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Components of Emotional Functioning Among People with Substance Use and Posttraumatic Stress Difficulties: An Idiographic Perspective

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Components of Emotional Functioning Among People with Substance Use and Posttraumatic Stress Difficulties: An Idiographic Perspective

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by

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Abstract

Prior research has examined components of emotional functioning (e.g., clarity, physiological sensations, expression, regulation) among people with substance use and/or posttraumatic stress at the group level; however, a more cohesive/comprehensive understanding of how these factors unfold and connect for individual people who comprise these populations is needed. The current study used a qualitative interview design to explore the emotional worlds of participants (N = 44) who comprised four groups (substance use [n = 11], posttraumatic stress [n = 12], co-occurring substance use and posttraumatic stress [n = 11], and healthy controls [n = 10]) to gain a person-level understanding of these processes. A semi-structured interview based on the Idiographic Model of Affective Processing (I-MAP; Veilleux et al., 2020), which elicited discussion of two specific personal emotional events, general emotional experiences/tendencies, learning history around emotion, and beliefs about emotions was conducted with each participant. Conventional content analysis was used to identify three emergent themes: (1) Internal Emotional Experience, (2) Observable Emotional Experience, and (3) Emotion Socialization. Findings revealed the substance use difficulties group seemed generally less aware of and less connected to their emotional experiences, the posttraumatic stress difficulties group seemed to have more intense emotional experiences, and the co-occurring difficulties group seemed to have more difficulty with emotional expression, more negative beliefs about emotions, and poorer experiences with emotion socialization compared to the other groups. This study connected rich and complex real-life emotional experiences to extant group-level findings and identified similarities and differences between- and within-groups regarding emotional functioning for people with substance use and/or posttraumatic stress difficulties. This study will aid in the development of a modular transdiagnostic treatment for emotional difficulties geared toward people who struggle with these afflictions.

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Components of Emotional Functioning Among People with Substance Use and Posttraumatic Stress Difficulties: An Idiographic Perspective

Substance use and posttraumatic stress are characterized by emotion dysregulation (Kemmis et al., 2017; Messman-Moore & Bhuptani 2017), or patterns of internal and external emotional experience which are dysfunctional and interfere with functioning and goal-directed behavior (Cole et al., 2019; Thompson, 2019). Emotion dysregulation is a risk factor (Wilcox et al., 2016), maintenance factor (Dingle et al., 2018), and consequence (Wilcox et al., 2016) for substance use. Emotion dysregulation has also been cited as a primary characteristic of posttraumatic stress disorder (Tull et al., 2020) and contributes to its development, maintenance, and exacerbation of symptoms (Weiss et al., 2013). Substance use and posttraumatic stress tend to cooccur at overwhelmingly high rates (Tripp et al. 2019). The co-occurrence of substance use and posttraumatic stress may be partially explained by emotion dysregulation (Tull et al., 2020; Westphal et al., 2017) and people who experience this comorbidity seem to have greater emotional processing dysfunction than those who experience either affliction independently (Kemmis et al., 2017). For example, substance use is often used as a strategy to regulate trauma-related emotions (Khantzian, 1985; Stewart & Conrod, 2003) and some work shows using substances changes neural circuitry which increases vulnerability for more intense reactions to traumatic experiences (María-Ríos & Morrow, 2020).

Considering that emotion dysregulation is a major thread connecting substance use and posttraumatic stress, some researchers propose understanding these difficulties using a transdiagnostic model (i.e., a comprehensive but succinct explanation for co-occurring psychopathology; (Barlow et al., 2011) focused on emotion dysregulation (Cassiello-Robbins et al., 2020; Westphal et al., 2017). Some people think of emotion dysregulation as a collection of

deficient strategies (e.g., mis-regulation, under-regulation) for regulating emotions (Tice & Bratslavsky, 2000) and others think of it as a skills deficiency, which is consistent with an emotional intelligence approach to regulation (Mayer & Salovey, 1995). However, these skill-based models are primarily focused on individual differences and do not facilitate an understanding of how components of emotional functioning connect and operate for a given person. Group-level findings have provided the nuts and bolts for understanding these processes, but within-person research would demonstrate how they fit together and work like a cohesive machine in response to emotional events. Such work would also provide insight for clinicians in case conceptualization and treatment planning for individual patients suffering from PTSD and/or substance use disorders.

