Other quotes were taken from the follow-up interviews, which were not audio recorded or transcribed verbatim. In these cases, quotes might be pieced together from contemporaneous researcher notes, or in some cases short statements allowed a verbatim quote to be recorded immediately after they said it.

The primary research question of the current thesis was examined through an ECIT lens. A total of 7 categories and 15 sub-categories were extracted from participant responses, all of which are presented in Table 1. The table provides a quick overview of the categories, the participation rates, and the number of helping, hindering, and wish list critical incidents that comprised them. The categories are: Appraise & Process, which includes the sub-categories of Sense-Making, Expectations of Self, and Situational Appraisal; Social Interaction, which consists of Sharing Emotional Experience, Asserting with Others, and External Intervention; Distancing, with the sub-categories of Taking Time, Distracting, Disengaging, and Suppressing; Physical Response, which included Uncontrollable Physical Response, and Intentional Physical Response; Emotional Engagement, involving Maintaining the Emotion, Transforming the Emotion, and Accepting and Expressing the Emotion; Taking Medication; and Active Problem-Solving. The last two categories do not include any sub-categories.

Table 1

*Critical Incident Categories, Participation Rates, and Number of Critical Incidents by Type*

<b>Categories</b>	<b>Participation Rate (N = 6, %)</b>	<b># Helping CI's</b>	<b># Hindering CI's</b>	<b># Wish List Items</b>	<b>Total</b>
<b>Appraise &amp; Process</b>	<b>6 (100)</b>	<b>26</b>	<b>18</b>	<b>7</b>	<b>51</b>
<i>Sense-Making</i>	5 (83.3)	10	8	2	20
<i>Expectations of Self</i>	3 (50)	8	6	3	17
<i>Situational Appraisal</i>	6 (100)	8	4	2	14
<b>Social Interaction</b>	<b>6 (100)</b>	<b>28</b>	<b>17</b>	<b>2</b>	<b>47</b>
<i>Sharing Emotional Experience</i>	6 (100)	13	3	1	17
<i>Asserting with Others</i>	5 (83.3)	7	2	0	9
<i>External Intervention</i>	6 (100)	8	12	1	21
<b>Distancing</b>	<b>6 (100)</b>	<b>22</b>	<b>22</b>	<b>3</b>	<b>47</b>
<i>Taking Time</i>	5 (83.3)	7	8	1	16
<i>Distracting</i>	4 (66.7)	6	4	0	10
<i>Disengaging</i>	4 (66.7)	5	6	1	12
<i>Suppressing</i>	3 (50)	4	4	1	9
<b>Physical Response</b>	<b>6 (100)</b>	<b>11</b>	<b>16</b>	<b>4</b>	<b>31</b>
<i>Uncontrollable Physical Response</i>	5 (83.3)	3	9	2	14
<i>Intentional Physical Response</i>	5 (83.3)	8	7	2	17
<b>Emotional Engagement</b>	<b>5 (83.3)</b>	<b>14</b>	<b>3</b>	<b>0</b>	<b>17</b>
<i>Maintaining the Emotion</i>	1 (16.7)	0	2	0	2

Categories	Participation Rate (N = 6, %)	# Helping CI's	# Hindering CI's	# Wish List Items	Total
<i>Transforming the Emotion</i>	3 (50)	5	0	0	5
<i>Accepting and Expressing the Emotion</i>	5 (83.3)	9	1	0	10
<b>Taking Medication</b>	<b>3 (50)</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>8</b>
<b>Active Problem-Solving</b>	<b>2 (33.3)</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>

*Note.* Participation rates are in brackets, and number of critical incidents for categories and sub-categories are included. Participation rates were calculated across all types of critical incidents. For participation rates of individual helping, hindering, and wish-list incidents, see Appendix F.

What follows are the ECIT categories and sub-categories presented in detail.

### **Appraise & Process**

The Appraise and Process category is defined by the participants' ability to offer some sort of cognitive appraisal of the situation, either in the moment, or make sense of it after the fact. The category and its' three sub-categories fit under the general definition: *Cognitively or mentally processing something about the emotion, the internal self, or the external situation.* We know from Gross' (2014) model that cognitive appraisal can be directed internally at the self, or externally at the emotion-eliciting situation. The sub-categories help to make the distinction as to whether the analysis was happening in an intrinsic or extrinsic sense. There are three sub-categories in this thematic area that offer subtle but important distinctions as to the type of appraisal and processing that occurred – Sense-Making, Expectations of Self, and Situational Appraisal.

**Sense-making.** The category of Sense-Making emerged as a prominent sub-category defined as: *Analyzing the emotion, or emotion-eliciting situation, in order to make sense of it, gain insight, rationalize, or learn from it.* There was a tendency for participants to engage in self-reflection and think deeply about, analyze, and attempt to learn from the intense emotions and relevant situations they encountered. Engaging logical abilities is a notable reaction when encountering an experience of emotions that can often be perceived as irrational – making sense of it may help inform an effortful, conscious response.

The title of this sub-category arose primarily from the helpful aspect of incidents. Participants attempted to make sense of their emotions, or their situation, by engaging in active processing and analyzing, although these incidents did not necessarily involve a form of reappraisal (a strategy that will be seen later). Participant 6 gave a crisp description of this sub-category when describing their coping strategy:

... I just try to, like, think about everything that went through, that happened in the day. And I just kind of, like, go [and] process it in my mind. I would just kind [of], like, run through the situation in my head, think about what happened, think about what I could have done differently, and I try to, like, learn from my mistakes.

It is clear that self-reflection is an important process for this participant. They are reflecting on their experience and attempting to concurrently make sense of it, and learn from it. Participant 4 endorsed the emotional down-regulating effect of this type of self-reflection, offering, “Knowing the details, gaining more confidence, making sense of it calms me down.”

Some participants turned to other sources and resources to help them process and make sense of their experiences. Participant 6, who shared examples of facing challenges in a healthcare profession, said:

And then also just, like, a lot of self-reflection, and um again I tried to do some, like, reading of studies and stuff like that, just to try to, like, grasp the concepts and kind of learn more. So, 'cause I have, like, I've experienced death before but in, like, a personal setting, not, like, a professional one. So I didn't, it was hard for me 'cause I didn't really know, like ... where to draw the line; like how – not cold – but, like, professionalism and stuff like that. Like, 'How do I behave?' So, yeah. But self-reflection ... helps.

The participant had a desire to learn more about their experience and make sense of it, and utilized their academic mind to help achieve that through reading research papers.

Participant 2 added a somewhat unique perspective on this sub-category, but nonetheless reflected a sense-making strategy. In responding to a number of different situations that caused negative emotions, this participant described a strategy of utilizing social media, creating posts for the purpose of “logically explaining my emotions.” I struggled initially with whether to categorize this as a form of cognitive processing, or to view it as a social coping skill. In the end, even though the individual was using a public forum via social media, it appears the processing and sense-making aspects of this strategy were preeminent:

And um even if people don't really, like, respond to me about it, like, that's not what I'm looking for. It's more about me just expressing my feelings in a logical manner. Yeah um, and also, like, being able to look at a sentence and feel like I could get this message across or this sentence across if worded differently. So basically, like, a whole one paragraph or 500 word or so paragraph like edited, re-edited, read through over and over to feel like that, 'Yes, this is what it, uh, this is, this expresses me.' Or I feel like, 'Yes this, this is appropriate to what I'm, to how I'm feeling.' But also appropriate to, for others to understand in a sense.

Being able to express to others how they were feeling appeared to be important, but the process of being able to edit and re-edit the post they were creating was helpful in making sense of how they were actually feeling. The participant even went so far as to clarify that others responding to the post was not what the participant needed. This approach coincides with the previous strategy of reading to help process. In this case, instead of studies that might offer an external reference point, the participant is reading and refining their own writing, using an internal reference point.

Analyzing and attempting to learn from experiences was not uniformly identified as helpful. Multiple incidents offered by participants indicated their tendency to fixate, or get stuck on, emotionally salient stimuli. Participant 6 gave an example of a situation when this hindered their effective emotional management:

I was really frustrated, but I, like, wouldn't let go of it for, like, a while, I dunno, like, a couple weeks, I was, like, fixated on this. And I wouldn't, like, I would always, like, think about it all the time, and, like, think about what I could have done differently, and, like, think about like, 'Was my teacher fair?' and, like, saying that stuff. So it was like, I would say that it was intense cause it, like, *lasted*, yeah.

The quote offers a glimpse into the participant's attempt to self-reflect and learn from the situation, trying to identify what they could have done differently. Unfortunately, they appeared unable to reach any point of insight or revelation, remaining in a loop of unhelpfully ruminating on the negative situation. Participant 5 articulated this concern, and speculated that ADHD may itself play a crucial factor:

Although you can fixate on it very strongly in the, when it initially comes on ... I don't know if that's part of ADHD too, the – you know – conscious, or unconscious, or conscious, inability to fixate on anything else for that time.

Other participants elaborated on a related idea, wherein they did not necessarily focus on the emotion-eliciting situation itself, but went down the rabbit hole of imagining 'what if' outcomes, "And I kind of have, like, a bad habit of, like, thinking about all, like, the worst case scenario things that could happen in my head, and, like, thinking of, like, the whole resolutions and stuff like that." In this case, Participant 6 is attempting to analyze the situation, but instead of learning about possible solutions, goes the other way and imagines worst-case outcomes, a pattern that they characterized as an unhelpful tendency.

Two wish list items emerged into this sub-category, representing participants' desire to improve their ability to make sense of their emotions and the situations they find themselves in. Participant 3 expressed their yearning to learn how to delineate their complex experiences, understanding that in real life, multiple emotions happen in parallel, "...and kind of figuring out ... what's actually bothering me. I usually make a ... emotion jambalaya. Um, but so it's definitely learning to, like, deconstruct the jambalaya." This is one of the most compelling quotes to emerge from this thesis, because it offers an apt metaphor, and so astutely portrays the complexity and interconnectedness of emotions. This desire to learn how to "deconstruct the [emotion] jambalaya" is one that I believe many can relate to.

**Expectations of self.** A form of analyzing and reframing thoughts related to the self, the sub-category of Expectations of Self carries the definition: *How your view and expectations of yourself - or your reappraisal of those expectations - affect your emotions.* Incidents herein involve an aspect of helpful or hindering views of the self, or rearranging self-expectations into a

more helpful schema. How one views oneself and one's role in emotional situations is an important perspective that affects the subjective emotions that are subsequently experienced. Reappraising those self-views can have a notable impact on our emotional experience.

Participant 1 provided an example that directly represents this sub-category, although the quote is in point-form as it was gathered during the follow-up interview, “Been better about feeling shame/guilt in general – had a big breakthrough with it – realized was really punishing self for not being a better person, but had an overly idealized version of self – holding self to more realistic expectations.” This participant had been experiencing intense guilt related to challenges staying in contact with relatives and friends. Realizing they had been holding themselves to unrealistic expectations and comparing their behaviour to an idealized version of themselves, they were able to modify those expectations, effectively down-regulating the associated guilt and shame feelings.

Other participants offered multiple examples wherein they relinquished their sense of responsibility for negative situations in their lives, allowing themselves to acknowledge that others may have a role to play as well. Participant 3 spoke about finally refusing to assume all the blame following a difficult break-up, a distinct change in their usual pattern:

I would never come out and say, “You did this; like, take responsibility for it,” because I was always worried, like, I don’t wanna push anyone; I don’t wanna upset anyone. As soon as I learned that I can say, “You did this” [it] made the world of a difference. I was finally like, “You know what? No. This isn’t my fault. I didn’t do this to us, I didn’t do this to myself. *You* created this and you should be held responsible for it.”

This quote imparts the sense that the ability to remove internalized blame and reassign it externally was quite cathartic for the participant, deviating from their typical routine. Reframing

their own internal expectations as to how much of the outcome was their own fault became extraordinarily helpful. It is interesting to note that there is also a significant component of this example that would fit in the Asserting with Others sub-category (to be elaborated on later), as the individual stood up for themselves. In this case, the internal reframing appeared to be the more important component, but a combination of strategies arose more than once in the examples shared by participants. The same participant elaborated:

The way that I finally had to wrap it up and put a pin in it, was to accept, “Okay I don’t have control over another human, I only have control over myself and I’m letting another human control my extreme emotions.”

These two quotes offer an insightful illustration of the helpful side of this sub-category, where we see this participant’s process of reframing their self-expectations, accepting that while they have a part to play in their own emotional experience, it is not nearly as large as they were initially framing it to be.

Related to the idea of lowering self-expectations around others’ behaviour is the concept of identifying and acknowledging the areas that one does have control over, reflected on by Participant 3 who “really tried to not turn to my friends to ‘help me’ ... learning to rely on myself to help myself.” Reappraisal of self-expectations does not have to mean giving up all responsibility; in some situations, it may mean taking on a more active role.

Another helping incident was offered by Participant 1 who talked about a personal characteristic they were proud of that helps them cope with shame and embarrassment:

I guess if I had a little more shame uh, more, it’s not a self-ashamed, but, like, a sense of embarrassment, I’d be more willing to, like, uh work harder at controlling my emotions. But not having a sense of embarrassment seems like a better option.

Modifying their own self-view around what they should and should not be embarrassed about allows this participant to deal with those emotions quite effectively.

The hindering dimension to this sub-category unsurprisingly contains incidents representing participants holding unrealistic, exaggerated, or generally unhelpful views and expectations of themselves. We see the flip side to Participant 6's high self-expectations, where the benefit is the desire to self-improve, "I think it is helpful because I am always pushing myself." In contrast, they recognize, "...I do get upset when I don't meet my expectations." The participant showcased their self-awareness in saying, "From an outside perspective I recognize that it is unhelpful, but I don't think I will ever change." They realized the unhelpful consequence of having such high self-expectations, but also attributed it to an enduring personality trait.

Perceptions of what is normal, and how someone ought to act, came into play for participants. Participant 3 vividly describes their expectation of fitting into a vaguely conceived notion of normalcy:

I've always just wanted to be normal. And I think I need to give up on that; it's not gonna happen. Um and normal sounds pretty boring. Um, but I think it's this, like, pursuit of 'I just wanna be normal,' it gets in the way a lot. So um as soon as I have these extreme emotions, I either, usually get more down on myself, whether it's negative or positive, um more down myself that I'm not just normal.

This quote portrays an inner battle with self-esteem and a sense of being different from others that many might relate to. The personal struggle in this case is deepened by the self-perception that their intense emotions are not the norm. They do not perceive their friends going through the same challenges, feeding further into this unhelpful self-view.

Self-expectations can also be unhelpful when participants are unable to meet them, or are held to a potentially unattainable standard, as described by Participant 1:

And the teacher knew I could do better, and I knew that I could do better, but it just kept growing bigger and bigger and bigger and bigger. And then in, like, February, I saw that she, like, she posted the marks, and I have an A plus in that class. And then I was like, “Well now I have to deliver an A plus!”

In combination with an unhelpful delaying tactic, this participant avoided completing an assignment that was generating anxious feelings, which only worked to increase those feelings. On top of that, the participant’s expectations of the quality they needed to produce continued to escalate. Participant 6 said, “Um, like, ... when I don’t meet my own expectations, or when I don’t meet other people’s expectations, I get, like, frustrated a lot.” The second part of the statement highlights another dimension of this sub-category, the perception that they have let someone else down. Incidents such as these are included in this sub-category because they are based less on actions of the other, and more on the participant’s own internal perception that they have disappointed someone; expectations individuals have imposed on themselves as to how they should act in relation to another.

Participant 3 offered three wish-list items in this sub-category, reflecting their desire to focus on themselves, accept themselves, and not worry as much about how others are acting. They described their ongoing journey toward accepting advice from a friend:

Um and he’s going, “You need to, like, I know you want to worry about everyone, but you can’t. Like, no matter how much you’re gonna worry, no matter how much you’re gonna say all this, you can’t change them; you can’t worry [about] them. Like, you need

to just do *you*.” So it’s definitely in a transition of learning, like, how do I teach myself to be myself, sorta, and worry about myself.

The benefits of reappraising self-expectations are made clear by participants describing helpful incidents. Therefore, the inclusion of wish-list items representing a desire to improve the ability to modify expectations of themselves is not unexpected.

**Situational appraisal.** The sub-category of Situational Appraisal, defined as: *How your appraisal and expectations of the situation affect your emotions*, has similarities to the previous sub-category, but the focus is on external factors as opposed to internal ones. The distinction between these two sub-categories can look unclear, but is important to emphasize. The appraisal itself is an internal process, which is what locates it within the overall Appraise and Process category. However, the focus of said appraisal is external, emphasizing the surrounding situation. In contrast to Sense-Making, which was more focused on analyzing, processing, and learning from the experience, this sub-category takes a more active role in reappraisal. Here, participants are actively changing perspectives in relation to the emotion-eliciting situation.

Participant 2 spoke about the importance of tempering their own expectations of positive situations, such as when they were accepted to enroll at university. The alternative would be getting caught up in intense positive emotions such as excitement, and later being caught off guard by negative ones, so the student engaged in a process of external reappraisal:

...making sure that my positive emotions or expectations aren’t unreasonable in a sense. Like ... it’s kinda, like, a big exaggerated example, but kinda like when I got accepted; it’s not like I already got a degree. So, like, for me ... while I was quite happy for, like, getting accepted into what I was really hoping I would get accepted into, it’s kinda like now, “Well now you just need to do the work for it.” As opposed to, “Yay, I’m gonna,

like, get through university in a, in a breeze” kind of. Like, that’s kinda too unrealistic in a sense ... And so, like: happiness, yes; unreasonable expectations, no; because then it leads to much more disappointment, and, like, much more extreme negative emotions. A prime representative of this sub-category, the participant clearly outlined the impact of their perspective on the situation, and how their expectations may affect their emotions.

Participant 3 spoke about actively accepting the emotion-eliciting situation for what it was as a critical component in managing their emotions:

...and I think the acceptance is possibly, like, the biggest thing for me ... I’ve never been good accepting that it is the way it is, and I’m just teaching myself that sometimes you can’t change it, no matter how much you want to.

Accepting that they could not change the situation they were in, and therefore reframing their expectations of that situation, was helpful in preventing further negative emotions.

For some participants, directing their attention to certain aspects of the situation was beneficial. Participant 1 said, “I guess my strategy for dealing with uh guilt is having something stronger. Having the teacher’s good opinion of me be stronger than the guilt from not talking to her,” highlighting their strategy of focusing on how another person is viewing them in order to overcome the guilt. For Participant 4, it was the fact that they had been in a similar situation before, could focus on similar aspects, and therefore knew what to expect, “It’s like a calm, it was like, ‘I’ve seen this before; it’s okay.’” Their prior experience allowed them to reframe the situation and approach it in a calm, confident manner.

Participant 1 had an interesting perspective to offer, clarifying that their stance of distrust towards people and situations was helpful, allowing them to temper their expectations and subsequent emotions. They described their distrust as an:

...underlying theme in all of them, 'cause that's what makes me assess the situation objectively in the first place – sometimes even with friends, [I] can trust them only in certain ways – so distrust feeds the ability to mentally step back and objectively assess.

Another strategy endorsed by participants came in the form of positive self-talk. The exemplars given reflected an attempt to reframe their perspective of the situation through verbal means. Participant 6, who faced challenges in a health profession, engaged reappraisal via self-talk in conjunction with strategies of taking time and deep breathing:

So um, I had to, like, really, like, check myself and ... be like, “This is not that big of a deal; like, try to let it go; like, don't think about it right now; like, doesn't matter: patient's fine, no one died; like, it's fine.”

Contrasting a positive view or perspective on the situation is a hindering tendency of the same participant to only focus on the negative:

Yeah I think I have, like, a hard time thinking, like, logically, because just kind of my emotions, like, take over, and my brain just kind of, like, shuts down. And ... all I focus on is, like, the negative. So ... now I look back on it and, like, “Oh, this is a good learning experience.” But at the time, like, I didn't really look at the positive.

In hindsight, the participant has attained self-awareness, but described their unhelpful response at the time of focussing on the negative aspects of the situation. Similarly, Participant 5 expressed an unhelpful response to feeling excluded by a group of friends, viewing the situation negatively and feeling sorry for themselves, “...it seemed again like the friends didn't wanna hang out and ... I sorta just spent my time sorta lying in the uh front yard again: 'Woe is me; woe is me.'”

An earlier helpful response had Participant 2 emphasizing the benefit of keeping in check any unrealistic expectations. Participant 3 spoke about the hindering side of this, wherein their

tendency to have extreme optimistic expectations in response to intense positive emotions becomes unhelpful, “[I] go through those positive stints, think the world is sunshine and daisies. I would get very confused and angry at the world when things did turn to negative ... no middle ground, no accepting some good, some bad.”

Two wish-list items both shared a theme of acceptance and a desire to be more comfortable appraising situations from a perspective of tolerance and preparedness. As Participant 4 effectively articulated, “...so yeah I wish, like, that I just kinda knew that, like, 'Shit happens; problems happen.’”

This category primarily involved incidents that had participants appraising, reappraising, and analyzing their internal self and external situations in order to manage their emotions. Some attempts were deemed more effective than others, but it was clear that each response involved a level of cognitive effort as the primary regulatory technique.

### **Social Interaction**

The Social Interaction category is defined as: *Engaging in some form of social interaction with – or receiving social support from – others in order to regulate emotions.* It encompassed the second highest number of critical incidents offered by participants, spread across 3 sub-categories – Sharing Emotional Experience, Asserting with Others, and External Intervention. The key constituent of this category was that the social context of a given example was the prominent factor, whether it be expressing emotions to a confidante, resolving conflict, or receiving advice from a trusted friend. Other categories may have included strategies that were enacted in the presence of others, such as venting their emotions, but in those examples it was the act of expelling the emotions that was the important activating component of the

regulatory process, rather than the presence of another. All incidents in this category required the presence or actions of another.

**Sharing emotional experience.** The first sub-category of Sharing Emotional Experience represents emotional regulation via speaking with, or being in the presence of, supportive others. Defined as: *Sharing, verbally or nonverbally, your emotions with others in order to regulate them*, this categorization requires the social action of the participant rather than the actions of the other person. Exemplars from this sub-category often involve talking with others, expressing emotional experience verbally, such as this quote offered by Participant 4:

...better to talk to a couple people to understand the whole process, better to talk to a couple people, talk about ideas and everything, just whatever is on our minds. Easier to do that than have a one-way conversation and just think about it.

Other participants enthusiastically echoed this sentiment, often having a trusted go-to person they would share with, such as Participant 2 who identified their mother as an important confidante. It appeared that in these cases they would not just share with anyone, but only with close relationships in which they had built trust, as exemplified by Participant 6: “Cause like I said, it helps when I share ... but it has to be people that I’m close to, and people that I trust. Like, I have a select few people”.

Though an effective way to deal with negative emotions for all participants, some also recognized the benefit of expressing positive emotions to others. Participant 1 often experienced intense excitement in response to good music or movies, enthusiastically conveying, “I spent the first day going to all ... my friends and showing them a song because they need to see this movie; this is the best movie ever,” and on another occasion describing excitement at a play, “...in the interlude, [I] kept talking to my friend and just generally nerding out about it, *really*

*excited!*” Sharing these positive emotional experiences with friends allowed this participant to revel in their own euphoric feelings.

Exemplars were also provided where talking with friends was implied, although not always necessary, instead benefitting simply from being in the presence of a supportive other, “Friends who understand, or are in the same situation helps - knowing they will understand” (Participant 1).

Helpful incidents dominated this sub-category, but there were also situations described by participants when talking to, or being pressured to share with, others hindered their emotional management. Participant 6 had difficulty talking about a challenging case with classmates in their healthcare program that were not regular, trusted confidants:

So um that was hard for me, and um I didn’t really, like, want to share that with anybody that it was hard for me. And my teacher got kinda, she didn’t get frustrated with me, but she said, like, “You need to be okay with sharing how you feel with everybody.” And I was not ... I didn’t want to. Cause I don’t really know her on a personal level, I know her on a professional level. So then that kind of, like, made me, like, frustrated and, not angry, but I just, um, it was almost like I was, like, mourning for my patient, but I wanted it to be, like, um an individual thing, a personal thing.

Participant 6 also communicated that they found it trying when they felt they did not have anyone to share their emotional experience with, “...if I feel like I’m alone or something like that, I have a hard, like, if I feel like I don’t have anyone that I can turn to, to like, discuss how I’m feeling, that makes it hard for me.”

One wish-list item was shared in this sub-category by Participant 3 when describing the revelatory moment the first time they were able to share vulnerably with one particular friend, “I

was, like, ‘Tell me what’s wrong.’ And from there on we’ve never looked back. Like, it’s one of those things where learning that I can actually say how I feel is a big deal.” The participant went on to discuss their desire to use this strategy more often, and more effectively.

**Asserting with others.** While expressing emotions to supportive others is a helpful coping method, some situations require more intentional conflict resolution or assertion on the part of the individual, reflected in the definition of Asserting with Others: *Communicating with others in order to assert yourself (e.g., conflict resolution) and regulate your emotions.* This sub-category is distinct from Sharing Emotional Experience by focusing less on sharing with supportive others, instead prioritizing the process of expression and assertion with the goal of resolving conflict, or enlightening others. Participant 2 described expressing their feelings in an attempt to resolve conflict with an acquaintance who felt they were acting inappropriately in a shared social space:

Basically communicating my frustrations in a sense or trying to lead some sort of productive, like, conversation. Or at least try to make, do my best to express my feelings so that ... it’s not as misunderstood. Um, like, that part does make me feel happy about myself.

The same participant similarly reported being happy with themselves when they successfully resolved conflict with a friend because they “addressed that situation by giving a constructive apology...” In the same vein, Participant 3 described the importance of being able to assert and resolve conflict via face-to-face conversation:

If I’ve had an argument with them, or if I’m not feeling easy with them, like, my biggest thing especially ... I would much rather have a face-to-face conversation with you, or call

me up on the phone. Don't text me, don't Facebook me, don't do that; talk to me because I'm a talker.

In a different type of example, Participant 1 experienced frustration and anger in response to a cultural issue being misrepresented in a university class. After initially down-regulating emotions by talking with a friend, they further managed those emotions by asserting themselves via conversation in that class, and using it as an opportunity to express their perspective to others:

...but then I was able to discuss it in class, and I'm told I did a pretty decent job at it.

Because nobody asked us my cultural context, so um I almost didn't go because I didn't want to. But I was like, "If I don't say this then nobody will, because nobody else knows," and then I actually had [a] lot of fun discussing it.

This exemplar shows another side of the asserting process, and how it can be beneficial even if not directly resolving a conflict. In this case, the participant was able to put a positive spin on an initially challenging situation, and ended up experiencing positive emotions.

Only two critical incidents reflected the hindering side of this sub-category. One involved Participant 6 recognizing that when their feelings are hurt, they are more likely to lash out – an impulsive form of unhelpful conflict resolution, "I think my feelings are hurt quite easily and this can cause me to be quite upset ... and in turn I often say mean things ... I often 'bite back' and have to work on being aware of this."

The other example saw Participant 2 attempting to explain their behaviour that was being perceived as inappropriate by another, but feeling like they were coming across as giving an excuse:

When I do try to explain that it is, you know ADHD and sorts, it kinda feels like I'm giving an excuse. Even if they do not call, like, even if they do not say, "Hey that sounds

like an excuse,” to me it feels like oh I’m giving these excuses as opposed to explanations as to why I cannot do it.

This last example showcases a potential underlying component of this sub-category – that being understood by the other person mediates the down-regulating effect of assertion. Both examples also provide an explicit link with ADHD, wherein the participants recognize that their condition affects their behaviour, but also may cause them to be misunderstood in social situations.

**External intervention.** Defined as: *The actions of others – solicited or unsolicited – affect your emotions and how you regulate them*, the sub-category of External Intervention differentiates itself by requiring action from the other person, and demanding less effort from the participants themselves. The types of intervention categorized here often included helpful advice from another, such as when Participant 4 turned to their friend in a moment of panic at work when they did not know how to handle a problematic situation:

...but also in that time I have had, like, a friend to, like, just uh figure it out and, like, talk... talk about it and, like, uh, tell me what to do exactly. Or just, like, help me out however they can.

In this situation, the participant sought out help from someone who knew how to solve the problem they were having, and relied on them for the relevant advice. Another similar example was offered by Participant 3 who relied on another person to talk them down from their overwhelming emotions in a similar moment of panic, “Like, it was to the point where he had to, like, talk me down from hyperventilating ... I was just laying in bed sobbing, like almost a wailing crying.” These examples help define the external emphasis of this sub-category – the pertinent actions that down-regulated intense emotion were effected by others rather than the

participant themselves, although the participant may have sought out the contact as a form of strategic intervention.

In other cases, helpful others provided some form of supportive action, such as a professor offering helpful accommodations to Participant 1, “Some teachers go the extra mile in reaching out with academic accommodations ... de-escalates anxiety,” or an academic strategist being an accountability presence in the same participant’s life, which in turn helped to reduce anxiety, “...but then being accountable to the academic strategist really helped get things done, de-escalates anxiety.”

To round out the helpful side of this sub-category, there was also a helpful aspect to conflict of sorts, as articulated by Participant 2 who described the benefit of getting called out on making a mistake:

Which is kind of why I do appreciate being called out, unlike others who tend to, like, hold up the defensive mode. Um I actually, like, appreciate being called out without the negative connotation of “You have done this terrible thing; you are a terrible human being.” It’s more about, “Hey, you should probably look into that,” or like, “You’ve said this thing then that’s probably, like, that’s not right. You should probably, like, correct yourself on that.”

Asserting with others was a sub-category that portrayed the beneficial side of conflict resolution initiated by the participant, and this example exemplifies a similar benefit, though initiated by the other person.

As one might imagine, however, others taking conflict resolution into their own hands was not always viewed as a helpful response to emotionally charged situations. Participants gave numerous examples in which the actions of another person within a context of conflict

hindered rather than aided their emotion management. We can consider Participant 2's example where they were being asked to talk more quietly in a public space, a circumstance when the other person's actions came across as accusatory and unhelpful:

Basically having the whole, "Well just try, or just keep yourself in check," or you know, "Just do what you're already doing but more of it," is kinda, like, kinda frustrating. And, like, it also makes me feel bad, because, like, I can only imagine the amount of times I may have inconvenienced someone, or, like, annoyed someone.

The person essentially placing the blame and responsibility on the participant served to escalate the relevant emotions further rather than resolving them.

It appears that in situations of conflict, an unwilling and accusatory third party will often further escalate emotions, an outcome which is not surprising. However, for some participants, this extended to actions from supportive others that were intended to be helpful, but ended up hindering the participant's emotional management. As we have seen, advice is helpful for some, while for others it is the opposite of what they needed in that situation:

...I generally hate it when ... somebody says, "Focus on the positive," or they say, you know, like, "At least you're better off than you know so-and-so in Africa or something." I'm like, "That doesn't help" (Participant 5).

Participant 3 shared a similar sentiment about when friends try to 'fix' their intense emotions instead of letting them run their course, using the rollercoaster metaphor mentioned earlier in the thematic analysis results:

And especially I find one of the hardest things is when people try to fix it while I'm on the ride. And, like, of course since I have this analogy in my head, it's, like, you can't fix

the ride I'm on, you can't, you can't just jump off a rollercoaster. So if I'm on the rollercoaster, I'm stuck on it.

There were also situations where the participant wanted the advice and actively sought help, but the response was less than helpful, as shown in this example where the competitive nature of a university program led classmates to react poorly when Participant 6 reached out for support:

...I find it's, like, super competitive. So if I'm like, "Oh well you know my, my patient died last week and I'm having a really hard time with it," they'd be like, "Oh really? Well I had a trauma patient and they died." And so ... I find it's really competitive.

In other cases, it is not the action of the other person, but the lack of action that is challenging for the participant, one of which describes the difficulty of a friend putting distance between them without explanation:

So as soon as I get pushed away for that then I get, like, then [I] get antsy almost. I get those extremes, I'm like, "You're my best friend, or you're someone who I've always confided in," or like, "Where are you?" So then I start thinking I've done something wrong, so it creates just a [negative feedback] loop (Participant 3).

One wish-list item was articulated in a pertinent example, wherein Participant 2 described their desire for others to point out their socially inappropriate behaviour more often, as long as it was done respectfully. This participant acknowledged sometimes acting in ways that may bother others, but knowing that they have a hard time constantly self-monitoring and would benefit from external reminders:

"If I ever forget, I appreciate if you do give me a nudge." As opposed to, um ... well it seems like some people certainly do; like, I'm not invalidating what they themselves are

feeling, which is, like, them feeling that they're being mean or being, like, offending others by, like, nudging them. But to me them telling me that: "Well keep yourself in check," in itself is much more offending than a nice friendly nudge.

This sub-category includes a significant number of critical incidents in which participants sought out and relied on the help of other people in order to regulate their intense emotions. In some examples, participants desired support, but the other person responded in a way that was deemed unhelpful. In other cases, the intervention from the other person was unsolicited and only escalated emotions.

Overall, the Social Interaction category reflects the strong emphasis participants put on the social context. In all of the helping incidents, participants benefitted from the presence or actions of another person, sometimes relying on the other to initiate, and sometimes simply requiring them to lend a listening ear. In hindering incidents, the actions or context of others was unhelpful, instead often escalating the emotions to an even higher level. As the results are further presented, we will see that the social context and function of emotional regulation will continue to arise, reflecting an almost ubiquitous presence. The difference in this particular category is that the social context was explicitly identified by participants as the helpful or hindering factor.

### **Distancing**

The Distancing category is defined as: *Distancing oneself from the emotion or the emotion-eliciting situation, either internally or physically.* Rather than engagement with the emotional experience, as we will see in other strategies, the four sub-categories – Taking Time, Distracting, Disengaging, and Suppressing – encompass coping skills in which participants employed some form of disengaging from the emotion, the situation, or the behavioural

expression of the emotion. This category once again included both helpful and unhelpful strategies, some of which came from the same participant describing both perspectives of a particular response.

**Taking time.** Defined as: *Delaying any direct action – time being the main factor – to manage emotions, and in some cases deal with the situation/emotion at a later time,* Taking Time is the first of the Distancing sub-categories. Strategies herein reflect an intentional effort by participants to “take a breather” and “collect myself,” taking time to step back, recognizing the need to avoid engaging in immediate action. For some participants it was simply a way to take a break before forging onward dealing with emotions and emotional situations, such as Participant 4 who said, “...sometimes I guess I, I need to be able to just, like, calm down and, like, just ... let my mind rest for a day or something like that.”

A subset of these incidents, however, was characterized by the overwhelming intensity of the emotions, and the need to delay using other coping strategies until the intensity had subsided enough that the individual would not act impulsively in unhelpful or harmful ways. Participant 1 described their need to let intense anger subside before accessing their social support network, “...being able to talk it out does help, but you know, I have to sit on it pretty much until it has lessened enough that I’m not going to simply end up screaming at my friend instead.” Participant 6 shared their need to step away momentarily from a situation in their healthcare setting that was causing frustration, recognizing that not allowing the intense emotion to run its course first may end up in careless mistakes that would be harmful to patients:

And I was just, like, I was really annoyed. Like, I went to the bathroom and I just, like, had to, like, collect myself ‘cause I was, like, frustrated, and when I get frustrated I make, obviously your brain doesn’t function well, and you make mistakes, and I can’t afford to

make mistakes when you're giving out, like, medication and stuff like that. So um, I had to, like, really, like, check myself and, like, take a minute just to, like, collect myself.

For others, the delay in dealing with the situation was imposed by the context they found themselves in, but it was helpful for them to be able to take that time to match situational appropriateness, and then cope more intentionally later:

At the time I was forced to sort of ride it out 'cause I had class very shortly after, so I just sorta spent time, uh, getting enough of a grip that I wasn't overly jittery. So yeah, and then later I got home, I sorta used a few coping strategies. (Participant 5)

Rounding out the helpful side of this type of response are situations in which participants simply acknowledge time as the primary factor in allowing the emotion to dissipate and become less salient in their own minds. Participant 5 discussed a low point in their life that they overcame partially through time allowing the emotions to dissipate, and their mind to begin to focus on other things:

And eventually I just stopped thinking about it, that's what helped. And it just sort of gradually flushes out of the mind. I mean, it's still there, but I mean there's less of an emphasis on it. It it's like [a] neon sign that, like, goes out. I mean it's still there, but you notice it a lot less, right yeah. I mean it gets covered in cobwebs and stuff, and eventually just this sorta rusty hulk that's there.

This particular type of strategy became unhelpful as an avoidance factor, an unwillingness to deal with the emotion or the situation after taking time. Participant 1 described their tendency to procrastinate challenging academic assignments that were causing anxiety, "...and I kept talking to the teacher about it and trying to do something but it kept growing bigger, and ... I kept asking for extensions and she was like, 'Yeah okay, um okay, okay.'" This

participant then went on to describe the unhelpful consequences of employing an avoidance strategy:

...and it keeps on getting bigger and bigger, and the shame that I can't do an essay when I'm otherwise a very academically competent person gets stronger, or that, you know, I procrastinate about it, um, just got so intense that last year I did not hand in two big assignments, two big essays.

The intention was to gain more time for the participant to deal with the anxiety caused by challenging assignments, but instead the procrastination only escalated the anxiety, added feelings of shame and guilt, and the participant ended up not being able to hand these assignments in until much later.

Participant 3 shared an example of taking long drives, which became an interesting strategy with dualistic consequences. The participant expressed that their intention with driving was to use it as a way to escape, but also to self-reflect. Though they reported they were currently able to successfully self-reflect on these drives, they shared a personal revelation that this strategy had, in the past, been unhelpful, "Definitely a delaying factor – 'I don't wanna think about this, screw it' ... if I'm driving, I can't text you; I'm by myself in the dark." The participant recognized they were using driving as a form of avoidance and escape from dealing with the emotion-eliciting situation.

Also reflecting the hindering side of this sub-category was an example of a break-up, when Participant 3 knew where the conversation was headed but decided to delay having it until after a positive social event, in order to still enjoy themselves. However, as can be seen in the quote, the knowledge that this difficult conversation was looming only worked to ramp up the emotions to an unbearable degree:

So this external source of, like, emotion where I knew my heartstrings were over here, and my head was over here, was, “Holy crap, this is happening, this is happening.” So ... it’s when you know you’re gonna get bad news, right? So that was when the build-up began. So that whole week it would be, like, he’d do something sweet, and I’d snap. So I’d be like, “No, don’t do that; you’re gonna break up with me at the end of the week anyway.”

This is an example of a critical incident that I found difficult to categorize. At first glance it may seem that – due to it being in the context of a relationship – it would fit better in one of the Social Interaction sub-categories. However, upon further analysis, it became clear that the primary hindering process in this situation was the fact that conversation was delayed, and the participant initiated the delay. The situation involved a social context, but the delay was the primary catalyst that exacerbated the intense emotions.

This sub-category also included one wish-list item, wherein Participant 3 recognized the importance of learning to take a break to collect their thoughts and let their emotions lessen before acting on them:

Um I kinda need to teach myself to take a breath and, like, even if I can articulate better in a text, as much as I’d rather do it in person, take the time to write it out, sleep on it, re read it the next morning, go from there.

Overall, these examples reflect the short-term nature of delaying as a coping skill for most participants in the current study. Taking that time to allow the intensity to attenuate naturally appeared to be helpful, but if a more effortful strategy was not used after a brief delay, then the consequences ended up turning out negative.

**Distracting.** Typically a form of directing attention away from the emotionally salient stimuli, the definition of Distracting in the current study is: *Distracting oneself from the emotion and/or the emotion-eliciting situation.* Multiple helpful incidents were shared by participants who spoke directly about distraction as a method to manage their intense emotions, such as Participant 2 who said, "...distraction of course is always great ... music ... sketching, doodling, um, something ... that reflects my current emotions." This strategy appears to showcase a dual purpose for this particular individual, wherein they distract themselves with a creative outlet as a response to the emotions, but the end product of that creativity may also be a way to process the emotions.

Participant 5 articulated, "...distraction is ... I find one of the best coping strategies I have with stuff. I, I dunno if that's part of my ADHD, but I mean, like, you won't think about stuff after a while." The participant went on to offer a link between their condition and distraction as a coping method:

In fact, ADHD has been almost a blessing when it comes to things like depression or anxiety, because ... although you can fixate on it very strongly in the, when it initially comes on, you'll eventually - whether you want to or whether it's conscious or not - [you] will forget about it. Simply 'cause ADHD is: "Look *there*, oh look *there*, oh look *there*" ... ADHD then more is sort of ... it's a way to distract you away from that thought eventually.

In their first quote, it can be seen that the participant recognized the benefit of distracting themselves away from the emotionally salient stimuli. In their statement, they go on to identify the benefits of their ADHD by contributing to their distraction skills. For this participant, the

idea of not having as much control over attentional deployment means potentially getting more fixated, but also being able to more easily get distracted by other, non-emotional stimuli.

Representing the ubiquitous nature of the social context, Participant 6 described a strategy in which they were able to access their social support network, but primarily for means of distracting themselves away from emotional situations associated with school:

Just kind of trying to do, like, non-school things like meeting up with my friends, and just, cause school, like, is such a big part of my life, so and a lot of my friends I have from school ... or from nursing. So I try to, like, spend time with my non-nursing friends, and, like, do things that are non-school related.

A challenge might be levied against the categorization of this incident, suggesting that the interpersonal context takes precedent and belongs in the relevant social category. However, the important helpful component of this example does not appear to be support from these friends, or actions on their part; instead, the participant is using their presence to distract their focus away from school.

Others spoke about negative consequences of their distraction attempts. Interestingly, Participant 3 identified that they occasionally used their friends as a distraction, but then stated that they ultimately found it to be hindering, saying they were “supplying distraction away from everything I was dealing with.” Participant 3 realized they had avoided dealing with the situation and the emotions had only intensified once they were re-engaged.

Participant 3 also identified the negative consequences of self-medication as a form of distraction, candidly offering, “Um, I’ve learned some really unhealthy ways to manage them. Um, so probably the most unhealthy ways I’ve learned to manage it, umm, was smoking and drinking.” This participant went on to describe the greater context of drinking culture as a

university student, and how the ease of access and commonplace nature of it made it far too easy to use this unhealthy coping method:

I guess the difficulty for me is, of course, drinking culture. I can get away with going to the Den whenever I want and get a beer. I can get away with, like, “I’m having a shitty day, I’m gonna grab a beer.”