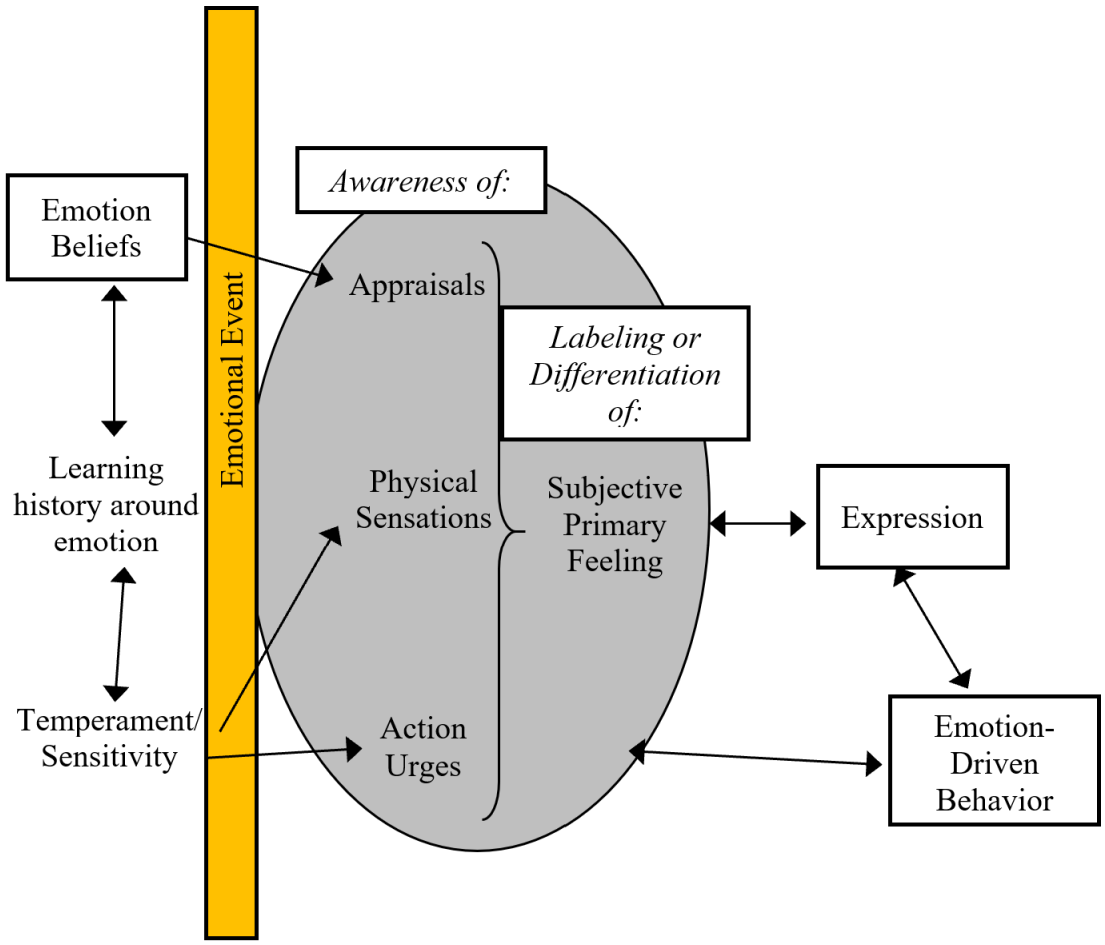
Recently, the Idiographic Model of Affective Processes (I-MAP; Veilleux et al., 2020) has provided a framework for conceptualizing how components of emotional functioning operate in response to emotional events for individual people. This model provides a framework for extending beyond group-level findings linking substance use and posttraumatic stress to emotion dysregulation (Tull et al., 2020) and the components which comprise it (Baker & Veilleux, 2020) to a comprehensive within-person view of how people with these difficulties experience emotions and their subsequent behaviors. The goal of the current study is to begin filling gaps in the literature by qualitatively exploring components of emotional functioning in response to emotional events among people with substance use and/or posttraumatic difficulties. Further, because the literature lacks research using methodologies which go beyond reliance on participant introspection (Tracy et al., 2014), the current study utilized a semi-structured interview which maps onto the I-MAP (Veilleux et al., 2020).

The Idiographic Model of Affective Processes (I-MAP)

The I-MAP (see Figure 1; Veilleux et al., 2020) conceptualizes how components of emotional functioning operate when an emotional event occurs for individual people and is intended as a clinically relevant model to help clinicians understand patients' emotional functioning.

Figure 1

Idiographic Model of Affective Processes (I-MAP)



Note. Figure reads left to right with background variables to the left of the emotional event and processes of emotional functioning to the right.

In this model, emotional events are highly contextual and occur at certain places in time and location, are experienced either alone or with other people, and can be impacted by

vulnerability factors (e.g., hunger, sleep deprivation). Emotional events can be internally generated (e.g., realizing today is the anniversary of a loved one's death) or prompted by an external/environmental situation (e.g., being attacked by a dog). The yellow bar in Figure 1 represents an emotional event which encompasses contextual factors and momentary vulnerabilities. To the left of the yellow bar (i.e., emotional event) in Figure 1 are background characteristics and learning experiences which influence emotional responding. These are emotional temperament, learning history around emotion, and beliefs about emotion. Once an emotional event occurs, emotional experience unfolds; the primary/internal experience consists of cognitive appraisals (i.e., interpretations about the emotional event), physical sensations (i.e., physiological response to emotional event), action urges (i.e., what a person feels their emotions are urging them to do), and subjective feeling state (i.e., a person's perceived emotions). This process unfolds differently based on the person, their background characteristics, and the nature of the emotional event. People also vary in their levels of awareness of these processes. Expression of emotion can be experienced as separate from the primary internal experience (Kennedy-Moore & Watson, 2001); therefore, the I-MAP identifies emotion expression (i.e., body language, nonverbal and verbal aspects of communication) and emotion-driven behaviors (i.e., behaviors rooted in emotion which are typically impulsive) as the external/observable emotional experience.

Components of Emotional Functioning: Connecting Group-Level Findings to I-MAP factors

Nearly all of the I-MAP factors have been investigated to some degree in people with substance use and/or posttraumatic stress difficulties, typically from an individual difference or group-level framework. In the sections below, major findings are reviewed (see Baker &

Veilleux, 2020 for extended review) to describe what is known about these factors for people with substance use and posttraumatic stress difficulties. These group-level findings guide inference for how these processes may unfold for an individual person. Within each section, hypothetical examples are provided to illustrate how these components of emotional functioning might connect and interact in response to an emotional event for three individuals: (1) Kit, who identifies as cisgender male and does not currently problematically use substances or experience posttraumatic stress, (2) Andre, who identifies as gender nonconforming and currently experiences difficulties with substance use, and (3) Lana, who identifies as cisgender female and currently struggles with posttraumatic stress and substance use (see Table 1).