These distraction strategies follow a similar pattern as Taking Time, in that they can offer a helpful short-term solution. However, if the emotion-elicited situation is not eventually dealt with more directly, the longer-term consequences may be negative.

**Disengaging.** Disengaging is defined as: *Disengaging from the emotion-eliciting situation, either mentally or by walking away*, and is the sub-category that most literally represents the concept of Distancing. Critical incidents in this category involved the participant making an intentional effort to either physically walk away from the person or situation evoking the relevant emotions in them, or cognitively taking a mental step back in order to disassociate from the emotion. There was almost equal representation of helpful and hindering incidents in this sub-category, with the helpful side readily represented by Participant 3 describing, “...it takes a lot for me to step away but I’m also learning it’s one of my best ways of coping. ‘Cause if I do stay in the heat of the moment ... it can’t end well.” Participant 2 echoed this concept of physically disengaging from a situation in which their actions were bothering other people in a social space:

And, like, now at least, because I am now aware of, like, my ADHD symptoms, what I can and cannot control well, and even the stuff I can control, I can’t control, like, a hundred percent. And so, like, I can, now I can at least acknowledge that if I do end up annoying people, that I can, like, I can only respectfully, like, keep my distance from

them. Not in an emotionally, like, “I don’t like you” way, but more about “We’re not compatible and I understand that, and I don’t want to annoy you so I’ll just keep my space from you so that you’re not annoyed, because I cannot really properly change how I, how I am basically.”

This participant exhibited self-awareness about their condition and how it may be impacting others in certain social situations. Therefore, they are choosing to walk away from the situation, in order to no longer cause themselves, or the other person, any negative feelings.

From a more cognitive perspective, Participant 1 offered an example of adopting a strategy of mentally stepping back, particularly when they are not in a situation where they feel it is appropriate to react physically or outwardly, “Yeah I usually don’t react physically to it, or, like, openly. But that’s kind of where I remove myself either mentally; like, I just stop paying attention.” This same participant indicated that this ability allowed them to disassociate from the subjective feelings, “... [I] realized I could feel nothing; [I] became detached.” This was helpful to the participant, because they were no longer overwhelmed by the intense negative emotions, and were no longer at risk of acting unreasonably based on those feelings.

Leading into the hindering side of Disengaging, this same participant articulated that disassociating from the emotions also had a notable negative side to it. By becoming detached from one emotion, they became numb to all emotions, including the positive ones, “...I lose emotions, and I like those.”

For others, it was the lack of engaging in any sort of productive action or interaction to remedy the emotion-eliciting situation that they found hindering. Participant 3 described their tendency, in multiple situations, to shut down emotionally and physically. It was almost a form of giving up:

...I was like, “K, well now I’m done, I’m done for the day.” And I would not do my schoolwork, I wouldn’t eat, I wouldn’t do anything. So finally I had to admit to myself, I was like, “Okay, this isn’t healthy, like this is destroying me from the inside out.”

For others, it took the form of permanent avoidance. Participant 1 spoke about their challenges staying in contact with friends and relatives, partially due to their ADHD impairing their ability to remember to call or email them:

So I have in repeated, like, in multiple occasions throughout my life, done this thing where I have a lot of trouble staying in contact with a friend because, because I really, because of ADHD pretty much. And then I feel so bad about it that I never talk to them again, and I mean that literally. I literally never talk to them again because I, you know, either we were in the middle of a conversation and [I] didn’t answer in time, and then I didn’t answer in a week, and then sometimes I power through it and just, like, start another conversation. Sometimes I honestly just never talk to them again.

In these situations, the participant described their response as never talking to that person again. They shared that this was unhelpful, because they desired to be in contact with the person, but the guilt kept building and building in a viscous cycle until it felt like it was no longer an option.

Whereas these incidents represented the hindering effect of using disengagement as an emotional regulation strategy, a final interesting example highlights the harmful consequences of not disengaging from a destructive situation. Participant 3 was going through a particularly difficult break-up, and instead of cutting off contact completely, the two wanted to remain friends and keep communication intact. The participant described how this turned out:

So anyway the build-up kept going on for about 2 weeks after the breakup, ‘cause we stayed in contact, we decided, like, “You know what, we’ll still be best friends.” And it

stayed, we stayed in contact and I kept still having those zero-to-a-hundred moments, zero-to-a-hundred moments, and then basically how it all closed off to finally end this zero-to-a-hundred emotion, because I finally had texted him one day and said “You know what? I can’t do this. This is, this is taking complete control over my body, it’s taking complete control over everything I do.” Um because my emotions had gotten so extreme that I could be having this conversation with you, and if my phone lit up with his name, I’d be gone.

By not disengaging from contact with the other person, Participant 3 continued to experience an intense rise and fall of overwhelming emotions. Though different from the other hindering exemplars, this is an important exemplar to include because it once again highlights the social context, and exemplifies the complexity of real-life situations. Despite being classified as a hindering incident, this example indirectly showcases the potential helpfulness of disengaging from certain situations.

One wish-list item was endorsed by Participant 3 who said, “I want to be able to step away without it hurting so bad.” This participant recognized the importance of walking away, and how that can be a powerfully helpful coping strategy. However, they understood the complexity of such situations, and recognized that walking away from a meaningful relationship – even if it has become destructive – is not an easy thing. There can still be hurt feelings and loss of connection. The participant therefore articulated a wish to be able to walk away from negative situations without the hurt that often comes along with it.

**Suppressing.** The term suppressing seems to have an inherently negative connotation, carrying assumptions and biases that must be overcome in order to see the category as it is intended. During feedback garnered from follow-up interviews, participants themselves

struggled with the word, but ultimately it was decided that this word best represented the type of strategies being employed here, both helpful and unhelpful. Though this will be explored further in the discussion chapter, it behooves us to remember that the adaptive or maladaptive nature of any given strategy or response depends heavily on the context (e.g., McRae, Heller, John, & Gross, 2011).

Arising from participant responses, the Suppressing sub-category is presently defined as: *Pushing down, or decreasing, the behavioural expression of an emotion.* This simple conceptualization represents strategies in which participants made an intentional effort to withhold or downplay some aspect of their emotional expression. Social context played a large part of the helpful incidents, with Participant 6 articulating:

I keep to myself and I don't like go around shoving it in other people's faces, 'cause it bothers me when people do that to me. I am, like, happy, but I'm, like, internally happy. Or maybe I'll, like, tell my Dad, like, "Oh, that paper that you helped me, like, correct, like, I did really well - thanks for the help," I'm happy with myself. ... I am happy that ... I'm not too, like, overly emotional in those situations.

Participant 1 expressed that, "... my favourite web comic updated. And it was cute, and I was on the train and trying not to start screaming on the train," reflecting their prioritization of acting appropriately in public or social situations, therefore suppressing certain aspects of their positive emotional expression. The two examples related above share the context of experiencing a positive emotion. Given their social context, these participants deemed it necessary to suppress some aspect of their behavioural expression of positive emotions and found that to be a helpful response.

A different context in which suppression helped was successfully carrying on with an activity while controlling the physical expression of anger. Attributing this ability to training in karate, Participant 1 said, "...the time spent uh learning karate, and learning self-control to an extent did help a lot. So I am, you know, physically capable of putting a lid on it." This participant spoke more than once about physically controlling their intense anger, and how helpful it was in being able to then approach situations more calmly.

The hindering side of this sub-category was more in line with what one might expect, aptly depicted by Participant 3:

Um I guess honestly my most unhappiness from any ... emotions is when I mask them, when I pretend like they weren't there. Um, so if I was really upset and I say "No, I'm fine," um, or if I was really happy, and I, they're like, "Oh, why were you so happy?" or whatever, I'm like, "Nah, it's nothing." So when I hide them or when I mask them, looking back that actually makes me kinda sad.

This quote clearly depicts pushing down and hiding emotional expression. Multiple participants spoke about the negative consequences of responding in this manner, where their attempt to suppress emotions only resulted in escalating the feelings further:

...if I'm in a situation where I know that my, how I'm feeling isn't necessarily appropriate, I get, like, really worked up about trying to tone it down and, like, trying, like, get a grip almost, and then I, I get more emotional and so that doesn't really help (Participant 6).

Participant 1 shared that the cost can come in the form of physical illness, "...and I got, like, physically sick from stress. And from repressing my anger-slash-hatred of my sensei and all the frustration of having to deal with his bullshit." This was in response to having to deal

with a particularly toxic martial arts instructor, but needing to hold back expression of that frustration because of the unequal power dynamic. It is not hard to see from these examples that there is a clear hindering side to this sub-category.

Tied to the helpful suppression of positive emotions, Participant 1 had a wish-list exemplar in which they held a desire to control their intense positive reactions better. They explained, "...because it's not always appropriate," recognizing that in certain situations, unchecked positive emotion could be unhelpful, such as jumping up excitedly at the beginning of a play, or being unable to refocus during a lecture after encountering something amusing.

Examples in the Distancing category all reflected some form of participants removing themselves from the emotion, or the emotion-eliciting situation. Whether this be through a mental step back, physically walking away, or pushing down behavioural expression, all strategies were directed at the goal of distancing from emotional engagement.

### **Physical Response**

Emotions are multi-component processes that inevitably include both behavioural and physiological aspects, reflecting their physical and biological nature. *Involuntary or voluntary responses to an emotion that primarily involve a physical or physiological component* is the official definition of the Physical Response category. Participants offered a number of critical incidents that involved a physical component, which were split into two sub-categories reflecting the distinction between automatic (often autonomic), physiological responses (deemed Uncontrollable Physical Response), and the more intentional behavioural efforts of participants (deemed Intentional Physical Response).

**Uncontrollable physical response.** The first physical sub-category of Uncontrollable Physical Response includes incidents captured under the definition: *The involuntary*

*physiological or behavioural expression the body experiences in response to an emotion.* For the most part, participants spoke freely about the unhelpful aspects of their physiological responses to intense and overwhelming emotions, although there were three critical incidents that were considered helpful. Participant 3, who related a relationship breakup, described their overwhelming negative emotions causing them physical pain. Displaying the real-life complexity of emotions, they clarified that in this particular situation it was actually helpful to experience pain, rationalizing that, “it was a chance to not feel numb.”

More than one participant spoke about the hindering effect of crying as an emotional response, as will be seen shortly. However, Participant 1 discussed the benefit of using crying as a response to their intense emotions, saying, “...if I’m alone [or] in a safe space, it can be a really good and helpful way to release emotion.”

Another positive incident was given when, in describing their response to intense positive excitement, Participant 1 said, “I pretty much vibrated through the show, I have no idea if [there’s], like, a more scientific name for it, just kind of like ... shaking with emotion.” This was such a vivid description of their physiological response to that emotion that it necessitated inclusion in this write-up. The participant later elaborated that this initial rush of excitement and “vibration” was a positive experience for them, and therefore was placed on the helpful side.

Though the initial rush of excitement was positive, the previous exemplar went on to have hindering consequences: “Pretty much I vibrated myself into exhaustion. And then you know, had to cancel plans for the evening because we wanted to go somewhere else, but I was really tired.” The idea of exhaustion came up more than once for participants as a hindering consequence of physiological responses.

Another hindering dimension of this sub-category was represented by immediate, uncontrollable behavioural expression at inappropriate times, such as Participant 1 recounting their sudden display of excitement during a play, "...and I literally jumped out of my seat ... and my Mom dragged me down [laughing]. It was like I'm 5 [years old]!"

Participant 1 described an interesting response, wherein their anger would turn into what they termed a "rage blackout," where they could no longer think straight:

And then I can't think. I just got, like, really, really intensely angry and I ... want to start screaming like, even about the things I was agreeing with the writer three seconds ago, like, "What do *you* know? You know *nothing*."

The critical phrase in this quote is, "And then I can't think." This may be viewed as a physiological response, because it reflects the tendency for the physiological component of some intense emotions to overrun the prefrontal cortex (Arnsten, Mazure, & Sinha, 2012), impairing the ability to think straight and control impulsive behaviours, such as the urge to scream irrationally. It is a unique incident in this sub-category, but represents an important type of response that manifests as a sort of physiological overload affecting cognitive functioning and self-awareness.

A final type of response that was depicted by two participants was the tendency to cry in response to intense emotions. Participant 6 offered:

It's kind of hard, because I, like, I cry a lot, and I know that I, like, cry in, like, inappropriate situations kind of, like, when I know I'm not, I shouldn't be crying. But it's just kinda, like, a defence mechanism, so I just start, like, trying to choke back my tears. So it's kind of, it's hard sometimes, yeah.

It is clear this participant is indicating a response they are often unable to control, and one that they do not consider helpful. The end of the quote infers an effort to try and manage that response, which coincides with the same participant's wish list item, "I just I cry and I get, I wish that I could control that better." The quotes dovetail nicely, and paint a picture of someone who is aware of this perceived unhelpful emotional expression, but is still trying to figure out a way to effectively manage it.

**Intentional physical response.** The expected contrast to the first sub-category, Intentional Physical Response is defined as: *The effortful response on the part of the person that involves a physical factor or action.* Unintentionally channelling the words of many therapists who use mindfulness, Participant 6 said, "So um, I had to, like, really, like, check myself and, like, take a minute just to, like, collect myself, and, like, take some deep breaths." Breathing deeply is an obvious intentional and physically based strategy that represents the helpful side of this sub-category.

Participant 6 emphasized the importance of managing their physical well-being in order to positively impact their emotions, saying things like, "When I eat, I feel way better," and, "When I don't sleep I get really emotional, I get really frustrated, I cry all the time when I don't sleep. Um so I try to sleep well, or sleep a lot," highlighting the benefit of sleep in a roundabout manner.

These incidents are focused on a physical way of managing emotions, but there was also a helpful aspect of physically expressing positive emotions. Participant 4 said, "Something got me super excited, and I was clapping – doing my clap thing." The individual was referring to a specific clapping action they engage in when expressing their excitement, which they find

helpful simply because it feels good to express it, “When I ... do that, I kinda ... feel like I wanna do it again.”

Participant 1 offered another dimension to this subcategory, saying, “I fidget a lot to help manage the intensity of emotions,” and “I also sing or hum a lot to release negative emotion.” Both strategies represent an intentional form of behavioural response.

Unhelpful physical responses are primarily dominated by a physical expression of aggression, channelling their anger and frustration through a physical outlet. Participant 5 conveyed the unhelpfulness of this response:

Although there was that time last night where my uh, something I’d been working on for an hour or two deleted itself and I had to do it, so I hit the wall a couple of times ... Just punching a hole in the wall though, I find that doesn’t solve anything. Mostly cause your fist hurts way more than you know the wall is going to.

Participant 1 generally recognized that, “The physical ones, exhaustion, PMS, not eating. Not eating makes everything worse.” The same participant also understood their physical energy to be a limited resource, and their inability to expend it wisely was unhelpful, saying that they “...have a very limited amount of energy and a very bad ability to manage, to spend it properly.”

The two wish-list items that fell into this sub-category were presented in general terms, with participants desiring to “manage [the] physical response better” (Participant 1), and acknowledging, “I definitely need more physical work, exercise” (Participant 4). Though others did not articulate it as clearly, there was an indication from some of the other interviews that participants wished they had more time or were able to be more intentional about these physical factors.

The physical category represents behavioural and physiological factors that can influence emotions either positively or negatively. In some cases, participants engaged in a distinct lack of readjustment or self-control, allowing their physiological processes to run their course. In other examples, they made intentional efforts to influence physical factors such as sleep or diet, which in turn had a noticeable impact on their intense emotions.

### **Emotional Engagement**

The overarching Emotional Engagement category encompasses the domain of direct engagement with the intense emotions experienced by participants, defined as: *Intentionally engaging with the emotion in order to express, experience, or change it in some manner.* Other categories involved some form of disengagement from the emotion, or cognitively changing some aspect of the emotional experience. This category, instead, involved engaging directly with the subjective feelings of the emotion. The sub-categories are Maintaining the Emotion, Transforming the Emotion, and Accepting and Expressing the Emotion.

**Maintaining the emotion.** Typically associated with positive emotions, Maintaining the Emotion is a form of emotional engagement in which participants are: *Actively working to sustain the feelings associated with the emotion.* This sub-category was comprised of two critical incidents, both offered by Participant 3 who described instances in which they attempted to maintain the positive feelings associated with a situation, but interestingly only articulated hindering consequences of this strategy:

And I probably could've saved that text for another three weeks. Like, I could've just rode it out, like texted him, seeing what happened, but I wanted to know, and I wanted to know *now*. So 'cause I wanted this positive ride to keep going, 'cause I was so happy Monday, that I just wanted to be so happy all the time, right? And I'm like, "Okay, he's

giving me the happy, so I'll push to see if he wants to be in a relationship." And that's when of course then it comes back around and slaps me in the face and goes "Ah yeah, noooooo."

The phrase, "I wanted this positive ride to keep going" is a fitting tagline for this sub-category. The participant, finding themselves in an exciting potential romantic situation, desired the positive emotions to continue at any cost. In service of this desire, the individual crossed social boundaries and ended up making the situation worse. The same participant talked about a similar tendency with their money, wanting to freely spend and pick up friends' tabs to keep the positive feelings alive, but this ended up having marked financial consequences that caused intense negative emotions:

Um especially when I get close, people will actually notice a change in my demeanour as soon as if a credit card's almost maxed, if my line of credit is almost maxed, um if I'm not getting a good paycheque, like, my friends will notice a change. They'll be like, "What's going on?" "Like, I have no money." And as soon as I say those words, they understand. Because it affects me very deeply because I don't know what to do without money, um and it's scary and I get petrified.

There were no helpful incidents provided in this sub-category, although it seems unlikely that this was due to a lack of individuals ever utilizing this type of strategy. This will be examined further in the discussion chapter.

**Transforming the emotion.** Rather than trying to maintain or increase the feelings associated with an emotion, the sub-category of Transforming the Emotion has participants: *Channelling the emotion into something else that feels more comfortable, or perhaps productive.*

The goal is to have the subjective feelings reflect a more desirable emotional experience, or use those feelings to produce motivation.

Participant 1 offered an example in which they were able to transform their intense anger, “...the really big central thing kind of, is to, is that I turned it into indignation ... from pure personal anger into indignation,” which in turn motivated righteous action where the individual asserted their unique cultural perspective as part of a larger class discussion.

Participant 5 offered a pertinent example in which they transformed other emotions into anger:

I find actually in, in previous things, converting uh depression or sadness or anxiety to anger actually works ... What actually helped me at the end was more just a feeling of, “If I, you know, lie down and die right now, everybody who ever doubted me or stuff, they win,” so I clawed back up to a good place basically out of spite.

For this participant, anger was a more comfortable emotion because they knew how to cope with it, and what to do with it. They were able to take their anger and transform it further, using it as productive motivation, “...the anger eventually gets out as long as you do something with it, like, doesn't have to be anything actually anger related, but as long as you do something constructive.”

Participant 2 talked about shopping in response to extreme stress resulting from inefficiency, clarifying that it was a process of transforming their challenging emotions into productively finding ways to optimize their own efficiency:

Um, but I think ... it also, like, went away through um what I would call, like, stress shopping ... or at least redirects my frustration into something else. So ... redirecting

agitation into positive agitation ... well, might as well channel into something that's more likely to, like, release my, like, to feel like I've *done* something.

In these critical incidents, participants were not avoiding or disengaging from the emotion; instead, engaging with the experience and subsequently changing transforming negative emotions into something more beneficial and positive.

**Accepting and expressing the emotion.** Strategies in the sub-category of Accepting and Expressing the Emotion shared the definition: *Accepting the emotion and experiencing or expressing it freely as it is, without down-regulating or changing it.* The goal of such strategies is not to enact any change on the emotion(s) in question, but rather to accept them for what they are and freely engage in the emotional experience, in some cases even expressing or venting it cathartically. Originally split into two sub-categories, acceptance and expression were eventually combined. This is because in all of the venting-type incidents there was an implied acceptance, intricately linking the two strategies together. Both are defined by their unhindered engagement in the emotional experience. Acceptance results in participants freely experiencing their emotions without attempting to down-regulate, and it will be seen that expressing emotions effectively and freely inevitably involves accepting and experiencing them, rather than disengaging and avoiding.

Nearly all incidents in this sub-category were endorsed as helpful, beginning with this straightforward statement from Participant 3:

So with the extreme emotions how can I just accept that my emotions, yes, are extreme, but it's gonna be okay. And like, so I found as soon as I learned from myself that I can have extreme emotions, that changed kind of my approach around how I dealt with it, and how I managed it.

Accepting that extreme emotions were going to be part of their life was an important step for this participant, and appears not only to be an in-the-moment response, but also a shift that aided future emotion regulation.

Another form of acceptance was offered by Participant 1 when discussing a strategy they learned from karate in which they are honest with themselves and those around them and “power through” the emotions, experiencing them fully whether they be positive or negative, “And that was, like, a defining moment for me, in which the best thing I can do, and the thing that’s more likely to give me good results ... is be honest and power through it.” It may not always be a warm embrace of emotions – particularly if they are challenging and uncomfortable – but in order to face emotions with the gritted teeth this quote suggests, it is necessary to accept that they are present and valid.

Participant 2 used the metaphor of a physical burn to describe emotions, where third degree represented the worst emotional ‘wound’ because – similar to a burn – it is when you become numb, no longer feel, no longer care. They clarified that freely expressing their emotions was an important emotional regulation strategy to avoid getting this third degree emotional burn:

And so, like, in order to not fall down into bad third degree I would need to make sure that my emotions aren’t bottled up because that’s how it does go into the third degree, which is kinda why, like, expressing my emotions, no I wouldn’t really control um expressing my emotions.

An implied acceptance can also be read into this quote, along with the importance of free expression. The participant actively worked to express rather than bottle or suppress emotions, which means there needs to be some acknowledgement and acceptance of what they are feeling.

Participant 3 also spoke about the benefit of venting their emotions to a close friend, “It’s getting that verbal vomit out ... I’m able to either just get it off my chest and stop there, or ... move forward. I’m definitely ‘pro-venting’.” The participant recognized that venting allowed them to feel better, or freed them up to move forward in problem solving. These incidents reflect a strategy of expressing emotions freely, meaning they are not down-regulating or changing them first. This is only possible if they first accept the extreme emotions they are feeling, and are willing to experience them freely as well. This is the commonality that binds the two constituents of this sub-category together.

A final interesting form of expression or venting is offered by Participant 2, who spoke about multiple strategies used to deal with frustration and stress. They went on to explain that before they are able to engage in any productive strategies, however, they need to vent their emotions, otherwise they would not be able to accomplish anything:

But also I still need to relieve the stress before even being able to start focusing on it, because the amount of stress that would have accumulated by the time that I would have actually became, like, productive, um, by that time I would have already accumulated enough stress for me to, that would prevent me from focusing on being more productive basically.

The participant has learned that by not relieving or expressing them, the pent up emotions would impede their ability to engage in further emotional regulation.

Participants who contributed to this category almost unanimously appreciated the benefit of emotional expression, and understood that acceptance was preferable to attempting to ignore or deny their extreme emotions. Only one participant discussed a hindering consequence of venting their emotions, which came as a double-edged sword. They first described the

potentially unpleasant experience of cathartically flushing all those intense emotions out, “Yeah and they all just sorta all come flooding out. And that can be very ... that can be very terrible when it happens.” However, they went on to clarify that in time, it becomes a helpful strategy, “...but after, it actually, there’s almost like a relief, like, things, I don’t wanna say it, but things can’t get any worse right ... So you start climbing slowly climbing back up.” This goes to show that even generally beneficial strategies can be complicated, and may not always be comfortable or pleasant even if they lead to better outcomes in the long run.

It should be clear from all examples in this category that participants turned towards their emotions, rather than attempting to distance themselves. Acceptance, expression, and transformation, all require a direct engagement with the emotion experience, effecting change from the inside.

### **Taking Medication**

The next two categories (Taking Medication and Active Problem-Solving) do not include any sub-categories, due to a smaller number of relevant critical incidents that did not require further breaking down. Medication has a notable impact on many areas of functioning and impairment, and it was interesting to inquire whether participants noticed or perceived any impact on their emotions or emotion regulation. Defined as: *The effect of psychotropic medication on emotions and the ability to respond to them*, Taking Medication was characterized by participants who identified the beneficial impact of both ADHD-specific medications and other forms of psychotropic medication.

For some, medication had a direct effect on emotions, such as Participant 3 who said (in point form from the follow-up interview), “When on medication, emotions are less extreme, float more around a 60-80 kinda ... When not on medications, back to all-or-nothing mentality – helps

stabilize everything, stabilize emotions.” The same participant also shared that when on their ADHD medication, the “decision to deal with emotions actually happens,” meaning that instead of resigning themselves to riding out their extreme emotions, they can engage in active problem solving and decision making about how best to approach emotion regulation in the moment.

Participant 1 found a more general effect of medication, saying, “Medication helped stabilize the situation, which helped manage emotions.” For this person, medication did not necessarily make emotions themselves less extreme, but made life in general more manageable, which freed them up to more actively and effectively respond to emotions.

One hindering incident that was offered was in relation to anti-depressant medication. Participant 3 described the emotional numbness that accompanied this medication, and indicated that this had become the norm for them. This state of being became unhelpful when relationship strife arose suddenly, causing a sharp, unexpected spike in emotion when emotional intensity overrode the subduing effects of medication:

...it again is that zero-to-a-hundred, where I wasn't used to that. Like, I had had zero-to-a-hundred before, but then since I had gotten accustomed to this kind of numb, no feeling, on this medication, which I wasn't exactly comfortable with but, like, knew it was happening, was the fact of accepting that even though I'm on medication this is still gonna happen.

The anti-depressant medication suppressed emotional experience and intensity, but that eventually became a drawback when it wasn't able to stop the intense flood of extreme emotion, as the participant had not needed to engage in intense emotional regulation for some time and became overwhelmed by their emotions.

One other hindering incident was shared by Participant 5 who interestingly identified they felt they were more prone to depression and anxiety when taking their ADHD medication, and more happy when not taking it, “One thing, on my medication I mean, the thing about this, I’ve generally felt on my medication I’m more prone to anxiety, depression, than when I’m off it.” This appears to be in contrast to those describing medication as having a stabilizing effect, making them less prone to extreme emotions. Nonetheless, it appears that for this participant, they notice that although the medication is beneficial for their focus, it dulls their intense positive emotions, and their “happy go lucky” demeanour. They find this aspect of medication to be unpalatable.

A wish-list item was shared by Participant 3, who offered multiple incidents in relation to taking medication. In describing the stability ADHD medication offered, they also admitted it made them a “creature of habit,” and indicated that they “want to find a way to push the comfort zone.” They appreciated the habits that medication allowed them to keep, and that it dulled the intense rise and fall of extreme emotions, but they also found that they became complacent and stuck in the same routine. This was something they hoped to find a balance in.

It seems clear that psychotropic medication can have an impact on emotions. For some participants it offered a direct and positive effect, but for others it offered the general stabilizing effect on their lives, which then allowed them to more effectively engage in emotional regulation strategies.

### **Active Problem-Solving**

The strategies endorsed under the Active Problem-Solving category were distinct enough to warrant exclusion from other pre-existing categories. The definition is: *Taking steps to directly modify the emotion-eliciting situation.* There is some potential overlap with other

categories, given the nature of certain actions to resolve the emotion-eliciting situation. This might be seen in Appraise & Process, the sub-category Asserting, or potentially a Physical Response. However, the incidents here do not clearly fit into any of those. The most important aspect for other examples was the process of asserting, or the internal process of sense-making. The current category is instead defined by the importance of actually resolving the external problem. As Participant 3 put it, "...best thing I have learned, look my problems square in the face: this is an issue, let's fix it."

Participant 2 described a specific strategy they used to help overcome their anxiety in getting started on an academic assignment, "...I eventually try to chop down, like, what I had to do to even, like, smaller parts, and, like, trying to [do] anything as opposed to doing it perfectly and such." There is a similarity to Situational Appraisal, but instead of modifying their own expectations or view of the situation, the participant is directly modifying the situation. That is precisely what sets this category apart.

One hindering incident was included in this category, offered by the same participant who described the strategy of breaking things down into smaller steps. They spoke about how further anxiety can act as a block to engaging in that strategy in the first place:

Um, but also sadly, like, even breaking it down into baby steps doesn't encourage me to start on step 1, when I still could feel some sense of anxiety or lingering, like, anxiousness about the whole task. And although, like, doing step 1 is, like, like, once I could get into it I could really get into it, but also, like, just the anxiousness of starting it itself kinda prevents me from even doing the first baby step of even say five minutes or so of just looking at it and doing nothing.

This is not a straightforward example of an unhelpful consequence of actively problem solving, but it portrays factors that can hinder the problem solving process. It was important to include in the results, because it further represents the complex nature of emotions, and how responding to one emotion can be hindered by another emotion.

Overall, however, we can see that actively solving the emotion-eliciting problem can sometimes be a simple but effective way to manage emotions. Down-regulating emotions is not always a complex process of regulation – sometimes the simplest solution is the most effective.

### **Research Question #3: How Do Young Adults Diagnosed with ADHD Perceive Their Emotion Regulation Abilities?**

Once an intense emotion arises, it is responded to or dealt with through regulation, or a lack thereof. The categories that have been presented in the ECIT portion of the results reflect a variety of ways that participants intentionally respond to their emotions. This next section provides context to that emotional regulation, presenting themes that represent how participants perceive their emotional regulation capacities, including reasons for engaging in emotional regulation, and the consequences of not adopting various strategies for different emotions, the link to ADHD, and once again the ubiquity of social context, to name a few. In total, 7 themes and 2 sub-themes emerged in response to this research question.

#### **Managing Positive vs. Negative Emotions**

In order to better understand the spectrum of emotion regulation, participants were encouraged to give examples of times they managed both positive and negative emotions. Most participants' initial stance was that positive emotions do not need to be regulated, given that they are comfortable and desirable when compared to negative ones. In fact, participants spoke about positive emotions being helpful and acting as motivators in some cases. One participant

acknowledged that particularly overwhelming positive emotions can act as obstacles in some cases, but they did not regret prioritizing the good feelings.

Upon further reflection, participants did provide examples where they felt managing positive emotions was necessary, or at least helpful. Most often, this was the case in social situations where some participants felt their highly intense emotions, though positive, were inappropriate for certain social contexts. One participant spoke about feeling the need to reign in positive emotions during high school for the sake of their peers, but not feeling that pressure now due to a supportive and accepting circle of friends. Another reason for managing positive emotions was simply due to the extremity of them – they remained overwhelming even though the feelings were good. Related to this was the idea that pursuant to intense positive emotions was an extreme drop off, where a lack of regulation resulted in emotions getting so high that when they stopped, the fall was marked and uncomfortable.

All participants saw the necessity of managing negative emotions across a variety of situations and contexts. Due to these also being the more noticeable and easily recalled examples, participants had no trouble sharing ways they attempted to manage these emotions. Interestingly, two of the participants articulated a distinction between managing emotions, which they saw as positive, and controlling or repressing emotions, which they saw as negative. Some of the wording may come down to subjective preference, but generally they saw regulating emotions as an important process. However, repressing, suppressing, or otherwise controlling their emotions in some manner that did not allow healthy expression was seen as an unhelpful way to cope with these situations.

## **Lack of Regulation Has Consequences**

Participants all clearly saw the importance of engaging in emotional regulation. They may have engaged in it differently depending on the situation, and may have had different thresholds as to what intensity would demand down-regulation, but all agreed that not regulating these intense emotions often led to undesirable consequences. For some, not engaging in some sort of stress release or down-regulation initially meant they could not later focus on more intentional regulation efforts, or cognitively demanding tasks. Others drew an explicit link to comorbidities, connecting high anxiety, panic attacks, and symptoms of depression with a lack of regulatory strategies. Participant 5 classified negative emotions as potentially damaging, and suggested that avoiding managing them can result in hitting a metaphorical rock bottom.

## **Individual Differences**

There were many similarities between participants in how they responded to their intense emotions, but this latent theme recognizes that individual differences or preferences still played an important role in how people might respond in any given situation. There are potentially an unknowable number of ways any given person will differ from another, but some of the most relevant distinctions from our data will be highlighted here.

One pattern that became clear was that different regulatory strategies were used depending on which emotion was being experienced. First, some emotions were easier to regulate than others, such as Participant 1 sharing that sadness was much more difficult to manage than anger. This meant the strategies employed for sadness would be different. Anger itself often has a physical component or aggressive impulse associated with it, and multiple participants spoke about needing to cope with that aspect of it, either suppressing the physical component, or expressing it in a healthy and non-violent manner. Emotions resulting from

failure, often akin to anxiety, were often associated with cognitive strategies such as sense-making and reappraisal. Positive emotions were most often associated with suppression, as participants believed certain social situations were inappropriate to express overwhelmingly intense excitement.

Other differences were seen in the general helpfulness of certain strategies over others. Some preferred distancing themselves from the emotional experience, while others tended towards direct engagement. For some, certain strategies presented a double-edged sword. Participant 6 gave multiple examples of cognitive strategies such as self-reflection, but also acknowledged that too much of this could lead to unhealthy fixation.

**Locus of control.** A sub-theme of Individual Differences, extending on a theme from the first research question, involved differences between internal versus external locus of control when managing emotions. As we saw earlier, participants differed in how they perceived their emotions, and emotion-eliciting situations – some attributed them to internal factors, while others tended more towards external causes of emotions. A similar pattern was seen in how participants chose to respond to their emotions. Participant 6, internal in their locus of control when perceiving emotions, was also internal in their tendency to respond, desiring to individually figure out how to best manage them. They specifically talked about not wanting to rely on others, as trustworthy people can be difficult to find. Participant 4 similarly preferred to manage emotions with their own skills, rather than relying on something like medication. In contrast, Participant 1 tended to engage in regulatory strategies that involved another person, relying on either their actions or their presence as a key factor in down-regulating negative emotions, or up-regulating positive ones.

## **Social Function of Emotion Regulation**

Extending from the ubiquity of social context in how participants reported their intense emotions, we found a number of regulation efforts serving a notable social function. Multiple participants discussed how their intense emotions, positive or negative, could impact their relationships or how others might perceive them. They could then be further motivated to manage those emotions. Participant 1 talked about how their excitement got in the way of social appropriateness, and their subsequent need to down-regulate for the sake of the social context. Participant 2 shared their need to monitor themselves around certain people, down-regulating certain emotions depending how that person might be perceiving them. Participant 3 similarly masked their emotions for the perceived benefit of others. Feeling the need to manage emotions for the ‘benefit’ of strangers was a notable pattern.

Participants also spoke about regulating emotions in order to benefit the existing social connections in their lives. Examples spanned friends, family, and romantic relationships, wherein the motivation for engaging in emotional regulation was driven by the desire to resolve conflict or improve the relationship. A number of different strategies were employed to accomplish this goal, including asserting, self-reflecting, and reappraising expectations they held of themselves.

In contrast, there were times in which participants were acutely aware of the social context, but chose to act regardless of the social consequences. For example, Participant 2 was aware that when they expressed their emotions in certain ways, it could be inconvenient or annoying to others, but they prioritized their own self-care – they were mindful that expressing emotions is an important form of regulation. What this reflects is that the goal may be to satisfy

social needs or meet individual needs regardless of social consequences, but participants are often aware of the social impact of their emotional regulation.

### **Desire to Self-Improve**

An important theme to highlight was the remarkable desire for all participants to improve themselves. All participants understood the need to regulate their emotions, and all reflected a motivation to continue to improve these regulatory skills. Participant 3 specifically stated they were striving to learn to accept their whole self and find personal happiness. Participant 1 exhibited notable pride when speaking about some of their most successful emotion regulation strategies.

In more than one follow up interview, the participant excitedly relayed the improvements they had made in the time period since the initial research interview. They described how certain questions from the interview had given them reason to self-reflect, and areas that they were struggling at that time they had been able to learn about and improve. It became clear that these participants wanted to manifest the best versions of themselves.

**Self-awareness of areas for improvement.** Within this desire to self-improve was a self-awareness of areas related to emotion management that participants were not already proficient in. Participant 6 mentioned their frustration at not being able to control their crying. Participant 2 recognized they had learned many of their coping skills through trial and error, wishing there had been more resources available to help them be better at it. Each participant had no difficulty recalling recent situations during which they struggled to manage emotions effectively, and more than one spoke good humouredly about it being far too easy to think of times they were unhappy with the outcome.

## **Emotion Regulation Timeline**

One fascinating theme that emerged was the idea that emotional regulation often happens in a sequential manner. Many theoretical models impose a sequence of events, and participants both semantically and latently presented this concept throughout their responses. As can be seen in the categories previously presented, selected emotional regulation strategies reflect actions occurring *before* the emotion, *in the middle of* the situation, or *well after* the emotion has been elicited. Further, participants spoke about – in some cases – a need to engage in an initial regulation strategy, followed by a different type of strategy at a later point. Participant 2 in particular said they needed to vent or relieve the stress they were feeling before they could even begin to think about focusing on more intentional regulation skills.

This theme is presented second to last, as it is one of the more powerful themes that will be elaborated on in the discussion chapter. Not only does it represent a noteworthy pattern in the results, it is an overarching concept that will bridge together many of the ideas from the primary ECIT research question, which will be taken to further depths in the next chapter.

## **ADHD and Emotion Regulation**

There was a general sense that an ADHD diagnosis or other mental health conditions were associated with impaired participant ability to effectively regulate their emotions. Participant 1 made a powerful statement that illustrated the challenges of struggling with a mental health condition, “...because it really sucks when your brain is against you. Like, having the will to fight it is the best thing that you need to fight it, but [it has] decided to, you know, give you no will.” The desire to respond effectively is present, but the ability to enact that desire is impaired.

Multiple participants spoke about impairment resulting from ADHD affecting their ability to regulate emotions. This included Participant 1 attributing unhelpful impulsive responses to ADHD, and Participant 2 saying that their speech filter happens after they have already spoken, sometimes complicating emotional situations further, making it harder to regulate emotions effectively.

In contrast, Participant 5 said that ADHD was helpful in managing intense emotions. They found that it was relatively easy to distract themselves away from emotional stimuli, and credited ADHD with this boost in distraction capacities. Participant 6 also reflected on a potential silver lining of their condition. They are aware of how ADHD impacts social skills, and this seems to have driven them to higher levels of self-awareness, and therefore increased abilities to regulate emotions appropriately to their social context (a kind of over-compensation).

This collection of themes presents an overview of how the participants in the current study perceive emotion regulation, and provides necessary context to better understand the categories making up the primary research question. As the researcher, I was immersed in the conversations and subsequent analysis with these participants, and therefore had an in depth and contextual appreciation of how each person understood what emotion regulation is, how they might define the subjective components, and what is and isn't important to them. The reader is not able to gain precisely the same perspective, and so these themes are outlined in order to at least give a glimpse through the lens with which the data was reported.

### **Summary**

As can be seen from the length of this chapter and the numerous examples offered throughout, participants shared a wealth of detailed and nuanced information about their emotional lives. Their lived experience has been captured as thoroughly as possible in the ECIT

categories, representing distinct and various ways they responded to intense emotions. The themes – emerging from a thematic analysis – presented at the beginning and end of the chapter provided important context to better understand these individuals, and how they perceived both their emotions and their emotion regulation abilities and processes. Taken together, the reader should have an understanding at this point of how these participants responded to their intense emotions, and an appreciation for the complexity of these responses enacted over time in real-life situations. The following chapter will connect these results to existing literature, build conceptual bridges between important findings, and highlight unique outcomes that are ripe for further research.

## CHAPTER V – DISCUSSION

*Grant me the serenity to accept the things I cannot change,*

*Courage to change the things I can,*

*And wisdom to know the difference.*

A total of 7 categories containing 15 sub-categories were created from the narrative data offered by the participants. A further 14 themes – including 4 sub-themes – arose from a secondary thematic analysis conducted on the contextual data contained in the transcripts. The categories that emerged from analysis of participant responses were presented in detail in the previous chapter, and will now be discussed in light of relevant literature, with connections drawn across categories and themes.

The serenity prayer is offered at the top of this chapter in order to induct the reader into the mindset for the current discussion. It is a simplification, to be sure, but helpfully frames the concepts underlying emotional regulation in a familiar set of words. Different responses reflect the desire to change things, the ability to accept things that are uncontrollable, and the insight to delineate where regulation will be beneficial, or even possible.

The current chapter will follow the structure set forth by the previous one, discussing results of the research questions. An exploration of the thematic analysis answering the research question about perceptions of intense emotions will be presented first. The primary research question elucidated by the ECIT methodology will then be discussed in-depth, considering categories in light of pertinent literature, theories, and counselling interventions. Following that will be the third research question concerning perceptions of emotional regulation, studied via

thematic analysis. Relevant themes will be connected with existing research, integrating findings and bringing together multiple ECIT categories under high-order concepts. Relevant limitations of the study will be introduced, implications for the field of counselling psychology will be examined, and future research directions will be discussed to round out this chapter and bring the thesis to a close.

### **Research Question #1: How Do Young Adults Diagnosed with ADHD Perceive Intense Emotions?**

Themes presented in answer to this first research question were filled with detailed, in-depth information, a hallmark of the qualitative research approach. However, due to a need to manage the scope of the current thesis, not all themes will be discussed in-depth in this chapter. Only those that present something unique, or highly relevant to the ECIT results, will be analyzed at this deeper level in order to attach greater understanding to our interpretation of the ECIT categories. Themes examined in this section will include: Emotional Intensity, Cocktail of Emotions, Locus of Control in Emotions, and Social Context of Emotions. Those that receive less explicit attention are: Positive vs. Negative Emotions, Lack of Attenuation, and ADHD and Intense Emotions – themes which are included to a degree within discussion of the others.

#### **Emotional Intensity**

Multiple participants endorsed an overwhelming intensity to their emotions, the kind that cloud judgment akin to flooding of the prefrontal cortex, responsible for cognitive control and self-regulation (Arnsten et al., 2012). These individuals believed the intensity to be above and beyond that of their typically developing peers. The intensity manifested in their articulated subjective experience of the emotion, as well as their primary emotional response, describing vibrating with emotion, blanking out from rage, and uncontrollable crying.