Background Variables

Emotional temperament, learning history around emotion, and beliefs about emotion are theoretical vulnerability factors relevant to the emotional experience of people who use substances and/or struggle with posttraumatic stress. High levels of impulsivity (Morris et al., 2020; Verdejo-García et al., 2007; Weiss et al., 2020) and emotional reactivity (Leite et al., 2014), as well as low levels of effortful control (Preston et al., 2020) are common among people who use substances and/or struggle with posttraumatic stress. It is common for people with these difficulties to have experienced poor emotion socialization. Parental substance use and posttraumatic stress can contribute to poor emotion socialization, and poor emotion socialization is related to posttraumatic stress and substance use (Baker & Veilleux, 2020). Beliefs about emotion are typically problematic amongst people who use substances and/or deal with posttraumatic stress, specifically beliefs that emotions are bad (Asmundson & Stapleton, 2008; Collimore et al., 2008; Ehlers & Clark, 2000) and uncontrollable (De Castella, 2017; Edwards & Wupperman, 2019; Schroder et al., 2019). Taken together, these factors comprise a person's

emotional knowledge base and can serve as vulnerabilities for problematic emotional functioning in response to emotional events.

Hypothetical Examples. (See Table 1.) As a baby, Kit was relatively ordinary—he cried and fussed when he was uncomfortable but was generally happy, playful, and easygoing. He was raised by his mother and father who worked hard to teach Kit the value of identifying and expressing emotion and encouraged socially acceptable and healthy emotion regulation. Kit has always believed emotions are beneficial—even the unpleasant ones. He believes emotions should be experienced and can/should be modified appropriately.

Andre was told they were an "easy" baby—rarely cried, was affectionate, and cooperative. Their friends would say they are friendly, conscientious, sassy, and ambitious. Andre was raised by their mother and father. Their father was a strict disciplinarian, and their mother delegated all disciplinary duties to him. If Andre cried, they were told to "suck it up" and "be a man;" if they outwardly expressed joy or excitement they would be told to "calm down" and "act right." Andre's parents were not physically abusive, but Andre's emotions were often invalidated. They were generally quiet throughout childhood and got along well with their small group of friends who were emotionally supportive and expressive. Andre came to believe it is only safe to express emotions around certain people and that negative emotions are mostly dangerous/destructive.

Lana has always been told she is emotionally sensitive and overreactive. She seems to feel negatively-valenced emotions more than other people do. Lana often acts on her emotions without thinking and has difficulty planning, focusing, and engaging in behaviors which align with her goals. She was raised by her single mother who used substances and often neglected Lana's physical and emotional needs. Her mother tended to react to Lana's emotions with

physical violence. Lana learned her emotions were bad and unacceptable and felt she could not control them. When she could no longer hold her emotions in, she would "explode" in an emotional outburst. Her beliefs about emotion were reinforced when she was rejected by her peers who disliked and were afraid of Lana's behavior.

Kit, Andre, and Lana's unique dispositional characteristics, learning experiences, and beliefs about emotion set their personal stages for how components of emotional functioning tend to unfold for them in response to emotional events. These characteristics fuel their appraisals of events, impact their physiological and subjective experience of emotion, and what they are urged to do in response. Assessing these background factors is important for clinical conceptualization and treatment; being aware of patients' emotion beliefs can facilitate insight into how other components of emotional functioning (e.g., appraisals) may operate and maintain psychopathology. For instance, Lana's beliefs that her emotions are bad and uncontrollable might contribute to a tendency to appraise emotional events as threatening. Her belief that her emotions are uncontrollable might also contribute to low motivation and effort to change them. The configuration of learning history, emotional temperament, and beliefs about emotion can be different for everyone and while these examples are fictitious, they clearly demonstrate the connection between these variables. It is important for clinicians to understand the interconnections among these variables, but this information cannot be gleaned from individual difference measures.

Primary-Internal Emotional Experience

How a person appraises an emotional event, the physical sensations that arise, the urges they feel to act in response to emotion, and their resulting subjective feeling state (as well as their awareness of these functions) are influenced by the background characteristics which make up

their emotional knowledge base. Negative appraisals of events, as well as affective and somatic states, are common for people who use substances and struggle with posttraumatic stress (Halligan et al., 2003; McHugh & Goodman, 2019; Meiser-Stedman et al., 2009). Experiencing emotion-related physical sensations in extremes (i.e., hyperarousal, anxiety sensitivity) is also common (DeMartini & Carey, 2011; Naragon-Gainey, 2010; Sönmez et al., 2017; Weston, 2014). While the literature thoroughly explores emotion-related impulsivity, or urgency, it lacks findings regarding the urges, or awareness of urges, which precede action (or inaction) among people who use substances and struggle with posttraumatic stress. Findings regarding subjective emotional state reveal deficits in emotional clarity, or the degree to which people can explicitly identify and label their emotions (Lischetzke & Eid, 2017) for people who use substances (Hardy et al., 2018) and experience posttraumatic stress (Ehring & Quack, 2010). Emotion differentiation, or the specificity with which people describe their emotions (Thompson et al., 2021), has been identified as a deficit (Emery et al., 2014; Smidt & Suvak, 2015) and a resilience factor (Kashdan et al., 2010) for people with substance use difficulties, but no work to date has explored this ability in people with posttraumatic stress (Suvak et al., 2020). Alexithymia, a personality trait characterized by deficiencies in identification and expression of emotions, impoverished fantasy life, and propensity to think in an action-oriented, operational, or logical manner (Morais et al., 2022) has also been linked to both substance use (Honkalampi et al., 2022; Kun et al., 2023; Morie et al., 2016) and posttraumatic stress (Ehring & Quack, 2010; Frewen et al., 2008; Putica et al., 2021).

Hypothetical Examples Continued. (See Table 1.) Kit's girlfriend of three years tells him she wants to end their relationship. He thinks, "This is devastating," "I don't understand," "Maybe I can fix this." He feels a knot in his stomach, shortness of breath, and the urge to

bombard his girlfriend with questions. He acknowledges his thoughts and allows himself to feel the sensations and urges. He asks himself what emotions he is currently experiencing and concludes he feels sad, disappointed, confused, worried, and slightly hopeful.

Andre's girlfriend of three years tells them she wants to end their relationship. Andre thinks, "Mmmhmm, I'm a piece of shit," "I knew this would happen—it always does," "My dad was right about me." Andre is aware of these thoughts—they know this is their typical way of thinking when difficult situations arise; it always has been. Their face flushes, their hands get clammy, and their heart rate increases. They recognize discomfort but are not aware of these specifics. They feel the urge to escape, or curl into a ball and cry and beg their girlfriend to stay. They are not aware of these urges but they are making them feel worse. This feels gross and ugly—they do not know what else to call it.

When Lana's girlfriend of three years tells her she wants to end their relationship, Lana thinks, "Oh, hell no! After everything I've done for her," "She don't care about me," "I'm not gonna let this happen," "I can't live without her." Lana's whole body becomes tense, her temples start to pound, and her face gets hot. She feels the urge to grab her girlfriend by the hair and push her face into the carpet. These processes feel like a whirlwind to Lana. In general, she knows following her urges typically results in unpleasant consequences, but everything is happening too fast and she cannot recognize her urges in this situation. She feels infuriated and disgusted; she is familiar with these emotions and recognizes their presence in the moment though she is not quite sure how to describe them properly.

These fictitious examples represent how primary emotional processes can unfold differently for individual people based on their background characteristics, how they connect and operate together to form a picture of emotional functioning, and how people can vary in their

levels of awareness of these processes. While these components can be isolated and examined by individual difference measures, it is the comprehensive and cohesive picture of emotional functioning that is important for clinicians to understand. These primary processes are often targeted by clinicians in therapy, but their role in the bigger picture of emotional functioning, as well as patient awareness of these processes, is often not examined or addressed directly. For example, a clinician might focus treatment on Lana's problematic appraisals but not consider how her background characteristics have contributed to her patterns or how her negative appraisals fuel her emotion-driven behaviors. Within-person findings would provide a comprehensive picture of emotional functioning that could guide clinicians in case conceptualization and treatment planning.

External Emotional Experience

Expression, or its suppression, and emotion-driven behaviors are driven by the constellation of preceding emotional functioning components and background characteristics. Difficulties expressing emotion (especially positive ones; Dingle et al., 2018) is prevalent among people who use substances (Punzi & Lindgren, 2019) and difficulty upregulating positive emotions is common among people with posttraumatic stress (Rodin et al., 2017). Regarding emotion-driven behaviors, which are often studied as urgency (tendencies to act rashly in response to positive and negative stimuli; Cyders & Smith, 2007), are characteristic of people who use substances (Cyders & Smith, 2007; Verdejo-García et al., 2007) and experience posttraumatic stress (Kim & Choi, 2020; Mirhashem et al., 2017)--especially negative urgency for people with posttraumatic stress (Contractor et al., 2018).

Hypothetical Examples Continued. (See Table 1.) Kit allows his tears to fall down his face and he takes a deep breath. He hugs his girlfriend and asks if they can talk about her decision. He is aware of, and comfortable with, his momentary decision-making and behaviors.

Andre's shoulders slump and they sigh deeply and avoid eye contact with their girlfriend. Their lips tighten then their face goes blank. They walk away from their girlfriend and lock themself in the bathroom where they tie off their arm and inject heroin. They are aware of the discomfort stemming from their negatively-valenced emotions, but they actively push them down when they feel them coming to the surface. From there, things are a blur for Andre.

Lana's eyes get bigger and she scowls. She laughs loudly and sarcastically as she flings her arms into the air. She yells in her girlfriend's face and grabs her by the hair.

These hypothetical examples demonstrate how primary components of emotional functioning, which are impacted by background characteristics, culminate in the external emotional experience to form a comprehensive picture of how components of emotional functioning operate in response to an emotional event. Examining the role of each component of emotional functioning and how they link to one another to operate in response to emotional events would aid clinicians in understanding their patients' difficulties and how to best aid them.

Table 1

Background Characteristics and Components of Emotional Functioning in Response to Termination of a Romantic Relationship for Kit, Andre, and Lana

Components of Emotional Functioning		Kit (typical functioning)	Andre (substance use)	Lana (substance use and posttraumatic stress)
Background Characteristics	Emotional Temperament	Low impulsivity Moderate effortful control Moderate emotional reactivity	Moderate impulsivity High effortful control Low emotional reactivity	High impulsivity Low effortful control High emotional reactivity
	Learning History around Emotion	Emotions and their expression were encouraged	Emotions were punished	Emotions were ignored or punished
	Beliefs about Emotion	Emotions are beneficial Emotions can be modified Emotions should be shared	Emotions are bad Emotions can/should be controlled Emotions should rarely be expressed	Emotions are bad Emotions cannot be controlled

	Appraisals	This is devastating I don't understand Maybe I can fix this *High level of Awareness*	Mmmhmm, I'm a piece of shit I knew this would happen—it always does My dad was right about me *High level of awareness*	Oh, hell no! After everything I've done for her She don't care about me I'm not gonna let this happen I can't live without her *Low level of awareness*
Primary-Internal Emotional Experience	Physical Sensations	Knot in stomach Shortness of breath *High level of awareness*	Face flushes Hands clammy Heart rate increases *Low-moderate level of awareness*	Body tenses Temples pound Face gets hot *Low level of awareness*
	Action Urges	Bombard girlfriend with questions *High level of awareness*	Escape Cry Beg *High level of awareness*	Pull girlfriend's hair Shove girlfriend's face in carpet *Low level of awareness*

	Subjective Feeling	Sad Disappointed Confused Worried Hopeful *High level of awareness*	Gross Ugly *Low level of awareness*	Infuriation Disgust *Moderate level of awareness*
External/ Observable Emotional Experience	Expression	Cries Deep breath *High level of awareness*	Shoulders slump Lips tighten Face goes blank (suppression) *Moderate level of awareness*	Face contorted Sarcastic laughing Throw hands into the air *Low level of awareness*
	Emotion-Driven Behavior	Hug Asks for conversation *High level of awareness*	Escape Use drugs *Low-Moderate level of awareness*	Yell Pull hair *Low level of awareness*