The experience of increased emotional intensity is in line with research suggesting those diagnosed with ADHD experience emotions more intensely (Friedman et al., 2003; Maedgen & Carlson, 2000). Studies emphasize a particular increase in intensity during interpersonal interactions, and indeed a large portion of examples offered by research participants stemmed from social situations and interactions with others. Participants in the current study reflected on feeling like they were noticeably different from others in the manner that they experienced their emotions, which further supports the notion that this particular population is experiencing emotions uniquely. Participants also described feeling overwhelmed by their emotions in multiple instances, lending support to research suggesting it is this subjective experience of being overwhelmed that escalates intensity (Matthies et al., 2014; Ramirez et al., 1997).

Some researchers do not believe ADHD to be inherently linked to increased emotional intensity (Barkley, 2014), instead defining the ADHD difference by the increased likelihood to impulsively react to emotions. It may be that the experience of being overwhelmed affects the perception of intensity (Matthies et al., 2014), while the actual intensity does not increase. Indeed, some participants spoke about how ADHD symptoms caused frustration, or made it more difficult to function in certain situations – not necessarily that it directly created higher intensity. Other participants did make the link to intensity. The current study's results support both the intensity and impulsivity theories, but at this point is not able to categorically discern between the two.

Findings support the idea that ADHD results in maladaptive emotional processes, in addition to maladaptive emotional regulation processes (e.g., Martel, 2009). The lack of attenuation participants reported would fall under this representation as well. Primary emotional responses are capable of de-escalating of their own accord (Koole et al., 2011; Rankin et al.,

2009), but for these participants the process appears to be abnormal and therefore does not attenuate naturally. The tendency toward the rise and fall of intense emotions, akin to a Disneyland ride as described by Participant 3, is in line with the emotional lability that has been associated with the disorder (APA, 2013).

Not all participants endorsed an elevated intensity of emotions, however. This may be due to a foundational difference in these individuals' self-perceptions. Increased ADHD symptomology has been connected to lower self-esteem (e.g., Edbom, Granlund, Lichtenstein, & Larsson, 2008), meaning if the outlying participant does not experience significant impairment due to their diagnosis, and does not incorporate it into their self-concept, they may not experience negative emotions in the same way. Another explanation may involve the Positive Illusory Bias seen in children diagnosed with ADHD, which has been extended to adults in certain domains, suggesting they overestimate their own abilities (e.g., Knouse, Bagwell, Barkley, & Murphy, 2005). A similar phenomenon could be happening here, wherein the participant is simply overestimating their abilities to cope with emotions. Finally, it could simply be that this particular person does not feel emotions as intensely as others in this study, and it can be attributed either to individual differences or the possibility that ADHD does not inherently lead to intense emotions (Barkley, 2014). These alternative explanations are interesting potential avenues for future research.

### **Cocktail of Emotions**

A theme that arose consistently across almost all participants was the idea that intense emotional situations often elicit more than one emotion, causing a complex mix of different feelings dubbed by one participant as a *cocktail of emotions*. Another participant referred to this

complex amalgamation as an “emotion jambalaya,” a vivid metaphor that helps paint a picture of how these individuals perceive and experience emotions.

Research and literature tend to discuss one emotion (or emotional experience) at a time, and for good reason – it is easier to understand and define the components and processes of emotions if approached one at a time. However, a naturalistic view must acknowledge that real-life situations are complex, and the resulting emotions reflect that. A variety of theories do allow for the experience of multiple emotions in parallel, identifying situations in which an individual might display a mixture of emotions including despair, sadness, anger, and disappointment (Martin, Niewiadomski, Devillers, Buisine, & Pelachaud, 2006). An interesting debate that has arisen in previous research is whether polar opposite emotions are mutually exclusive. Some theories posit intense positive and negative emotions cannot be experienced simultaneously except at low to moderate levels, while other theories support co-occurrence of bipolar emotions, particularly in complex situations (Carrera & Ocejja, 2007; Larsen, McGraw, & Cacioppo, 2001). Participants of the current study typically did not report significant positive and negative emotions occurring simultaneously, though they did suggest that one complex situation could give rise to both positive and negative emotions in close proximity to one another.

This complexity was further showcased when individuals had to choose to regulate one emotion over the others they were experiencing, such as choosing to respond to anger instead of sadness. Further, in some cases participants would select a combination of strategies in response to a cocktail of emotions, reflecting recent naturalistic work identifying a multitude of coping methods that are not commonly seen in laboratory-based work (Heiy & Cheavens, 2014).

## **Locus of Control in Emotions**

Participants differed in how they perceived their emotions, some attributing them to their own success or failures (internal locus of control), some placing the responsibility or blame on others (external locus of control; Rotter, 1966). Cultural context (elaborated on shortly) may actually be influencing participants' sense of locus of control in terms of how they view emotions and their causes: some participants identified academic situations as the cause for many of their intense emotions, both positive and negative. It may be that the study population uniquely feels academic pressures coupled with challenges due to ADHD impairments (Weyandt & DuPaul, 2006), and subsequently are more likely to hold themselves at fault. This example represents an internal focus that may be influenced by the academic culture young adults are often immersed in.

The concept of locus of control will be explored in more depth in the context of emotional regulation, but suffice to say that the current study's results are divided in a manner similar to the extant research – some suggest an external locus of control associated with ADHD (Rucklidge & Kaplan, 1997), while others hold a more internal sense of responsibility (Barkley et al., 1991).

## **Social Context of Emotions**

A large portion of participant examples included a social situation, interaction, or context, even if the regulation itself was done individually. Emotions serve many social functions, such as creating and maintaining relationships (Fischer & Manstead, 2008); additionally, empathy has been found to motivate prosocial actions (Hoffmann, 2008). Study participants experienced emotions in such relationship contexts, which motivated both helpful and hindering actions and responses.

The influence of culture on emotions was also outlined in the literature review for the current study, suggesting that cultural context can guide how emotions are experienced, and how they are expected to be expressed (Charmaz & Milligan, 2006; Fischer & Manstead, 2008; Scollon et al., 2011). The participants of the current study fall into a young adult demographic that are attending a post-secondary learning institution. Perhaps it is not surprising then that a prominent context for intense emotions reported by participants was an academic precursor such as being accepted to university, not achieving a desired grade, and letting down a well-liked professor. The culture that these participants are immersed in certainly influenced the causes of their emotions, lending value to certain accomplishments and failures that may not be as emphasized by a different demographic.

### **Summary of Emotion Perceptions**

The upshot of this initial section is that participants, in general, perceive themselves to be different from their typically developing peers in how they experience their emotions. This is due in large part to a feeling of increased intensity of emotion that they did not report observing in peers, and the quick rise and fall of emotions that participants perceived as unique to their experiences. Their perspectives of emotions provide context to understanding and making sense of their emotional regulation capacities and attempts.

### **Research Question #2: How Do Young Adults Diagnosed with ADHD Respond to Emotionally Intense Situations?**

I will now discuss the results from the ECIT analysis in answering the primary research question of the current study. Implications of each category, how those particular findings are supported by the current literature, and aspects that remain unexplained and ripe for potential future research will be considered. Each major category will be discussed: Appraise & Process,

Social Interaction, Distancing, Physical Response, Emotional Engagement, Taking Medication, and Active Problem-Solving. Sub-categories are distinctly discussed where appropriate, and in some cases are explored within the context of larger discussions.

### **Appraise & Process**

The Appraise and Process category reflects strategies that involve a greater level of cognitive control and flexibility of thinking than other categories (Clen et al., 2013). Skills herein reflect interventions that would often be utilized in cognitive behavioural therapy (Beck, 1976; Beck, 2011) and insight-oriented therapies, working with and reappraising thought patterns. This category housed the highest number of critical incidents overall.

**Sense-making.** For some participants, Sense-Making involved engaging in self-reflection and analysis of the emotion and emotion-eliciting situation in order to gain insight and increase self-awareness, proving helpful in regulating their emotions. *Cognitive distancing* (Clen et al., 2013) may be the closest strategy in previous research – taking a mental step back in order to analyze and make sense of emotional processes. However, not all participants described taking such a mental step back. The attentional deployment literature suggests that individuals with highly developed emotional capacities are skilled at directing attention either towards or away from internal emotional states, depending on their needs at the time (Clen et al., 2013; Gross, 1998). Directing attention towards can be helpful in terms of mindfulness or acceptance, but research does not say much in the way of learning and gaining insight. Self-awareness research offers more to work with. Past research has been split on whether self-awareness serves to escalate the saliency of emotions, or dampen their intensity. Through a series of carefully planned experiments involving manipulation of self-awareness via mirrors or directing attention inward by making participants feel unique, followed by induction of emotional states, Silvia

(2002) supported the dampening hypothesis. In that research, increased self-awareness was related to decreased emotional intensity in all cases, a finding further backed by neuroimaging research (Herwig, Kaffenberger, Jäncke, & Brühl, 2010), lending support to what was endorsed by the participants of the current study – increased self-awareness down-regulates intense emotions.

The hindering side of this sub-category reflected the commonly discussed harmful response of *ruminatio*n. This is a form of directed attention in which the individual sustains their attention on the emotionally salient stimuli, persisting to think about it and potential future threats (Clen et al., 2013; Gross, 1998). Typically, rumination leads to further negative consequences, sustains the negative emotions, and has been associated with lengthened depressive episodes (Aldao et al., 2010; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). ADHD has been linked with rumination, and an inability to flexibly shift attention between stimuli (Barkley, 1997; Bresner et al., 2009 as cited in Matthies et al., 2014, p. 461). Participant responses fall in line with these findings, often identifying that though self-reflection can be helpful, too much of it can lead to hyperfocussing or fixation, which escalates emotions in a harmful manner.

It remains worth noting, however, that rumination itself might be considered inherently neutral, just like all regulation strategies (Gross, 2002). In order to learn, gain insight and engage in reappraisal, as we will see next, sometimes participants need to focus intently on emotional stimuli. This can be viewed as a form of rumination, but one that ends up having helpful consequences. Perhaps the conclusion to draw is that rumination-with-a-resolution is helpful – whether that resolution be insight, reappraisal, or even problem-solving. In contrast, rumination without change has the capacity to maintain or even escalate negative emotions in a harmful

manner. This helps explain why participants spoke about sense-making and fixation as a double-edged sword.

This sense-making finding is an important one to highlight, as it is somewhat unique in the literature. Attentional deployment research typically discusses distraction and rumination, whereas self-awareness literature provides more support for this type of strategy. However, it remains left out of many of the modern lists of prominent emotional regulation strategies.

It might be postulated that this desire to learn and increase self-awareness is linked to participants' ADHD symptoms. They are familiar with learning how to cope with the symptoms of their disorder, meaning self-awareness is likely a skill that has become important for them. Participants also spoke about feeling like they experience emotions uniquely compared to typically developing peers. This may further motivate them to pay extra attention to their emotions and to learn about them, reflecting on what is different about their emotional experiences, why they are different, and how they should respond to them. It is not necessarily the condition itself that affects this ability of self-reflection, but instead the lived experiences they have had of coping with their condition.

**Reappraisal.** Both the Expectations of Self and Situational Appraisal sub-categories fit nicely within the *cognitive change* strategy identified in literature, as we see participants reappraising the meaning of the situation and/or their own self-expectations (Clen et al., 2013; Gross, 1998). Reappraisal is often identified as one of the most utilized – and beneficially effective – skills that an individual may employ (Gross, 2002; Gross & John, 2003; Nezlek & Kuppens, 2008). Rumination, discussed previously, can reflect rigidity in one's thinking, whereas reappraisal requires cognitive flexibility (Clen et al., 2013). Perhaps surprisingly, there were a number of participant examples that used reappraisal, which appears to be in contrast with

research suggesting an impairment in cognitive flexibility for individuals diagnosed with ADHD (Barkley, 1997; Willcutt et al., 2005). Similar to the current study findings, Young (2005) examined general coping strategies used by adults diagnosed with ADHD, and found they positively reappraised stressful situations, unexpectedly contradicting the author's initial predictions. Of course, there were also a number of hindering examples that showcased an inability to reappraise, when subjects rigidly held to a harmful perspective, reflecting what is more commonly found in the literature. It is anticipated that due to their impairments, participants may need to apply more effort in order to engage in cognitive change strategies, but they are still capable of employing them. The current study, along with Young's (2005) similar findings, supports the notion that we may be underestimating the capacities of those with ADHD. This is an area worthy of future exploration.

### **Social Interaction**

Social Interaction is perhaps the category that offered the most surprises. The majority of adult research on emotional regulation focuses on internal processes, or *intrinsic emotion regulation* (Gross, 2014). Therefore, the researcher's predisposition going in was toward a plethora of internal strategies. However, as can be seen in the results, social support and other strategies using a social mechanism were quite prominent. There is a burgeoning literature on interpersonal, or *extrinsic emotion regulation* (e.g., Gross, 2014; Zaki & Williams, 2013), indicating this is an important area that has been understudied in the past, and therefore heightens the relevance of the current results.

**Sharing emotional experience.** The mere presence of a trusted, supportive other can help attenuate intense negative emotions by signaling a source of support – someone who will access coping resources on the individual's behalf, therefore reducing the need to express

negative affect (Coan & Maresh, 2014). Further, it was established in the literature review that social relationships improve overall well-being (Umberson & Montez, 2010).

Talking to supportive others is generally considered positive, and has been related to highly beneficial strategies such as reappraisal (Gross & John, 2003). Some incidents reported by the current study's participants involved sharing something exciting with a friend which had the result of up-regulating a positive emotion, something close friendships are known to benefit (Coan & Maresh, 2014). Participant examples encompassed *response-independent* regulation, wherein they did not require a particular response from the other person, such as when Participant 1 said, "...kept talking to my friend and just generally nerding out about it." They were happy to simply share their excitement. Other responses required a particular response from the other person, such as when Participant 5 said, "...when you confide in somebody, and somebody ... tells you something really nice about yourself." This included an action from the supportive other, fitting into the *response-dependent* type of interpersonal regulation (Zaki & Williams, 2013).

Interpersonal sharing was not uniformly helpful, such as when participants were forced to share with others who were not trusted, or who did not understand. Coan and Maresh (2014) spoke primarily about close friendships making a positive impact. In contrast, social isolation can be harmful to well-being (Umberson & Montez, 2010), as seen in Participant 6's identification of the hindrance of feeling alone.

It is interesting to note that so many incidents were included in this sub-category, given the tendency for impaired social skills and relationships in individuals diagnosed with ADHD (Shaw-Zirt et al., 2005). It may be that this particular young adult demographic, successful in academic studies and integrated in university life, have established certain social capacities. The

perception that peer relationships are important to the study demographic is consistent with extant research (Meaux et al., 2009), though there is a chance that participants have established good close friendships despite struggling with certain social skills.

**Asserting with others.** Asserting with Others is another form of response-independent regulation (Zaki & Williams, 2013) in which participants primarily identified the actual act of standing up for, and asserting, themselves to be the regulating mechanism. In some cases, the response of the other person helped make the situation better, but it was not the main attenuating factor. This would more closely reflect the controlled expression of emotions that is championed by Greenberg (2004) in emotion-focused therapy, as opposed to venting – a discussion more relevant in the Emotional Engagement section.

**External intervention.** The first two sub-categories – sharing emotional experience and asserting with others – reflect *intrinsic interpersonal regulation* (Zaki & Williams, 2013) because participants initiated and sought out responses from others in order to regulate their own emotional experiences. What follows in the sub-category External Intervention are examples of *extrinsic interpersonal regulation*, in which others initiated the regulation attempts. Extrinsic emotion regulation appears to be given short shrift in the research, though is beginning to receive more attention.

Incidents where the other's actions were helpful reflect the general social supportive nature of close relationships (Umberson & Montez, 2010). A contributing factor may be the executive function deficits of ADHD (Barkley, 1997) making it easier to simply have others impose regulation. In contrast, some examples of external social regulation that were considered hindering depict the participants' desire to deal with their problems themselves, not wanting others to interfere. In other cases, participants placed the responsibility for mismanaged

emotions on others, reflecting differences in locus of control that will be explored further in a later section.

Hindering examples in external intervention more closely reflect research showcasing deficits in social relationships for those diagnosed with ADHD (Shaw-Zirt et al., 2005). In these cases, the hindering regulation attempt was initiated by the other person, so they do not necessarily indicate impaired social skills on the part of participants.

Another explanation for hindering exemplars may be found by investigating the extrinsic other's goal for intervening with the participant's emotion. Zaki and Williams (2013) suggest that regulatory goals – like interpersonal regulation itself – may be response-dependent or response-independent. In the current study's examples, it could be that the others' goals were response-independent, meaning the other person did not require a signal from the participant to feel that their regulatory goal was fulfilled. Their motivations may have been pro-social and perhaps even altruistic, but if they did not require any signal from the participant, they may have failed to notice they had the opposite effect when attempting to down-regulate the participants' negative emotion. They may also have been attempting to correct or chide the ADHD individual.

The relative frequency of social support as emotion regulation reflects the findings of the naturalistic assessment conducted by Heiy and Cheavens (2014). The current study adds to this literature on emotion regulation in everyday life, finding similarly that social interaction encompasses a large proportion of emotion regulation incidents, something which much modern research has not always recognized. This is additionally important to consider in light of interventions for the ADHD demographic, recognizing that best-practice coping skills should likely include social interventions as well as internal and cognitive strategies.

## **Distancing**

If we were to define categories according solely to the Process Model (Gross, 1998), the sub-categories within Distancing would likely not appear together, and one of the experts who provided feedback as part of the study's credibility check said as much (J. J. Gross, personal communication, August 30, 2016). Suppression has been argued to be a form of response modulation, whereas distracting has been presented as a form of attentional deployment (Gross, 1998). However, the current research categories emerged from analysis of participant responses, and in order to present results in the clearest way possible, similar types of responses were clustered together. It is important to take expert feedback into account, however, and highlight the fact that though these two are clustered together in terms of their emotion regulation *goals* (i.e., distancing themselves from the emotion) for this particular category, the specific *strategies* and mechanisms of how they accomplished (or failed) these goals need not be similar or aligned (Gross, 2014).

The sub-categories of Taking Time and Disengaging could be defined as forms of avoidance, but that would be an oversimplification. The hindering side reflects the consequence of avoiding the problem, whereas the helpful side involves taking a short break in order to allow the initial overwhelming emotional response to pass – consistent with reports linking ADHD with the overwhelming subjective feelings of an emotional experience (Matthies et al., 2014). This would fit within Gross' (1998, 2014) definition of *response modulation* – changing how one responds after the emotion has been elicited. Importantly, it appears these tactics work hand-in-hand with other strategies, particularly sense-making. *Cognitive distancing* is defined as taking a mental step back prior to analyzing (Clen et al., 2013). The participants of our study appeared to need to delay initially before engaging in an analyzing or sense-making process, reflecting a

need for a temporal – and in some cases physical – step back from the situation. This is also true of the Distracting sub-category, itself a form of attentional deployment, the goal of which is to direct attention away from the emotional stimuli, therefore disengaging from the intense feelings (Clen et al., 2013). In both sub-categories, participants typically recognized that these were short-term solutions to cope with the immediate intensity of the emotion. It was only when another strategy was not then used at a later time that this became an unhelpful strategy, such as in the case of repeated procrastinating – avoiding a situation in anticipation of the anxiety it will cause. This engenders a cycle of avoidance, followed by experiencing anxiety and modulating the response to continue to avoid the anxiety-inducing stimuli. This reflects an unhelpful form of *situation selection* (Gross, 2014), in which participants chose to walk away and attempt to put themselves in a more comfortable situation.

**Suppressing.** Though often considered a maladaptive strategy (Aldao et al., 2010; Appleton & Kubzansky, 2014), the results of the current study include incidents of suppression that were both hindering and helpful. Suppression importantly down-regulates the expression of an emotion, but not the subjective emotional experience (Gross, 2002), meaning a negative emotion may feel even worse by removing the behavioural outlet. Indeed, unhelpful responses reflected this, with multiple participants recognizing the importance of not bottling things up, the hindering effect of masking emotions, and the health consequences of doing so. This is in line with reports of college students who use suppression having higher risk for isolation and social dissatisfaction (Srivastava, Tamir, McGonigal, John, & Gross, 2009).

The helpful aspect of this category is somewhat unique, and worth emphasizing. Depending on a particular individual's emotion regulation goals, different strategies may become more helpful or hindering (Gross, 2014). Most responses on the helpful side of this category

were in service of a social goal, wherein participants felt it necessary to engage in socially acceptable behaviour. A potential link with ADHD resides in this sub-category. Emotional impulsiveness is inherent to ADHD (Barkley, 2014), meaning that initial emotional responses can happen quickly and without much control. Therefore, individuals may feel it necessary to suppress their initial emotional response before they can engage in a different long-term solution, particularly if they are feeling their response is unsuitable for the context they are in.

There is an acknowledgment that suppression, similar to other distancing strategies, is an interim solution. In one case the participant described suppression as a bomb they are throwing somewhere else in order to deal with it when it is safe. However, given the breadth of research identifying suppression as having very few positive outcomes, we must recognize that though participants perceive it being helpful in certain situations, there is the possibility they are unaware of potential negative consequences (e.g., Srivastava et al., 2009).