Emotion Regulation Within the I-MAP

Emotion regulation or coping efforts are not explicitly identified in the I-MAP model--this is intentional. Some of the emotional processes described in the model precede emotion regulation efforts. For instance, response-focused emotion regulation occurs after the experience of emotion (Gross, 1998, 2015) and in some cases, may occur after emotion-driven behavior as a response to both the emotion and related actions. For example, Lana might have started taking shots of whisky after pulling her girlfriend's hair in an attempt to alleviate her guilt. Further, although emotion generation and regulation are sometimes construed as separate processes (Gross & Barrett 2011, Gross et al., 2011), they are also inherently intertwined (Gross, 2015; Gross et al., 2011). The I-MAP agrees with the view that regulatory processes are intertwined with emotion dynamics and therefore does not try to separate them. For instance, appraisals are an integral piece of emotion regulation; at the external level of emotional processing, expressive suppression is frequently used to regulate emotions and emotion-driven behaviors have a regulatory function. The I-MAP attempts to conceptualize emotional processes as they unfold with the notion that elements of emotion regulation are inherent within the model. In some ways, this is consistent with chain analysis, a strategy used in dialectical behavior therapy to analyze emotional events and reveal thoughts, actions, and feelings throughout the experience, rather than separating the emotion from regulation (Linehan, 2014).

The Current Study

The current study is a qualitative interview study in which people with substance use and/or posttraumatic stress difficulties, as well as healthy controls, were asked about emotional experiences to evaluate idiographic components of emotional functioning. Participants discussed two emotion events of their choosing, one characterized by intense and distressing emotions and

the other characterized by more general emotions from the fluctuations of daily life, and were asked an array of questions regarding their momentary primary/internal and external/observable emotional experiences. Participants also answered a range of questions assessing their backgrounds and early histories as they relate to emotion, personal beliefs about emotion, emotion regulation tendencies, and other aspects of emotional functioning. The goal of the current study was to gain understanding of how group-level findings regarding emotional experience among people with substance use and/or posttraumatic stress difficulties actually unfold for individual people who comprise these populations. This study is the first step toward developing a modular transdiagnostic treatment for emotional difficulties geared toward people who struggle with substance use and posttraumatic stress.

Method

Participants

Participants (N = 51; 36 female, 15 male) were recruited via semi-local flyers, online advertisements (i.e., Facebook Marketplace, Reddit), and from WestCare California, a behavioral health and substance use treatment facility in Fresno, California. Advertisements were aimed toward people with substance use difficulties and/or posttraumatic stress. Inclusion criteria were minimum age of 18, ability to speak and read English, and access to stable internet connection and Zoom software. Recruitment was not geographically restricted, and the sample included participants from the United States and internationally. Participants completed online screening questionnaires via Qualtrics and eligibility for one of four groups (i.e., substance use difficulties, posttraumatic stress difficulties, co-occurring substance use and posttraumatic stress, neither substance use nor posttraumatic stress difficulties) was determined by a research assistant (main researcher was blinded to participants' group assignment) according to criteria outlined below.

The research assistant then made initial contact with participants to confirm their continued desire to participate in the study and reminded them interviews must be conducted in privacy and could take up to two hours. Two hundred twenty-seven people completed online screening measures, and recruitment and participation continued until usable sample sizes of 12 were reached for each of the four groups. Participants were compensated with electronic gift cards with a $20 value to their choice of either Amazon or Walmart.

Substance Use Difficulties Group

Eligibility for the substance use difficulties group was determined by endorsement of hazardous and harmful alcohol use (score of 13 or greater for women and 15 or greater for men on the Alcohol Use Disorders Identification Test [AUDIT]; Babor et al., 2001) and/or drug related problems (score of 8 or greater on the Drug Use Disorders Identification Test [DUDIT]; Berman et al., 2003), plus moderate functional impairment (score of 31 or greater [Kleiman et al., 2020] on the Brief Inventory of Psychosocial Functioning [B-IPF]; Marx et al., 2019).

Posttraumatic Stress Difficulties Group

Eligibility for the posttraumatic stress difficulties group was determined by either: (1) endorsement of a criterion A traumatic event (exposure to actual or threatened death, serious injury, or sexual violence via direct experience, witnessing the event happen to others in-person, learning the event happened to a close family member or friend [actual or threatened death must be violent or accidental], or experiencing repeated or extreme exposure to aversive details of the event; American Psychiatric Association, 2013) and posttraumatic stress symptoms indicated by a score of 33 or greater on the PTSD Checklist for DSM-5 (PCL-5) with Life Events Checklist for DSM-5 (LEC-5) and Criterion A (Weathers et al., 2013) or (2) endorsement of a criterion A traumatic event, at least one moderate symptom per symptom cluster (Bergman et al., 2017) on

the PCL-5 with LEC-5 and Criterion A, and moderate functional impairment indicated by a score of at least 31 on the B-IPF (Marx et al., 2019).

Co-occurring Difficulties Group

Eligibility for the co-occurring substance use and posttraumatic stress difficulties group was indicated by criteria being met for both the substance use difficulties and the posttraumatic stress difficulties groups.

Control Group

Eligibility for the control group was determined by scores which fell beneath the cutoffs for eligibility in each of the other groups.

Measures

Problematic Alcohol Use

The Alcohol Use Disorders Identification Test (AUDIT; Babor et al., 2001) is a ten-item self-report scale that measures hazardous and harmful patterns of alcohol consumption across three domains: (1) alcohol intake, (2) potential alcohol dependence, (3) experience of alcohol-related harm. Domains can be scored individually or computed for a total score. Possible scores range from zero to 40, with scores of one to seven suggesting low risk consumption, eight to 14 suggesting hazardous or harmful alcohol consumption, and above 15 suggesting likely alcohol dependence. Internal consistency for this study was excellent ($\alpha = .93$).

Problematic Drug Use

The Drug Use Disorders Identification Test (DUDIT; Berman et al., 2005) is an eleven-item self-report scale that measures drug-related problems. Possible scores range from zero to 44, with scores of six or more among males and scores of two or more among females indicating drug-related problems. Internal consistency for this study was good ($\alpha = .89$).

Posttraumatic Stress

The PTSD Checklist for DSM-5 (PCL-5) with Life Events Checklist for DSM-5 (LEC-5) and Criterion A (Weathers et al., 2013) assesses whether participants have experienced a traumatic event, the nature of the event(s), and posttraumatic stress symptoms. Part 1 assesses whether participants have experienced a range of difficult or stressful situations by asking them to endorse one of the following in response to each item: (1) happened to me, (2) witnessed it, (3) learned about it, (4) part of my job, (5) not sure, (6) doesn't apply. Part 2 assesses aspects of the traumatic event(s) endorsed by the participant, such as what happened, who was involved, when it happened, whether lives were in danger, whether death occurred, whether it involved sexual violence, and number of traumatic events experienced. Part 3 consists of 20 items which assess DSM-5 symptoms of PTSD on a 0 (*Not at all*) to 4 (*Extremely*) scale. Possible scores range from zero to 80 and indicate total symptom severity. At least one item endorsed as 3 (*Moderate*) per symptom cluster (cluster B [items 1-5], cluster C [items 6-7], cluster D [items 8-14], and cluster E [items 15-20]) and a cutoff score of 33 is considered indicative of probable PTSD. Internal consistency for the PCL-5 for this study was excellent ($\alpha = .95$).

Impaired Functioning

The Brief Inventory of Psychosocial Functioning (B-IPF; Marx et al., 2019) is a 7-item self-report scale which measures psychosocial functional impairment in the past 30 days. Responses are given on a Likert-type scale ranging from "0" (*Never*) to "6" (*Always*) and scores are obtained by summing the scale items, dividing by the maximum possible score, and multiplying by 100. Total scores represent overall functional impairment, with scores of 0-10 indicating no impairment, 11-30 indicating mild impairment, 31-50 indicating moderate

impairment, 51-80 indicating severe impairment, and 81-100 indicating extreme impairment. Internal consistency for this study was poor (α = .58).

Emotion Interview

The emotion interview is a semi-structured clinical interview designed to thoroughly assess several fundamental domains of emotional functioning using the I-MAP (Veilleux et al., 2020) as a framework. The interview consists of eight parts, one of which is optional. The interview is scored during administration and feedback is given during part nine based on this scoring and administrator observation.

Part one consists of interviewees self-reporting beliefs about emotion via the Individual Beliefs about Emotion (I-BAE; Veilleux et al., 2019) scale. The I-BAE is a 10-item scale in which the first nine items each assess a single belief about emotion and the tenth item assesses perception of belief stability. Emotion beliefs regarding origin, complexity, expression, controllability, uniqueness, duration, attitude toward negative emotions, and preference for thought versus emotion are assessed.

Part two prompts interviewees to detail an event in which intense and distressing emotion(s) were experienced as well as a recent event in which more typical emotion(s) were experienced. After the description of each event, interviewees are asked a series of questions which assess their (1) ability to label and differentiate emotions, (2) awareness of physical sensations associated with emotions, (3) awareness of cognitions used to interpret the event (e.g., words, mental images, general impressions), (4) awareness of how emotions prompt or urge behaviors (e.g., hit someone in response to anger), (5) engagement in impulsive behaviors prompted by emotions, (6) whether and how they express their emotions (e.g., crying, rolling

eyes), (7) beliefs about expression/suppression, (8) judgment of emotion, and (9) whether the interviewee views the experience as typical.

Part three explores interviewees' learning history around emotion. These questions assess (1) early evidence regarding temperament/sensitivity, (2) how caregivers responded to emotions, (3) norms around emotions within peer groups during childhood/adolescence, (4) current awareness of others' perceptions regarding reactivity/sensitivity, and (5) awareness of self-perceptions regarding reactivity/sensitivity.

Part four asks interviewees to verbally elaborate on each of their I-BAE responses for the purposes of gaining insight into their rationale for each belief and perceptions of whether their beliefs shift with intensity of emotion.

Part five assess interviewees' emotion regulation efforts including (1) substance use, (2) physical regulation (e.g., non-suicidal self-injury, exercise), (3) eating, (4) cognitive regulation (e.g., reappraisal, thought suppression), (5) experiential suppression, (6) seeking social support, (7) interpersonal emotion regulation, (8) any other helpful or unhelpful regulation tendencies.

Part six evaluates repetitive negative thinking by asking interviewees about their (1) worry and rumination, (2) awareness of factors that lead to worry and rumination, and (3) efforts to regulate repetitive negative thinking.

Part seven is utilized to collect supplemental information if the administrator determines it necessary for scoring and is optional. General information is gathered in areas of (1) emotional experience, (2) expression, and (3) judgments about emotion.

Part eight consists of the administrator describing each area of emotional functioning they were attempting to assess and providing interviewees with qualitative feedback in each. If sufficient information has been provided, categorical characterizations of interviewees'

emotional functioning is shared and discussed (e.g., participants can be rated as having low, moderate, high, or flexible emotional sensitivity).

Procedure

Approximately twenty-four hours prior to participation, participants received an email containing a link to electronic informed consent documentation and instructions to review, sign, and submit the electronic form before their scheduled session. Participants also received links to their scheduled virtual interviews in this email. Interviews took place via Zoom, a secure online video conferencing program.