### **Physical Response**

The physical response category encompasses incidents in which physiological and behavioural responses to emotions were emphasized by participants as either helping or hindering. The category necessarily includes emotional *signals* as well as intentional responses to those signals and feelings. A signal is simply an aspect of the emotional response, often physiological, that tells us we are experiencing an emotion and provides clues as to what type of emotion it is (e.g., Koelstra et al., 2012). Expert feedback suggested the difference between signals and regulation is unclear in the emergent categories (J. J. Gross, personal communication, August 30, 2016). Though the Uncontrollable Physical Response sub-category may theoretically represent physiological emotional signals, participants reported them in the context of how they were responding to an emotion, describing either the benefit of allowing these physiological

responses as emotional expression, or the hindering consequences of not regulating them at all. This lack of regulation is just as much a choice as any of the classically defined strategies.

Gross et al. (2006) looked at emotion regulation in everyday life, and found that only 2% of emotion regulation episodes involved changes to physiological response. The results of the current study coincide with this in part, in that participants spoke about their lack of regulating physiological signals. However, it is important to note that these instances did occur, even for Gross et al. (2006). In the current study, there were intentional responses that included acts like deep breathing, which can be viewed as directly affecting those biological factors and the accompanying physiological expressions (e.g., Jerath, Edry, Barnes, & Jerath, 2006).

For the most part, examples in the Intentional Physical Response sub-category are a classic example of *response modulation*, because they involve modifying physical and behavioural expressions after the emotion has been elicited (Gross, 1998, 2014). Included in this is physical exercise and techniques such as deep breathing. Some strategies could also be considered situation selection or situation modification, given things like sleeping and eating well can be done in advance – or during the early stages of – emotional situations.

The hindering side of this sub-category, along with the physiological sub-category, may reflect a connection to the emotional impulsiveness associated with ADHD (Barkley, 2014). Multiple hindering responses illustrate this, with participants describing their inability to stop overwhelming crying, or the flood of a rage blackout. Then, given the core impairments of ADHD, they have difficulty regulating their impulsive behavioural expression, potentially manifesting in aggressive behaviours. Research has found that inappropriate outbursts are characteristic of the disorder (Barkley, 1997; Friedman et al., 2003). Aggression is seen in

adolescents diagnosed with ADHD, though comorbid disruptive disorders complicate the causal relationship (Harty, Miller, Newcorn, & Halperin, 2009).

### **Emotional Engagement**

The Emotional Engagement category is unique from something like Distancing, where the goal is to disengage from the emotion. This category depicts goals to directly accept, experience, express, and/or change the emotion itself. This most closely resembles mindfulness therapies that promote a non-judgmental engagement with emotions (Kabat-Zinn, 2005).

**Maintaining the emotion.** Interestingly, the only two incidents that fit in the Maintaining the Emotion sub-category were marked as hindering, or unhelpful. This was due to a desire for “this positive ride to keep going” (Participant 3), but it ended up having social consequences. Social context can help to determine whether a particular strategy is helpful or hindering. The short-term benefit of maintaining positive emotions may feed a hedonic pleasure (Koole et al., 2011), but the longer-term consequence directly conflicts with the goals of that particular social relationship. Again, one can postulate a link with the impulsiveness of ADHD, serving to maintain positive emotions without stopping to consider the potential cost (or ignoring it).

Though there were few incidents in which participants endorsed actively attempting to sustain their emotion, a thoughtful interpretation and analysis reveals that some other strategies may have actually been in service of *sustaining* or *increasing* the emotions (Tugade & Fredrickson, 2007). Incidents in which the participant talked and expressed their emotion to another appeared to serve an enhancing function, such as the one who shared excitement about a favourite movie with others by “nerding out about it”. Following the same line of reasoning, there are likely to be instances in daily life in which individuals use a strategy of maintaining or

enhancing their emotions. Examples could include increasing anger in order to attain something extra from a salesperson, or increasing excitability to make a presentation or performance more engaging (for a review, see Gross, 2014).

**Transforming the emotion.** A unique finding of the current study when compared to process model strategies and other popular emotion regulation literature relates to transforming clients' emotional experiences (Greenberg, 2004). The method outlined in *Emotion-Focused Therapy* (EFT) explicitly states that instead of traditional routes of processing, purging, or other forms of attenuation, transformation attempts to activate a second emotion that counteracts the effect of the initial negative one, and works to transform it, described as “changing emotion with emotion” (Greenberg, 2004).

In some cases, participant responses in this category might reflect a form of cognitive reappraisal. They may be viewing their situation through a different lens, which is in turn causing them to feel a different emotion. Cognitive change requires the capacity for interpreting events through a more positive lens (Gross, 1998).

**Accepting and expressing the emotion.** Acceptance is a commonly identified positive regulation strategy (Clen et al., 2013). Often used in mindfulness therapies, individuals take a non-judgmental stance and engage with the emotional experience as it is, without extensive thought processes or judgment (Clen et al., 2013; Kabat-Zinn, 2005). Those who are able to accept emotions are aware they are present, but are not as deeply affected by them; they are able to allow them to exist without need to avoid or fulminate. Exemplars shared by the current study's participants seem to align with this model, a potentially powerful strategy given how intense their emotions can be – a substitute in place of constantly battling to change those emotions.

Emotional expression is supported by EFT as well, though Greenberg (2004) clarifies that this is in a controlled, therapeutic manner, and would not be considered “venting”; rather, it is a more productive form of emotional expression. Some participant exemplars reflect this controlled response, but participants more typically spoke about the cathartic version of venting. Some research suggests that venting, as a form of expressing high distress levels, can actually push supportive others away (e.g., Bolger, Foster, Vinokur, & Ng, 1996). Others agree, considering this to be a maladaptive form of emotional regulation with harmful consequences that presents more often in early adolescence (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Zimmer-Gembeck & Skinner, 2011).

The participants of the current study generally communicated that a cathartic expression may not feel good in the moment, but was helpful in the long run. This could demonstrate a skewed perception of what is healthy, and point to an important area of intervention to target in this demographic, that of teaching long-term beneficial skills in place of cathartic venting. On the other hand, it may in fact represent a unique finding for this population: it could be that the impulsiveness inherent to ADHD makes venting an easy – although perhaps uncontrollable – strategy that these individuals have been able to use in beneficial ways. Due to the increased intensity of their emotions, it might be necessary to purge a portion of that emotional intensity away before engaging in more classically ‘adaptive’ methods of regulation. A final possibility is simply that researchers and theorists are using different definitions of *unregulated*. Perhaps the way participants vent emotions to their friends is in a more controlled manner than these studies defined it.

## **Taking Medication**

The Taking Medication category represents an external prophylactic support rather than specific regulatory strategies employed by participants, but the information is relevant in light of the vast amount of research on medication and ADHD. There are a number of pharmacological supports for ADHD, considered one of the most effective means to manage ADHD (Faraone, Biederman, Spencer, & Aleardi, 2006; Vaughan, March, & Kratochvil, 2012). The effect of medication on core ADHD symptoms is well documented, along with the potential side effects they may impose. How these medications influence emotions and their regulation is less well known, but there is evidence that non-core symptoms can be improved by pharmacological intervention, including emotional lability and dysregulation (Sinita & Coghill, 2014).

Participants spoke about a general stabilization effect of medication allowing them to more effectively manage emotions, as well as a specific influence on the intensity of emotions. Both findings are in line with research on medications and emotional symptoms in ADHD. When fluctuations and intensity are decreased (Reimherr et al., 2005; Rösler, Casas, Konofal, & Buitelaar, 2010), it logically follows that it would be easier to respond to those emotions and make appropriate decisions about their regulation.

The outliers to this general pattern can likely be explained by poorly managed or idiosyncratic responses to medication. Participant 5 spoke about feeling generally happier when not on medication, aligning with reports of irritability as a potential adverse effect of ADHD specific medications (e.g., Spencer et al., 2001). Participant 3 spoke about antidepressant medication numbing their emotions, a reported effect in research (e.g., Price, Cole, & Goodwin, 2009), but this individual stated that it made it harder to then deal with intense emotions when they subsequently arose.

## Active Problem-Solving

The Active Problem-Solving category reflects strategies endorsed by participants that did not obviously fall into another category, so it became a ‘catch-all’ of sorts. As mentioned in the results chapter, what distinguishes this category is that the actual accomplishment of solving the emotion-eliciting problem itself (or failure to do so) was what regulated the emotion. This type of approach typically falls under *situation modification*, as solving a problem usually involves changing some aspect of the emotion-eliciting situation (Gross, 1998, 2014).

Research on interventions for individuals diagnosed with ADHD has found that problem-solving is a beneficial therapeutic focus, particularly given the disorder’s executive function deficits and subsequent impairments in applied problem-solving (Barkley, 2006; Burns & Martin, 2014; Young & Bramham, 2012). Social skills training programs for ADHD in children often include an interpersonal problem-solving component (Spence, 2003).

Research supports a problem-solving focus, therefore making it interesting that there were so few incidents offered in this category. This may be due to the way questions were worded, and that participants may not directly have considered problem-solving to be a way of managing their emotions. However, it may also suggest an area that is lacking for some individuals, meaning it is an important avenue of therapeutic intervention to bolster.

Additionally, one might consider the active process of determining which emotion regulation strategies to use in a given situation and then implementing them in sequence to be a problem-solving process enacted in the moment. Therefore, problem-solving may emerge as a skill that is complementary to emotional regulation. Young and Bramham (2012) outline the process of helping train people in problem-solving, including the ability to identify the problem, generate solutions, and evaluate and implement the best solution. These solutions could include

emotion regulation skills, if it is deemed that the emotion-eliciting problem is not immediately solvable. The current category captures solutions that directly affect the problem, and strategies within other categories could be implemented simultaneously or in place of a direct solution. It is important to consider that this category may not capture the overarching skill of problem-solving that is likely going into helping managing many of the emotional situations participants spoke about.

### **Summary of Categories**

A number of the categories identified in the current study align with existing literature, providing support for the validity of participant responses. Hopefully the reader has gained an understanding of how participants' responses align with existing literature, or surprise us with their uniqueness.

### **Research Question #3: How Do Young Adults Diagnosed with ADHD Perceive Their Emotion Regulation Abilities?**

Themes representing how participants perceive emotional regulation abilities are presented in this following section, but the discussion goes beyond this. These themes allow for a higher-order analysis of the categories that have just been presented, and they act as a unifying structure in order to better understand what the ECIT findings mean in the greater context of the literature. Therefore, certain themes will be expanded upon in a more in-depth manner than others in order to highlight the unique findings of the current study, and begin to bring everything together and wrap the thesis up in a satisfying manner. The themes elaborated on thoroughly are: Managing Positive vs. Negative Emotions, Individual Differences, Social Function of Emotion Regulation, Emotion Regulation Timeline, and ADHD and Emotion Regulation. Locus of control, though not presented as a distinct theme in the results, emerged as

a prominent topic, and therefore is discussed in a distinct section in this section. The themes that receive less attention in this discussion are: Lack of Regulation has Consequences, and Desire to Self-Improve.

### **Managing Negative vs. Positive Emotions**

Consistent with previous research, participants tended to have an easier time recalling times they regulated negative rather than positive emotions (Gross et al., 2006). Participants also held a belief that there was more need to manage negative emotions, paralleling a bias in the research to focus on down-regulating negative emotions (Gross et al., 2006; Tugade & Fredrickson, 2007). Reasons for managing positive emotions typically included the belief that expressing them would be socially inappropriate, reflecting goal-oriented emotion regulation (Gross, 2014; Koole et al., 2011). However, most participants vocalized a clear need to manage negative emotions, those most closely associated with emotional or psychological distress (e.g., Kring, 2008), but did not feel a need to manage positive emotions except in a few scattered instances. Gross et al. (2006) found a similar ratio in their investigation of everyday emotion regulation, with 81% of instances related to managing negative emotions, and only 9% positive emotions (note that the remaining 10% included less clearly defined emotions).

### **Individual Differences**

*Emotion regulation choice theory* (Sheppes, 2014) postulates some of the determinants and mechanisms underlying why people make the regulatory choices they do, helping to explain the individual differences reflected in the results. It has been established that some strategies will be chosen based on context (McRae et al., 2011; Sheppes, 2014), meaning classically maladaptive strategies such as suppression could be beneficial in the right situation. This leads to the conclusion that healthy regulation relies on flexibility and adaptability of regulation

choice, rather than always using certain skills and avoiding others. Sheppes (2014) outlines three core determinants in regulation choice – emotional intensity, cognitive complexity, and motivational goals.

Higher emotional intensity tends to lead towards strategies such as distraction – a low cost disengagement strategy occurring early in the regulatory timeline (Gross, 1998; Sheppes, 2014). Participants described different levels of perceived intensity (Friedman et al., 2003; Matthies et al., 2014), and therefore may have subsequently chosen different strategies – those incidents involving the highest intensity reports tended to not be able to use reappraisal until the emotion had attenuated due to a different, short-term disengagement strategy.

Cognitive complexity is the second determinant of choice, suggesting that cognitive control is a limited resource and will be depleted more by reappraisal than distraction (Sheppes, 2014). It is well established that individuals differ in their cognitive processing abilities (e.g., Friedman et al., 2008), meaning some participants may have been capable of using more complex regulatory strategies more often. Individuals may also differ in severity of ADHD symptoms (APA, 2013), which might in part be related to deficits in executive functions (Barkley, 1997), together explaining more of the variation in regulatory preferences and tendencies.

Motivational goals are the third factor described by Sheppes (2014) in emotion regulation choice. The goals identified by participants, and in some cases inferred by the researcher, were varied and reflect the literature's stance on contextual uses for emotional regulatory strategies (e.g., McRae et al., 2011). Strategies were employed to reduce the subjective feeling of the emotion and to avoid feeling overwhelmed (Matthies et al., 2014). In some cases, strategies were used to meet a variety of social goals (Levenson et al., 2014; Lopes et al., 2005). In other

cases, there was a need to down-regulate an overwhelmingly intense negative emotion, or a hedonistic desire to up-regulate one that felt good (Koole et al., 2011). Gross (2014) has outlined a 4x4 grid of desires to either increase or decrease positive or negative emotions, for which the reasons differ based on the context in which they are occurring. Depending on their goals and needs at the time, different participants chose different strategies, reflecting the models presented in the literature. Taken together, participant responses certainly reflect a complex, humanistic view of regulation motivation (Koole et al., 2011).

Another point of individual variation not discussed by Sheppes (2014) is the desire of each person to self-improve. As presented in the results chapter, participants in the current study showcased an impressive pattern of wanting to make themselves better, constantly learning about their own abilities, and exhibiting pride when making progress. This reflects an underlying ideal of self-actualization, or striving to achieve the best versions of themselves (Maslow, 1962/2013). Individual differences in motivation for self-actualization may have also influenced motivation to engage in certain strategies over others.

It is also important to talk about how each individual's frame of reference and how they view the world (manifested in locus of control) affected their emotion regulation choice. Participant 3 tended to be more socially focused, paying close attention to the relationships in life. Participant 6 was more internal and academically driven, constantly wanting to improve, therefore seeing the cause of their emotions as internal and their subsequent regulation as internally initiated, using more cognitive and sense-making strategies. Locus of control appears to have an influence on emotional regulation for participants of the current study, and may be an important explanatory factor for individual differences in regulatory choices.

## **Locus of Control and Emotion Regulation**

The attribution of control over emotions internally versus externally was exhibited frequently in the results of the current study. Participants appeared to attribute the cause of mismanaged emotions to an external other in a number of incidents from the External Intervention sub-category, possibly reflecting an external locus of control. There were also responses in the Expectations of Self and Situational Appraisal sub-categories showcasing an acceptance of not having control over another person, or the situation at hand. In this case, the external locus of control was helpful to the participants in question.

The reason that some individuals hold an external locus of control is more difficult to parse out than identification alone. One explanation may be the tendency for those diagnosed with ADHD to hold an external locus of control, therefore transferring over to emotion regulation as well (Rucklidge & Kaplan, 1997). Another explanation coincides with deficits in executive function associated with ADHD, particularly in the presence of intense emotions (Barkley, 1997), making it is easier to rely on others. A similar argument could be given for the young adult demographic in general, given that their prefrontal cortex – the brain region primarily responsible for executive functions – is still developing (Kane & Engle, 2002; Ochsner and Gross, 2014). Yet another possibility is that situations involving another person were simply easier to recall. Though we cannot say for certain which of these possibilities explains the choice of strategies for the participants of the current study, it is still interesting to take note of the patterns that emerged.

In addition to examples of an external locus of control, a range of examples reflected an internal locus of control. In these cases, participants believed it was their ability and responsibility to regulate their emotions, as seen with taking time, self-reflection, and cognitive

reappraisal. In fact, responses more often appeared to reflect an internal than external focus, which flies in the face of research finding that adults with ADHD are more likely to hold an external locus of control (Rucklidge & Kaplan, 1997). In line with the theme of participants showcasing a desire to improve themselves, there was a notable tendency for the current study's contributors to speak about what they had done successfully, what they were trying to do to improve, or how they had personally failed in managing emotions.

One explanation to account for the internal tendency may be the way questions in the interview – and the very research question they were based on – were worded: how do *you* respond to emotionally intense situations? That type of wording may have led individuals to discuss intentional actions on their own part – their individual efforts – to regulate their emotions. Other research on ADHD in adolescents has found they attribute successes and failures to internal factors more often than do their peers (Barkley et al., 1991). The executive function theory of ADHD could be repurposed here – instead of relying on others, participants might be motivated to put more (perhaps compensational) effort into their own regulation. Some participants reflected the findings of Rucklidge et al. (2007) towards an internal-uncontrollable attributional style. This means in light of negative events, individuals with ADHD are more likely to take individual responsibility, yet believe they had no control over the event. A few study participants took responsibility for their intense emotions, and the rollercoaster-like ride they experienced, but spoke about not being able to interrupt them until the ride was over. For others, this was true for only certain emotions, like blanking out from rage, or intense guilt.

The current study does not offer conclusive evidence to support a tendency towards either type of locus of control, but furthers the notion that perhaps it is not so cut and dried in real life,

and individual differences may play a bigger role than an ADHD diagnosis. It is an area ripe for future research, particularly within an ADHD demographic.

### **Social Function of Emotion Regulation**

There was a clear trend for emotional regulation to occur in a social context and in the aid of accomplishing social goals, and in some cases classically ‘maladaptive’ strategies such as suppression were used in order to satisfy a social goal. This coincides with research showing that as much as 98% of emotion regulation incidents occur in the presence of others (Gross et al., 2006), demonstrating the important role that social relationships and context play in emotional regulation (Lopes et al., 2005). Specific participant examples parallel social functions of emotional regulation in research, such as managing a romantic relationship (Levenson et al., 2014), and expressing anger in an attempt to change someone else (Fischer & Manstead, 2008). Participants typically felt that emotion regulation was beneficial to their social relationships, while dysregulation was impairing, consistent with prior research on college students (Lopes et al., 2005; Rawana et al., 2014).

Suppression was utilized in order to match the ‘appropriateness’ of social situations. Participants perceived this strategy as positive, but research suggests it has negative physiological costs in terms of increased cardiovascular activation (Gross & Levenson, 1997). Suppression has also been linked to lower social support and lower social satisfaction overall (Gross, 2002), particularly in college students (Srivastava et al., 2009). Differentiating goals versus outcomes becomes important here (Gross, 2014) – the participants’ goal of matching the social situation was born out of the best intentions, but the outcome may have actually been harmful, even if they were not overtly aware of it.

Research shows that college students diagnosed with ADHD struggle with social impairment (DuPaul et al., 2009; Shaw-Zirt et al., 2005), while at the same time identifying peer relationships as a notable source of support (Meaux et al., 2009). Our participants connected to both of these research findings, providing numerous exemplars where a peer relationship was helpful in regulating emotions, while also describing a number of situations in which a social relationship was the source of conflict, or where their emotion dysregulation impaired a relationship – such as Participant 3 ignoring social boundaries in order to maintain the positive emotions, or keep the “positive ride” going.

Emotional impulsivity in ADHD has been linked to quality of social interactions across multiple contexts (Barkley & Fischer, 2010), and may help explain some of the results. It may be that participants experience such intense emotions due to emotional impulsiveness that they then feel the need to suppress it for social appropriateness. Another explanation is that emotions arise, and then participants impulsively respond to them, not always in the most helpful way, such as emotional outbursts and irritability creating obvious challenges for social relationships (Barkley, 2014; Maedgen & Carlson, 2000; Surman et al., 2013).

Participants did not necessarily perceive themselves to be lacking social skills or experiencing significant social impairment, but this was not specifically asked in the participant interviews. There are enough strong connections between our results and existing research to help identify young adults diagnosed with ADHD as a demographic in which emotional regulation critically impacts social relationships. Given the research on ADHD, dysregulation and impulsiveness can be linked rather confidently to participants’ diagnostic presentation. Future research could delve further into the differences between impulsive and inattentive

presentations of ADHD, and whether there are notable differences in how emotional regulation impacts social relationships based on subtype.

### **Emotion Regulation Timeline**

A clear timeline of emotional regulation emerged in the results, an important finding in which participant incidents can be connected to the process model, exposing a distinction between immediate versus delayed use of strategies, and the complex nature of emotional regulation in a real-life context.

**Process model.** Participant responses map onto the temporal sequencing offered by the process model (Gross, 1998; 2014). Exemplars from the Expectations of Self sub-category reflect a cognitive change strategy, occurring during the appraisal stage of the emotion process (Gross, 1998). Distraction may be viewed as a form of attentional control, occurring earlier in the timeline (Gross, 2014). These strategies are categorized by Gross (1998) as *antecedent-focused*, as they occur early during the emotion generative process. Coping methods such as walking away or changing the situation occur later in response stage of the timeline (Gross, 1998, 2014), and have been referred to as *response-focused*.