Upon entering the Zoom meeting, participants were reminded of their informed consent agreement and prompted to ask any questions they had about the study. Participants were told they would be participating in a study about emotions in which they would be asked to complete self-report measures and share about emotional events in their lives. They were reminded about confidentiality and that study sessions were being recorded. Questions and concerns about the study and/or participation were addressed before the interview proceeded. Upon completion of the interview, participants were given the option to receive feedback, which consisted of the researcher reflecting patterns, strengths, areas for growth, as well as relevant resources in the realm of emotional functioning. Before the call was terminated, participants were thanked for their participation, asked to select their preference for a gift card, and informed they would receive their compensation via email along with a document which listed various community and online mental health resources.

Data Preparation and Analysis

Zoom software produced transcribed documents of each interview. Research assistants de-identified each transcript then edited each full transcript to match its audio recording. Audio

recordings were destroyed after transcripts were checked for accuracy. Transcripts were uploaded to NVivo qualitative data analysis software (QSR International, Melbourne, Australia). Recurrent reading of transcripts was carried out to familiarize with the data set. Conventional content analysis (Hsieh & Shannon, 2005) was used to mitigate the imposition of preconceived themes or categories on the data. Assignment of codes was based on single or multiple phrases within participant responses to interview questions. When new codes emerged during the coding process, each transcript was then recoded using the updated coding scheme. This process continued until no new codes emerged and all transcripts were coded. Codes which were applied very infrequently were reassessed to determine whether they fit better with another code. All coded data was then reviewed to identify emergent themes across and within established categories. Each theme (e.g., internal emotional experience) was organized into subthemes (e.g., internal emotional experience -> mind-body emotional awareness) and subthemes were broken down into different levels or expressions of the subtheme (e.g., internal emotional experience -> mind-body emotional awareness -> high awareness, moderate awareness, low awareness).

Positionality Statement

The author became interested in the topic of emotion dysregulation among people with substance use and posttraumatic stress due to lived experiences and being witness to the damaging effects these conditions have on individuals, families, and communities as well as varying levels of resiliency demonstrated by people who are impacted by these afflictions. The author has focused her research on understanding processes which contribute to the development and maintenance of, as well as recovery from, substance use and posttraumatic stress. She is dedicated to using this knowledge clinically to facilitate recovery among people who struggle with substance use and/or posttraumatic stress and has worked with these populations in

incarceration, drug court, domestic violence shelter, university clinic, and Veterans Affairs hospitals.

Results

From the full sample (n = 51), participants were excluded whose internet or audio connection was too poor to complete the interview (n = 2), whose transcripts were unintelligible due to poor internet or audio connection (n = 2), whose videos were lost or damaged due to software or computer malfunctions (n = 2), and whose screener data had errors which prevented them from being assigned to accurate study group (n = 1). The final sample (N = 44) consisted of 33 females and 11 males ranging in age from 18 to 71 (M = 34.11, SD = 13.76). See Table 2 for sociodemographic information.

Table 2

Sociodemographic Characteristics of Participants by Group

Sociodemographic Characteristic	Substance Use Difficulties Group (*n* = 11)	Posttraumatic Stress Difficulties Group (*n* = 12)	Co-occurring Difficulties Group (*n* = 11)	Control Group (*n* = 10)	Full Sample (*N* = 44)
	n (%) or *M* (*SD*)	*n* (%) or *M* (*SD*)	*n* (%) or *M* (*SD*)	*n* (%) or *M* (*SD*)	*N* (%) or *M* (*SD*)
Gender					
Female	8 (72.73%)	10 (83.33%)	6 (54.55%)	9 (90%)	33 (75%)
Male	3 (27.27%)	2 (16.67%)	5 (45.45%)	1 (10%)	11 (25%)
Age	38.73 (12.42)	31.67 (16.30)	35.27 (13.84)	30.70 (12.12)	34.11 (13.76)
Race/Ethnicity					
White	10 (90.91%)	10 (83.33%)	8 (72.73%)	5 (50%)	33 (75%)
Hispanic/Latinx	1 (9.09%)	1 (8.33%)	2 (18.18%)	1 (10%)	5 (11.36%)
Asian	0	1 (8.33%)	0	2 (20%)	3 (6.82%)
Biracial/Multiracial	0	0	1 (9.09%)	1 (10%)	2 (4.55%)
Black	0	0	0	1 (10%)	1 (2.27%)
Marital Status					
Single, Never Married	5 (45.45%)	6 (50%)	6 (54.55%)	6 (60%)	23 (52.27%)
Married	4 (36.36%)	5 (41.67%)	3 (27.27%)	3 (30%)	15 (34.09%)
Separated	0	0	0	1 (10%)	1 (2.27%)
Divorced	1 (9.09%)	0	2 (18.18%)	0	3 (6.82%)
Widowed	1 (9.09%)	1 (8.33%)	0	0	2 (4.55%)

Education Level					
High School	1 (9.09%)	0	0	0	1 (2.27%)
Some College	4 (36.36%)	5 (41.67%)	2 (18.18%)	4 (40%)	15 (34.09%)
Bachelor's Degree	4 (36.36%)	5 (41.67%)	4 (36.36%)	3 (30%)	16 (36.36%)
Advanced Degree	2 (18.18%)	2 (16.67%)	2 (18.18%)	3 (30%)	9 (20.45%)
Trade School/Cert.	0	0	3 (27.27%)	0	3 (6.82%)
Employment Status					
Unemployed	3 (27.27%)	5 (41.67%)	4 (36.36%)	2 (20%)	14 (31.82%)
Part-Time	3 (27.27%)	2 (16.67%)	4 (36.36%)	2 (20%)	11 (25%)
Full-Time	5 (45.45%)	5 (41.67%)	3 (27.27%)	6 (20%)	19 (43.18%)
Endorsed Alcohol Use	10 (90.91%)	8 (66.67%)	10 (90.91)	8 (80%)	36 (81.82%)
Endorsed Drug Use	8 (72.73%)	2 (16.67%)	11 (100%)	4 (40%)	25 (56.82%)
Endorsed Traumatic Event	11 (100%)	12 (100%)	11 (100%)	5 (50%)	39 (88.64%)

Despite the small sample sizes, there were statistically significant differences between groups regarding alcohol and drug use, trauma-related factors, and psychosocial functioning (see Table 3), which aligned with the recruitment plan. The substance use and co-occurring difficulties group endorsed significantly more hazardous and harmful alcohol use and drug-related problems than the posttraumatic stress difficulties and control groups (and the co-occurring difficulties group endorsed significantly more drug-related problems than the substance use difficulties group). The posttraumatic stress difficulties group endorsed a significantly greater number of potentially traumatic life events than the control group but not the other groups. The co-occurring and posttraumatic stress difficulties groups endorsed significantly greater posttraumatic stress symptoms than the substance use difficulties and control groups. The co-occurring difficulties group endorsed significantly greater difficulties with psychosocial functioning than the control group.