The picture, however, becomes more complicated than this initial conceptualization would lead us to believe. Responses such as seeking social support from others, exercise, and venting the emotion fell into the response-focused category. Even strategies that at first glance might be considered antecedent-focused, such as cognitive reappraisal, were sometimes depicted by participants as happening after full elicitation of the emotion. Rather than re-framing in the moment, participants would reflect back later, learning about and making sense of the situation in question. The opposite is also manifested in walking away, or physically disengaging, from the situation. Typically seen later in the response stage of the timeline, we know that real-life

situations are complicated, unfold in real time, and may have multiple reoccurrences, meaning that walking away may actually be in anticipation of the same thing happening again, which would place it in the *situation selection* category (Gross, 1998, 2014). We can denote these strategies to be antecedent- or response-focused, depending what perspective we take, what relevant circumstance or situation we are referring to, and how the participant described the exemplar. This reflects an interesting challenge in temporally mapping emotion regulation strategies in a real-life context, confirming emotional regulation in naturalistic settings is complicated (Heiy & Cheavens, 2014). Even with rich descriptive narratives from participants, it is challenging to clarify temporal sequencing, and indeed Gross and John (2003) may be correct in suggesting specific clarification may be better left to experimental methods (though ethnographic observational approaches may hold promise).

Gross (2014) does allow for some complexity in his model. He distinctly highlights that response-focused strategies (those latest in the emotion timeline) often influence the emotion-eliciting situation – the earliest stage of the timeline. This reflects a cyclical and recursive nature of the emotion process, and nicely models the pattern seen in our results. During analysis, it was a struggle at times to discern whether something was considered a response to an emotion or an action preceding (and sometimes precipitating) another emotion. Gross' (2014) theory allows for this duality, suggesting that regulation can happen both in response to, and in anticipation of, emotion-eliciting situations.

What still remains, then, is that some strategies do not always fit neatly into the boxes of antecedent- or response-focused. The literature recognizes that temporal sequencing of emotions and emotional regulation is not as simplistic as some would make it out to be, with complicating factors such as multiple regulatory strategies used in parallel; a strategy not always having an

immediate effect on the emotion; and the important bi-directionality of emotions and regulatory processes influencing each other (Bridges, Denham, & Ganiban, 2004; Martel, 2009). The current study adds to this understanding, and strives to increase appreciation of the context-dependent nature of emotional regulation (e.g., McRae et al., 2011).

**Immediate vs. delayed.** Another interesting pattern arose from the results in the form of a distinction between *immediate* versus *delayed* regulation. Multiple participants described a sequence in which they needed to use an initial coping method immediately following an emotion, such as distraction, sitting on it, or in other cases venting and expelling the emotion. This is followed by a management strategy that appears later in the timeline, such as sense-making or asserting. Distancing is a form of disengaging from the displeasing experience to avoid becoming overwhelmed by the feelings in the moment, meeting the short-term needs of the person (e.g., Koole et al., 2011). The long-term goals of maintaining a social relationship, increasing ability to perform academically, or actually solving the problem that gave rise to the emotion eventually outweigh the short-term needs, and the person is then able to engage in productive strategies like sense-making or asserting (Sheppes, 2014). This complex combination of strategies reflects a person-oriented understanding of emotional regulation goals (Koole et al., 2011).

Early in chapter 2, I reviewed the distinction between the immediate and largely unregulated *primary emotional response*, and the effortful, coping-oriented *secondary emotional response* (Baumann et al., 2007; Koole et al., 2011; Lazarus, 1991). This model helps explain the distinction of immediate versus delayed responding seen in the current results, such as when Participant 1 stated, “I jumped out of my seat” in response to intense positive emotions (primary

response), and later shared their excitement with a friend by “nerding out about it” (secondary, effortful response).

Though this primary and secondary response model provides a useful theoretical framework, the current results do not all fit neatly into it. Some responses that appear during or immediately following the emotion-eliciting situation are effortful immediate attempts to down-regulate or cope with the emotion, in contrast to the theory of primary-response as the immediate unregulated emotional response (Koole et al., 2011). The primary emotional response is conceptually more in line with the experience and expression of the emotion itself, rather than a regulatory effort. However, this model remains helpful in understanding some of the incidents offered by participants.

A key factor of this immediate versus delayed distinction is that in some critical incidents, participants described the first strategy as needing to happen before they could even begin to engage in the second. Participant 2 described a number of venting-type strategies that allowed them to express their emotions so they would not be overwhelmed by them, and only then were they able to engage in a strategy that was focused on modifying the emotion-eliciting situation. This idea of using strategies in combination is an important one that has been identified in previous research (e.g., Heiy & Cheavens, 2014), but needs to be explored further to expand upon these ideas as most current literature focuses on one strategy at a time. The current study reinforces the need to include exploration of multiple in-combination emotional regulation strategies in future studies.

**ADHD and the timeline.** The distinction between immediate and delayed responding, and the tendency to use distancing techniques early on, offer a link to the ADHD and emotion regulation literature. Emotional impulsiveness (Barkley, 2014) could be making it difficult for

participants to engage in effortful regulation strategies when feeling overwhelmed by the emotion (Matthies et al., 2014). Instead, they choose to disengage until they are able to utilize more effortful strategies later in the timeline. Other coping skills used immediately following an emotion include social support or venting the emotion. The pattern that emerges is limited engagement in strategies requiring cognitive control during this early stage. The combination of negative emotions impairing prefrontal cortex-related self-regulation (Arnsten et al., 2012) and ADHD-related emotional impulsivity and executive function impairment (Barkley, 1997, 2014; Willcutt et al., 2005) might be creating a unique challenge to engaging in cognitive control. Therefore, participants may use some other form of coping immediately, and are able to engage in effortful cognitive strategies later in the timeline, once they are no longer flooded by emotions.

A generic timing hypothesis posits that early intervention is easier and more effective than later regulation (Sheppes & Gross, 2011). This is due to the increasing intensity of the emotional experience as time unfolds, meaning intervention takes much more effort once full elicitation of the emotion has occurred. If individuals diagnosed with ADHD have greater difficulty engaging in effortful control early in the emotion timeline, then according to this timing hypothesis their delayed effortful regulation strategies would be more difficult to enact (Sheppes & Gross, 2011). However, regulation efforts that naturally occur earlier in the emotion-generative process, such as distraction, are less affected by intensity than cognitive reappraisal, which occurs after attentional deployment methods (Sheppes & Gross, 2011; Sheppes, 2014). This means that individuals similar to our participants may be well-suited to choose strategies such as disengagement or distraction initially, when their cognitive control systems may be flooded (Arnsten et al., 2012).

The idea of a regulatory timeline that may be influenced by ADHD is a fascinating finding from the current study, as it accomplishes one of the initial research goals of deepening our understanding of how emotional regulation occurs for this population. It is an important finding within an ADHD demographic, and has implications for future research.

### **ADHD and Emotion Regulation**

A number of connections between ADHD and emotion regulation have been made throughout this discussion chapter. Therefore, this section will act as a summary, while also discussing any links that were not previously raised.

Results from the Distancing and Appraise & Process categories lend support to executive function impairments in ADHD (Barkley, 1997), showcasing difficulty using cognitively effortful strategies (e.g., reappraisal) in moments of high intensity emotions. Instead, participants might lean towards strategies that require less executive control such as walking away, venting, or acceptance. Participants are capable of using reappraisal, but may need to implement more effort, or wait until the emotions have attenuated due to other strategies.

The impulsivity dimension of ADHD is reflected in many of the results, such as difficulty controlling physical reactions, overwhelming excitement in response to a positive situation, and a reliance on early-timeline strategies such as walking away or venting that do not require cognitively overriding impulsive tendencies (Sheppes, 2014). Further, incidents where participants impulsively pushed social boundaries supports the presence of emotional impulsiveness as well as the greater notion of impaired social relationships in ADHD (Shaw-Zirt et al., 2005). However, participants also placed a high value on these relationships and noted many benefits (Meaux et al., 2009).

Difficulty allocating attentional resources reflects the inattentive domain of ADHD. Given this deficit, one may expect a greater reliance on external sources to accomplish this (a distraction strategy) – interestingly, our results did not reflect this. However, participants did report unhelpfully ruminating on emotional stimuli, corroborating previous research (Aldao et al, 2010; Hong, 2007).

Another relevant theory to help explain hindering incidents in the context of ADHD is that of impaired decision-making. The presence of impulse control impairments has been associated with differences in structure of the ventromedial prefrontal cortex (vmPFC), a region also associated with decision-making (Bechara et al., 2001; Boes et al., 2008). ADHD has already been linked with impaired executive control, and a flood of intense emotions can impair executive control (Arnsten et al., 2012). This notable combination means that in some cases, participants may have had difficulty engaging in effortful decision-making in the presence of intense emotions, failing to choose a beneficial regulatory strategy. Active problem-solving interventions may help to teach these skills within an ADHD framework (Barkley, 2006; Burns & Martin, 2014; Spence, 2003; Young & Bramham, 2012).

Overall, hindering incidents reflect emotion dysregulation inherent to ADHD (Barkley, 2014; Shaw et al., 2014). These results support the notion that both emotions, and emotion regulation, are maladaptive processes in this disorder (Martel, 2009). Participants were able to use a number of successful strategies as well, although it is difficult to say for sure whether their regulatory efforts fared significantly worse than their typically developing counterparts. However, results strengthen existing literature on ADHD and ER, and also provide potential unique findings to be explored in future research.

## **Summary of Discussion**

Participant perceptions of emotion regulation gave rise to a number of themes that effectively connected to existing emotion regulation literature. Further, specific parallels between ADHD and its influence on emotion regulation have been presented based on these themes. The sections that have been discussed also act as higher-order concepts, able to bring together many of the findings from the ECIT categories in a cohesive way, illuminating the most important findings of the current study, how it supports existing literature from a qualitative angle, and potentially informs fascinating new avenues of research.

## **Implications for Counselling Psychology**

This thesis comes from the field of counselling psychology, so I will discuss implications of the current study's results primarily from that lens. By approaching this topic from a qualitative methodology, we are able to ascertain skills and strategies that might be helpful based directly on participant perceptions and experiences. These include social support, acceptance, transformation of emotion, taking time away from the situation, and modifying both internal and situational expectations.

Psychoeducation naturally arises as an important initial aspect of intervention. Emotion dysregulation is not included as a core feature of ADHD (APA, 2013), which results in interventions that are not always inclusive of this dimension of impairment. Participant 2 explicitly mentioned the lack of resources that incorporate emotion regulation. At the very least, educating clients on how their emotions and regulatory processes may be affected by ADHD, and how they can access resources and supports, should go a long way. The alternative is leaving it as a struggle that individuals are forced to navigate on their own. Further, it has

already been discussed that insight and self-awareness alone can help attenuate emotional intensity (Herwig et al., 2010; Silvia, 2002).

Participants identified many domains of emotional regulation they engage in. Most research with this population refers to reappraisal and suppression, but there are many more types of regulatory strategies (Clen et al., 2013). Therapists and intervention research may benefit from utilizing strength-based counselling (Wong, 2006), tapping into the strengths that participants are able to self-identify. This allows counsellors to work with clients using existing skills rather than starting from scratch. This also enables counsellors to consider and incorporate individual differences. For example, a participant who tends to engage social supports as opposed to cognitive reappraisal may prefer to work on socially based skills in their counselling sessions. Further, strength-based counselling operates within a social constructionist perspective (Wong, 2006), acknowledging there are no universal truths. This allows therapists to work holistically within the context of each individual client's life, find the regulatory strategies that are most beneficial to that person, and not attempt to force one type of intervention on everyone.

Interventions focusing on specific regulatory strategies may also be beneficial, depending on the context of the client's life as previously mentioned. Cognitive reappraisal arose in the current study as an unexpected beneficial strategy. The current study, along with Young (2005), has found that adults diagnosed with ADHD are actually successful in using reappraisal to cope, contrary to what previous research on executive function impairment may suggest (Barkley, 1997). This is important to note, as it is one of the most beneficial strategies (Gross, 2002; Gross & John, 2003), and therapists may shy away from this type of strategy given past research, but they may not need to in light of the current findings. Further, this type of cognitive intervention

is easily wrapped into an over-arching problem-solving framework, as utilized in many ADHD interventions (Barkley, 2006; Burns & Martin, 2014; Spence, 2003; Young & Bramham, 2012).

The findings in the temporal sequencing of emotion regulation are relevant as well. Interventions may want to consider the tendency for individuals with ADHD to use an initial strategy (e.g., distraction) to help attenuate the overwhelming intensity of emotions, and then engage in more effortful strategies (e.g., reappraisal) later on. Therapists may be able to build a multi-step problem-solving method for clients, helping educate them on the potential executive function impairments commonly associated with ADHD (Barkley, 1997) combining with the flood of emotions leading to further impaired executive functions (Arnsten et al., 2012), necessitating their use of less intensive cognitive strategies early on in the emotion processing timeline.

Existing treatment frameworks help consolidate these recommendations. Given impairments in executive functions, emotion-focused therapy may be an excellent framework to use with this demographic (Greenberg, 2004). It may in fact be easier to elicit a new emotion that is more adaptive, transformative, or that can replace the maladaptive one, particularly when initially faced with overwhelmingly intense emotions. Participant responses such as accepting the extreme emotion, transforming emotions, and controlled expression of emotions all reflect this therapeutic approach. Dialectical behaviour therapy (DBT; Chapman, 2006) is a promising method that successfully improves emotional regulation in college students (Rizvi & Steffel, 2014). It has shown initial promise in group interventions for ADHD (Hesslinger et al., 2002; Philipsen et al., 2007). The current study provides further support for use of DBT strategies with this demographic, given the combination of strategies endorsed by participants. Skills such as non-judgmental acceptance and (perhaps unexpectedly) cognitive reappraisal are taught and

reinforced in DBT (e.g., Rathus & Miller, 2014). DBT offers a holistic approach that incorporates skills already in use as represented in the current study, and the multitude of skills included offers options to individuals that they can choose between depending on the context of each situation.

Finally, a combined pharmacological and psychotherapeutic approach is recommended, in line with official guidelines for treatment in children diagnosed with ADHD (MTA Cooperative Group, 1999; Young & Myanthy Amarasinghe, 2010). Combined treatment is also recommended for adults (CADDRA, 2011), but research support is severely deficient when compared to child intervention. Participants in the current study spoke to medication's stabilizing effect, allowing them to more effectively focus on skills like emotional regulation. This lends support to a multi-modal approach to treatment, allowing medication to help stabilize core impairments such as impulsivity, making the client more available to learn emotion regulation skills.

The current study uniquely provides results that emerge directly from participant perceptions and lived experiences, which makes them relevant for counsellors who are attempting to gain a holistic and contextualized view of their client. University counselling centres would do well to consider these possibilities, as their ADHD clientele will be most akin to the demographic of the current study. They will be serving individuals who are potentially more likely to be self-aware and hold a desire to improve, making them ready to engage in relevant therapeutic interventions.

### **Limitations**

The current study offers interesting additions to the literature on emotion regulation particularly in relation to ADHD. However, it does not come without some shortcomings in the

areas of: recruitment, sample (size and bias), study methods (interview structure and questions), data analysis, and researcher bias.

Recruitment posed unexpected challenges, resulting in a smaller sample size than initially anticipated. Targeting such a specific demographic via posters and e-communication through external organizations (e.g., Student Accessibility Services) did not seem to attract the attention of many potential participants. Once a word-of-mouth method utilizing social media was put into place, more interested individuals were identified, meaning a more personal form of recruitment may be necessary in future studies of this type.

The small sample size is therefore an important limitation to discuss. Qualitative studies typically require fewer participants to answer their research questions, although six is still a small number for many methods. As a methodology, ECIT does not demand a minimum number of participants that must be included, but suggests there must be enough critical incidents in order to create categories, and to reach exhaustiveness of those categories (Butterfield et al., 2009). Fortunately, the current study was believed to have reached exhaustiveness after the fourth interview, although there is a clear possibility that more categories would have been created, or the categories would have shifted or been modified, had more interviews been conducted.

Demographics of the current study's sample present some limitations in terms of transferability of findings. Given the potential influence of culture on emotion regulation, it must be noted that individuals from diverse ethnic backgrounds may differ from current participants in how they perceive and utilize regulatory abilities. Further, gender of participants was not taken into account for the current study; a comparison was not included in the study design, as results are intended to be considered for all within the study's demographic. We know

that ADHD symptomatology can present differently based on gender (e.g., Bauermeister et al., 2007), and one might expect differential cognitive (Ardila, Rosselli, Matute, & Inozemtseva, 2011), social (e.g., Rose & Rudolph, 2006), and emotional development (Brody & Hall, 2008) or proclivity to certain response patterns based on gender, so this must be considered when interpreting the results of the present study. Finally, differing levels of pharmacological or therapeutic treatment may impact emotion regulation abilities and experiences, potentially affecting results.

The nature of recruitment requiring participants to self-select may have created a particularly narrow or biased sample. The fact that these individuals desired to participate in such a study may reflect a somewhat selfless and more self-aware demographic. Other young adults diagnosed with ADHD may not be as self-aware of their emotion regulation abilities, or hold as strong a desire to self-improve, meaning these participants may not represent the greater young adult ADHD demographic. Further, given that participants were recruited from a post-secondary population, they may be more self-aware or have acquired more knowledge about concepts relevant to the current study than those not presently attending a post-secondary institution. Finally, participants provided self-report information about their ADHD diagnosis, including information on when the diagnosis was received, and what type of professional provided the diagnosis. By not requiring official documentation of the diagnosis, there is a possibility that some individuals may not have had up-to-date or accurate information regarding their ADHD diagnosis, or other potential co-existing conditions.

The questions that were chosen for the interviews may have posed an unintentional limitation in the way that they were worded. Participants were specifically asked to discuss times that *they* engaged in emotional regulation, potentially leading them to identify individual or

internal strategies that did not involve other people. This may have limited participants in terms of not considering more situations in which external interventions were used.

Also in the context of interviews, participants were asked to give examples of intense emotions and their subsequent regulation in the form of a story – what led up to it, what actually happened, and what was the outcome. Though this was helpful in providing structure to guide participants in sharing the most relevant information, it may have made analysis more challenging for the researcher. Large chunks of information were offered all at once that required parsing out what was important, what was relevant for themes, and what was most pertinent to the ECIT analysis. As outlined in the results chapter, there were often sections where participants spoke for a long time, stringing together multiple ideas. Subjective interpretation on the part of the researcher is partially accounted for by the credibility checks such as cross-checking with participants (Butterfield et al., 2009), but the results may have been less clear than a more typical ECIT study enlisting a non-ADHD population.

Further, though many different types of regulatory strategies were discussed, participants were unlikely to have given examples of all the different strategies they might employ. Given the complexity of emotion regulation in real life settings (Heiy & Cheavens, 2014), there are likely numerous other strategies and situations participants could have talked about, but either did not think to or chose not to. In addition, participants were asked to reflect on times when they experienced intense emotions, which may have precluded or predisposed certain responses over others that might be implemented when experiencing less intense emotions.

The researcher's assumption that participants would be self-aware of their diagnosis and how their condition affects their emotions and emotional regulation poses a limitation. Individuals may vary in how aware they are of their diagnoses, and that awareness may or may

not extend to emotions and their regulation. Drawing conclusions as to whether an ADHD demographic differs in the emotion regulation perceptions is limited by the fact that differentiating levels of self-awareness was not built into the study. Further, how ADHD affected emotional regulation came up naturally in some of the interviews, but it was not built in as one of the primary research questions, as the goal was to naturalistically obtain a picture of how participants perceive emotional regulation. However, in retrospect it may have proven beneficial to include the question more formally in light of these varying levels of self-awareness.

### **Future Research**

In order to address some of the limitations mentioned, future research should explore a similar topic with a larger sample size, in order to gain a better sense of how pervasive the themes and patterns discussed in the current study are for the larger young adult ADHD population. Identifying whether patterns seen in the ECIT categories presented here are true for more young adults diagnosed with ADHD, including those not in a post-secondary setting, would expand knowledge on emotion regulation and ADHD while retaining the nuance and depth of a qualitative approach. Further, conducting a similar exploration with typically developing peers as a comparison group would provide a reference from which to extract differences in responses to intense emotions to better conclude patterns unique to an ADHD population. Finally, accounting for gender and cultural differences within an ADHD population would help delineate more accurately how perceptions and utilization of emotional regulation may be influenced by these factors.

Accounting for variations in self-awareness, future studies could take a mixed methods approach, utilizing qualitative methods to achieve the aforementioned depth of information,

while using quantitative methods to help objectively identify level of emotional impairment and dysregulation individuals are experiencing as well as surveying strategies individuals may be aware of and may utilize (Barkley, 2014; Shaw et al., 2014). Results could then be integrated and compared (triangulation; Johnson, Onwuegbuzie, & Turner, 2007) in order to gain a clearer picture of how an ADHD demographic may be unique while retaining the strengths of the current study by working from lived experiences rather than basing conclusions solely on rating scales.

Specific avenues for future research that are identified by the current study but are currently unclear include variations in emotional intensity – participants varied in their subjective perceptions of this intensity. It would be beneficial to identify why these variations happen, and whether they are related to ADHD symptom severity, or some other factor like self-esteem or a Positive Illusory Bias. Given it is considered to be one of the most heavily researched (and beneficial) emotional regulation strategies, specific investigations into use of reappraisal in an ADHD demographic would help delineate how the disorder affects this particular emotional regulation skill. Previous research leads us to believe ADHD impairs cognitive flexibility, but some participants were able to positively reappraise in a number of situations, an unexpected finding also found by Young (2005). Future research would do well to discover whether this is an outlier or indeed a common pattern, and how ADHD is impairing relevant cognitive abilities (e.g., do these individuals need to exert more cognitive effort than typically developing peers?).

Explorations into locus of control in the current study yielded inconclusive results. Future research could specifically investigate locus of control in an ADHD population and discover whether the disorder impacts locus of control universally (and how that in turn affects emotional regulation), or whether it is better explained by individual differences.

Examining the social context and function of emotional regulation is another important direction for future studies. Results of the current study reveal both the importance of peer relationships, but also the impairments in those interactions. Further evaluation of how social support and interpersonal emotion regulation is utilized in light of impaired social skills would be beneficial, delineating the aspects unique to an ADHD population.

The temporal sequencing of emotion regulation strategies is one of the more interesting findings in the current study. This is an exploratory finding, meaning future research could delve into the concept and discover whether this pattern is seen in a larger ADHD demographic, and whether the tendency to use ‘easier’ strategies such as distraction first in the face of high intensity (Sheppes, 2014) is unique to this population, and related to the impairments of the disorder.

The essence of these suggestions for future research is strengthening the link between emotion dysregulation and ADHD. The current study focused on participant perceptions and lived experiences, and patterns of responses often reflected findings supported by quantitative research. However, without a comparison group, and given the qualitative approach relatively unique to this field of study, it is difficult to say whether participant responses differed significantly from a typically developing population. Future research would benefit from more in-depth and specific explorations of some of the concepts identified here in order to make the bridge between ADHD and emotional regulation more clear.

### **Conclusions**

The current study has successfully engaged in an exploratory investigation of how young adults diagnosed with ADHD perceive their intense emotions, subsequent emotional regulation, and how they respond to emotionally intense situations. A number of interesting findings have

been outlined throughout the previous two chapters, deepening our understanding of the link between ADHD and emotional regulation.

Findings support the notion that emotion regulation is an important concept when considering ADHD. Due to the lack of a specific reference group, the current study cannot conclude that emotion dysregulation is a core feature of ADHD, but results certainly parallel much of the research suggesting significant overlap between the two. Results identify the most helpful and hindering responses to intense emotions, patterns of strategy use, and the helpful and unhelpful effects of these strategies, painting a clearer picture of how individuals diagnosed with ADHD perceive their emotional regulation abilities.

Participants do perceive themselves to experience emotions differently, and in most cases more intensely, than their typically developing counterparts. Regulation choices are based on perceptions and experiences of emotions, and therefore the need to choose certain strategies to cope with the increased intensity supports the notion that emotional regulation is different in ADHD. Patterns of participant responses demonstrate links to symptoms of ADHD, most notably the impact of impulsiveness on inability to control responses, the need to suppress certain responses, and the need to engage in distancing strategies early in the regulatory timeline. The effect of impaired executive functions on patterns of fixation, rumination, and delayed reappraisal are also noteworthy.

The emphasis on the social context and function of emotional regulation is also an important finding. The implication is that individuals place a strong value on social support, even in the face of potential deficits in social skills – this should not be ignored by research or interventions. On a grander scale, it validates the need for increased research in the area of

interpersonal emotion regulation, and joins others in the expansion of this dimension of emotion regulation research (e.g., Shayanfar, 2016; Zaki & Williams, 2013).

Investigating the influence of locus of control on emotion regulation is also a unique avenue of exploration in this thesis. Results indicate potential preferences for both external and internal loci of control, reflecting the disparity previously seen in the literature.

Identification of temporal sequencing of regulatory strategies, potentially in a manner that is unique to this population, is an important finding and one that will hopefully be expanded on in the future. Results suggest a need to engage in specific types of low-cost emotional regulation strategies initially, in order to help attenuate the intensity of emotions, before more cognitively intensive strategies (e.g., reappraisal) can be employed later in the timeline. A number of explanations for this in light of ADHD impairments have been offered, such as executive function deficits. This finding also has implications for interventions that have been discussed, and elaborates on the complexity of emotional regulation in a real life context.

The qualitative methodology has allowed for a deeper and more holistic appreciation of emotion regulation in a young adult post-secondary ADHD demographic. Quantitative methods have been able to identify that there is an emotion dysregulation component, but could not capture what is going on for individuals experiencing this in daily life. In-depth participant responses helped to delineate the goals, processes, and outcomes of each regulatory experience. The exploratory nature of this research has illustrated the complexity of emotions and their regulation, and identified potential patterns unique to this population. The current study's approach takes into account the subjective aspect of emotions, and rather than basing conclusions purely on rating scales, has importantly given these individuals a voice. In order to best support

them, we need to understand what they are going through and how they are experiencing these concepts. The current study has taken an imperative step in accomplishing this.

Every living person experiences emotions – a fundamental component of the human condition. Each day, people make decisions about how to respond to these emotions, determining whether to ride the wave, or calm the tide. Attention deficit/hyperactivity disorder involves impairments in abilities that are relevant to these decisions, and the actions that follow. Deepening our understanding of these challenges is essential, as the consequences could be devastating. The current study has expanded this understanding, and these findings help us see how individuals perceive and experience intense emotions, going beyond previous research, tapping into each participant’s powerful viewpoint. A more holistic understanding has been achieved, and numerous avenues for future research identified – a successful outcome of an exploratory study. It is my hope that findings will help inform future research, as well as interventions, that will continue to help researchers, therapists, and young adults living with ADHD navigate the exhilarating – but sometimes treacherous – waters of emotion.

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APPENDIX A: RECRUITMENT POSTER



SEEKING PARTICIPANTS  
— for Calming the Tide —

an ADHD study

Seeking post-secondary students with ADHD to participate in a study examining EMOTIONAL REGULATION. Win a \$20 gift card!

→ Contact ANDREW for more details ←

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## APPENDIX B: RECRUITMENT LETTER TO POTENTIAL PARTICIPANTS



### PARTICIPANT RECRUITMENT LETTER

---

My name is **Andrew**, and I am a student completing my Masters of Science in Counselling Psychology, with the goal of counselling youth and young adults.

I am doing research called “**Calming the Tide: Emotional Regulation in Young Adults with ADHD**”. Specifically, I am looking at how you have managed your **emotions in an emotionally intense situation**.

Participation in this study would require a one-on-one, confidential interview asking questions about your experiences of emotion management and self-control in emotionally intense situations. The interview would take approximately one hour. **All participants will be offered a \$20 gift card as a token of thanks.**

I am hoping to recruit **5-10 participants**. You may be eligible for this study if you have a documented diagnosis of ADHD, are enrolled in a post-secondary institution, and are between the **ages of 18 – 25**.

This information may provide a greater understanding of emotion regulation and self-control in young adults with ADHD, and **ideally improve interventions** that help those that struggle with these abilities.

If you are interested in learning more about this study, **please get in touch with me using the contact information provided below**. We will have a conversation about your participation and, if you are eligible and interested, schedule a time when we can conduct the research interview. Interviews will take place at the Integrated Services in Education Clinic on the 4<sup>th</sup> floor of the Education Tower on the University of Calgary campus. Your participation is completely voluntary. This study has been approved by the University of Calgary Conjoint Faculties Research Ethics Board.

Thank you for your time and consideration. I look forward to hearing from you.

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## APPENDIX C: PHONE SCREENING INTERVIEW GUIDE

- A. Are you calling about the Emotional Regulation and ADHD study?
- B. Thank you for your interest in participating in this study. Do you have time to answer a few brief questions to help determine whether you are a fit for the study?
1. Any information you share right now will be shredded immediately if you are not a good fit for the study or if you decide you are not interested.
  2. If you are a good fit for the study and decide to participate, I will ask a pseudonym to put on the information sheet to protect your personal information.
- C. This study is looking for participants who are undergraduate university students who are between the ages of 18 – 25.
1. Are you currently a university student?
  2. Are you between the ages of 18 – 25?
- D. This study is looking at students who have been diagnosed with ADHD.
1. Have you ever been diagnosed with ADHD by a health professional? You do not need to tell me who.
  2. What was this person's profession (e.g., psychologist, psychiatrist, family doctor, paediatrician)?
  3. Do you know how old you were when you were diagnosed?
- E. This study will be looking at how individuals cope with strong emotions. Examples of questions that will be asked include: "Have you ever felt intense emotions?"; "What is a situation in which you felt intense positive/negative emotion?"; "How did you deal with these emotions?"; and "What is a time you were happy/unhappy with how you managed your emotions?". However, we do not want to distress or upset people who might be vulnerable.
1. Are you currently being treated for significant anxiety, depression, or a personality disorder?
  2. Have you experienced traumatic events that still bother you?
- F. Based on the information you have provided, you are/are not eligible for participation in the study.
1. (*If eligible*) Would you like to know more about the study?
  2. If you are still interested, I would like to set up a time in the next two weeks for us to conduct the research interview, which will be taking place at the Integrated Services in Education Clinic on the 4<sup>th</sup> floor of the Education Tower at the University of Calgary. Would this be okay with you?
  3. Thank you for your time.

## APPENDIX D: PARTICIPANT CONSENT FORM



### Name of Researcher, Faculty, Department, Telephone & Email:

#### Primary Researcher:

Andrew Nicholson, B.A.  
Educational Psychology  
Werklund School of Psychology  
University of Calgary  
403-870-6528 [atnichol@ucalgary.ca](mailto:atnichol@ucalgary.ca)

#### Supervisor:

Dr. Michael Zwiars, Ph.D, R.Psych  
Educational Psychology  
Assistant Professor, Werklund School of Education  
University of Calgary  
403-220-5004 [mzwiars@ucalgary.ca](mailto:mzwiars@ucalgary.ca)

#### Title of Project:

Calming the Tide: Emotional Regulation in Young Adults with ADHD

This consent form, a copy of which has been given to you, is only part of the process of informed consent. If you want more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study

#### Purpose of the Study

This study is exploring the emotional regulation abilities of young adults with ADHD. Specifically, I am looking at how participants have managed their experience and expression of emotions in an emotionally intense situation. These findings will give a greater understanding of emotion regulation and self-control in young adults with ADHD, abilities that are suggested to be impaired in ADHD, impacting daily functioning. Findings will also ideally improve interventions that help those that struggle with these abilities.

#### What Will I Be Asked To Do?

Participation will involve a one-on-one interview with the researcher that will take approximately 60 – 75 minutes and will occur at the Integrated Services in Education Clinic on the 4th floor of the Education Tower at the University of Calgary. You will be asked questions about your experience and expression of emotions in emotionally intense situations, what was

beneficial or hindering, and how you see these abilities being affected by ADHD. The interview will be audio recorded and later transcribed, so as not to miss important things that you say. You will be given a \$20 gift card as a token of thanks following your participation in the study. You may withdraw consent at any point during the interview, at which point your data will be destroyed/erased. If you choose to withdraw prior to the end of the interview, you will still be given the gift card. You may contact the researcher within two weeks following the interview should you decide to withdraw from the study and have your data destroyed/erased. This will be the final point to withdraw consent to participate. You will have the choice of participating in a completely optional follow-up interview, at which point we may discuss initial results from the first round of interviews, and see if there is anything that needs revisiting. This interview is expected to be approximately 15-30 minutes.

Participation in this study is completely voluntary. You may decline to answer any and all question, and you may withdraw from the study at any time up until two weeks following the initial research interview without penalty or loss of benefits to which you are otherwise entitled.

### **What Type of Personal Information Will Be Collected?**

Should you choose to participate, you will be asked to provide your age. This is to ensure that you are part of a young adult population, up to age 25. Personal contact information will only be used to schedule the interview and communicate findings. It will not be used in the research at all.

The primary interview will be audio recorded. These recordings are only for the purpose of research, to be heard by the student researcher, the supervisor, and a second student researcher assisting with transcription of the recordings. Audio files will be kept in an encrypted folder with no personal identifying information attached. Part or all of the interview may be transcribed, but names and personally identifying information will be removed. Select quotes may be used in dissemination of research (if permission is given below). By consenting to participate in this study, you are also consenting to be audio recorded for the duration of the research interview.

Please review each of the options below and respond accordingly:

You may quote me anonymously or with the use of a pseudonym: Yes: \_\_\_ No: \_\_\_

(Optional) The pseudonym I choose for myself is:

### **Are there Risks or Benefits if I Participate?**

The current research is expected to be mostly risk-free. The questions will require reflection and concentration on your part, which could be mentally tiring. Additionally, there is always potential that any topic could bring something up that is distressing to you for any number of reasons. If this is the case, the interview can be put on hold, or stopped at any point. A list of

counselling resources will be provided to you in case you find them helpful following the interview (e.g., University of Calgary Wellness Centre, Calgary Counselling Centre, etc.).

### **What Happens to the Information I Provide?**

Participation is completely voluntary, anonymous and confidential. No one except the researcher, his supervisor, and a second student researcher will be allowed to see or hear any of the answers to the interview. Anonymity will be ensured, either through use of a pseudonym or avoiding use of names altogether. The audio recordings will be deleted as soon as possible following the transcription process, aiding anonymity by only retaining transcripts with no personally identifying information.

You may choose to discontinue participation at any point during the study. If at any point you decide to withdraw from the study, all of your data will be destroyed/deleted, along with your personal contact information. You may withdraw at any point up until two weeks following the interview, after which it is understood that the information you provided will be used.

Data for the study will be kept with no personal identifying information for five years in an encrypted file (electronic) or a locked cabinet (physical), at which point it will be destroyed/erased.

You have the option to participate in a follow-up interview in order to discuss initial results with the researcher and provide feedback. You may stop participating at any point during the follow-up interview, but if this follow-up takes place after the two-week period following the initial interview, your data will not be removed from the study.

If you wish, a final summary of the findings will be sent to you in order to provide you with an understanding of the completed research project you have taken part in.

I wish to participate in the optional follow-up interview:    Yes: \_\_\_ No: \_\_\_

I wish to receive a final summary of findings:                Yes: \_\_\_ No: \_\_\_

Email: \_\_\_\_\_

Mailing address (if preferred):

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### ***Signatures***

Your signature on this form indicates that 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to participate in the research project.

In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from this research project at any time. You should feel free to ask for clarification or new information throughout your participation.

Participant's Name: (please print) \_\_\_\_\_

Participant's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Researcher's Name: **Andrew Nicholson**

Researcher's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

***Questions/Concerns***

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

*Andrew Nicholson, B.A.  
Educational Psychology, Werklund School of Education  
403-870-6528, atnichol@ucalgary.ca*

*and*

*Dr. Michael Zwiers, Ph.D., R.Psych  
Educational Psychology, Werklund School of Education  
403-220-5004, mzwiers@ucalgary.ca*

If you have any concerns about the way you've been treated as a participant, please contact the Research Ethics Analyst, Research Services Office, University of Calgary at (403) 210-9863; email [cfreb@ucalgary.ca](mailto:cfreb@ucalgary.ca).

A copy of this consent form has been given to you to keep for your records and reference. The investigator has kept a copy of the consent form.

## APPENDIX E: INTERVIEW GUIDE

### 1. Introduction:

I am interested in knowing about how young adults cope with or manage intense emotions.

- a) Have you ever felt intense emotions, either positive ones or negative ones?
  - i. What has that been like for you?

Think about a specific situation when you felt intense emotion in the past year, it can be emotion of any kind, and tell me about it. I want you to tell it to me like a story. Tell me what led up to it, what emotions you experienced, and how you dealt with your emotions.

*Further clarifiers, if needed:*

- a. What led up to this situation?
- b. What actually happened?
- c. How did you deal with your emotions in this situation?
- d. How intense was this emotion – not intense, moderately intense, or very intense?
- e. How did the situation turn out?

- b) Can you tell me about another time when you experienced intense emotion?

### 2. Emotional Valence Prompts (*if needed*):

- a. Tell me about situations when you felt intense negative emotions, such as feeling sad, guilty, ashamed, or angry.
- b. Tell me about situations when you felt intense positive emotions, such as feeling happy, excited, or love.

### 3. Context Prompts, *if the participant has given examples in only one context*:

- a. Can you think of any situations involving other people, such as [family, friends, classmates, professors, co-workers]
- b. Can you think of a time you felt intense emotions when you were by yourself or not around other people?

### 4. Emotions Management:

- a. Do you believe you need to control or manage your emotions in any way?
- b. Tell me about a time you were happy with how you managed your emotions.
- c. Tell me about a time you were not happy with how you managed your emotions.

### 5. Influences:

- a. What helps/has helped you to manage your emotions?
  - i. Where did you get the idea to do that?
- b. What makes/has made it more difficult for you to manage your emotions?

## APPENDIX F: COMPREHENSIVE TABLE OF CIS AND PARTICIPATION RATES

*Comprehensive Participation Rates of Critical Incident Categories and Sub-Categories*

Categories	Overall Critical Incidents		Helping CI's		Hindering CI's		Wish List Items	
	N (%)	CIs	N (%)	CIs	N (%)	CIs	N (%)	CIs
	<b>Appraise &amp; Process</b>	<b>6 (100)</b>	<b>51</b>	<b>6 (100)</b>	<b>26</b>	<b>5 (83.3)</b>	<b>18</b>	<b>2 (33.3)</b>
<i>Sense-Making</i>	5 (83.3)	20	5 (83.3)	10	3 (50)	8	2 (33.3)	2
<i>Expectations of Self</i>	3 (50)	17	3 (50)	8	3 (50)	6	1 (16.7)	3
<i>Situational Appraisal</i>	6 (100)	14	6 (100)	8	3 (50)	4	2 (33.3)	2
<b>Social Interaction</b>	<b>6 (100)</b>	<b>47</b>	<b>6 (100)</b>	<b>28</b>	<b>5 (83.3)</b>	<b>17</b>	<b>2 (33.3)</b>	<b>2</b>
<i>Sharing Emotional Experience</i>	6 (100)	17	6 (100)	13	1 (16.7)	3	1 (16.7)	1
<i>Asserting With Others</i>	5 (83.3)	9	5 (83.3)	7	2 (33.3)	2	0 (0)	0
<i>External Intervention</i>	6 (100)	21	5 (83.3)	8	5 (83.3)	12	1 (16.7)	1
<b>Distancing</b>	<b>6 (100)</b>	<b>47</b>	<b>6 (100)</b>	<b>22</b>	<b>4 (66.7)</b>	<b>22</b>	<b>2 (33.3)</b>	<b>3</b>
<i>Taking Time</i>	5 (83.3)	16	4 (66.7)	7	3 (50)	8	1 (16.7)	1
<i>Distracting</i>	5 (83.3)	10	3 (50)	6	2 (33.3)	4	0 (0)	0
<i>Disengaging</i>	4 (66.7)	12	3 (50)	5	3 (50)	6	1 (16.7)	1
<i>Suppressing</i>	3 (50)	9	2 (33.3)	4	3 (50)	4	1 (16.7)	1
<b>Physical Response</b>	<b>6 (100)</b>	<b>31</b>	<b>4 (66.7)</b>	<b>11</b>	<b>5 (83.3)</b>	<b>16</b>	<b>4 (66.7)</b>	<b>4</b>
<i>Uncontrollable Physical Response</i>	5 (83.3)	14	2 (33.3)	3	4 (66.7)	9	2 (33.3)	2

Categories	Overall Critical		Helping CI's		Hindering		Wish List	
	Incidents		CI's		CI's		Items	
	N (%)	CI's	N (%)	CI's	N (%)	CI's	N (%)	CI's
<i>Intentional Physical Response</i>	5 (83.3)	17	3 (50)	8	4 (66.7)	7	2 (33.3)	2
<b>Emotional Engagement</b>	<b>5 (83.3)</b>	<b>17</b>	<b>5 (83.3)</b>	<b>14</b>	<b>2 (33.3)</b>	<b>3</b>	<b>0 (0)</b>	<b>0</b>
<i>Maintaining the Emotion</i>	1 (16.7)	2	0 (0)	0	1 (16.7)	2	0 (0)	0
<i>Transforming the Emotion</i>	3 (50)	5	3 (50)	5	0 (0)	0	0 (0)	0
<i>Accepting and Expressing the Emotion</i>	5 (83.3)	10	5 (83.3)	9	1 (16.7)	1	0 (0)	0
<b>Taking Medication</b>	<b>3 (50)</b>	<b>8</b>	<b>3 (50)</b>	<b>5</b>	<b>2 (33.3)</b>	<b>2</b>	<b>1 (16.7)</b>	<b>1</b>
<b>Active Problem-Solving</b>	<b>2 (33.3)</b>	<b>4</b>	<b>2 (33.3)</b>	<b>3</b>	<b>1 (16.7)</b>	<b>1</b>	<b>0 (0)</b>	<b>0</b>

*Note.* Major categories are presented in bold, sub-categories in italics. N represents number of participants who offered a response in that category, percentage participation rate in brackets.

The number of each type of CI within each category is also given.