Table 3

One-Way Between-Subjects Analyses of Variance in Groups for Substance Use, Posttraumatic Stress Symptoms and Psychosocial Functioning

Measure	Substance Use Difficulties Group (n = 11)	Posttraumatic Stress Difficulties Group (n = 12)	Co-occurring Difficulties Group (n = 11)	Control Group (n = 10)	F(3, 40)
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*	
AUDIT	16.27 (9.19)[a]	3.08 (3.06)[b]	19.36 (11.13)[a]	2.80 (2.62)[b]	14.73***
DUDIT	12.36 (12.35)[a]	0.92 (2.15)[b]	21.55(7.06)[c]	2.90 (4.46)[b]	17.79***
LEC-5	4.36 (2.94)[ab]	4.83 (2.79)[a]	4.55 (2.94)[ab]	1.60 (2.12)[b]	3.13*
PCL-5	12.73 (10.58)[a]	46.42 (9.81)[b]	54.55 (6.74)[b]	9.10 (13.80)[a]	53.39***
B-IPF	56.11 (15.06)[ab]	54.68 (18.39)[ab]	67.76 (13.24)[a]	37.39 (28.85)[b]	4.28*

Note. AUDIT = Alcohol Use Disorders Identification Test; DUDIT = Drug Use Disorders Identification Test; LEC-5 = Life Events Checklist for DSM-5; PCL-5 = PTSD Checklist for DSM-5; B-IPF = Brief Inventory of Psychosocial Functioning.

M(*SD*)s not sharing superscripts in each row differ significantly using Tukey's post-hoc analysis.

* p <.05, **p <.01, ***p <.001

Three overarching themes emerged from participants' descriptions of their emotional events and reactions, as well as other aspects of their general emotional experiences: (1) Internal Emotional Experience, which captured aspects of how participants internally processed and understood their momentary and general emotional experiences, as well as their awareness around these processes; (2) Observable Emotional Experience, which captured aspects of how participants observably responded to emotional experiences and how they tended to communicate about them; (3) Emotion Socialization, which captured how outside influences and perceptions of these influences shaped participants' emotional development.

Theme 1: Internal Emotional Experience

The internal emotional experience theme encompassed participants' internal processes during the moments of their emotional events and while they described them during the interview. This theme also captured beliefs about emotion and the relationship between emotions and the self. Participant's general sense of awareness around their emotional processes was also included in this theme. Five specific subthemes emerged: (1) Momentary Perspective versus Global References which captured participants' tendencies to discuss their emotional experiences within the momentary confines in which they occurred versus reference generalities and other experiences and emotions which occurred outside the momentary emotional experience in question; (2) Emotional Distance, which captured whether participants created emotional distance between themselves and their experiences versus "owned" their emotional experiences via word choice; (3) Beliefs About Emotional Utility, which captured views participants held regarding their emotions as useful or helpful versus unhelpful or dangerous; (4) Emotional Agency, which captured beliefs and tendencies which demonstrated whether participants felt in control of their emotions versus controlled by them; (5) Mind-Body Emotional Awareness,

which captured the degree of awareness participants demonstrated around their emotional processes and tendencies.

Subtheme: Momentary Perspective vs Global References

Participants varied in how they tended to position themselves temporally while describing aspects of their emotional events. Some participants predominantly spoke about the moments in which their experience unfolded and painted a picture of what the event looked like from their perspective, as if they were walking through the experience a second time narrating it. A posttraumatic stress difficulties group participant demonstrated speaking from a predominantly momentary perspective when they described the step-by-step chain of events which occurred when they witnessed a car accident.

> I mean, the event that first comes to mind, because it was the event that I described when I did the pre-survey for this, was, it happened about a year ago. It was right after a winter storm had come through [city redacted for confidentiality], and I was driving my mom to the airport and I was kind of on, like, a curving on-ramp, and a car above on the highway slipped on black ice, and fell, slid off the… Yeah, and the three people in the car were ejected from the vehicle and I was, we were, the only people there, my mom and I. And my mom was in the passenger seat and she kind of just kept screaming because we had thought in that moment that we had just watched these people die. So, the biggest emotion that I felt in that moment was terror and dread.

Others tended to speak in a looser manner and stray away from describing their momentary experiences by drawing upon the following global references: the bigger picture (aspects of an overarching situation or aspects of life in general), past experiences (times when participants have felt or experienced similar emotions or events), tendencies and preferences (participants'

perceptions of their own and others' emotional tendencies as well as likes and dislikes), characterizations of self or others (participants' perceptions of who or how they or others are), personal anecdotes or principles (conclusions drawn from personal experience or beliefs about how things should be), and current frame of mind (reflections about the emotional experience made with knowledge gained since the emotion event). For example, rather than strictly describing their emotional event as it unfolded, a control group participant tended to use global references to connect the event to past experiences, reflect on it from their current frame of mind, and apply personal anecdotes or principles to make sense of it.

> I actually realized, like, it was this feeling of abandonment that I had felt also when I was a kid and I was very, very little, and my parents got divorce[d]. But then, you know I went to therapy for a lot of stuff and now, again because it, I, like, adults cannot be abandoned, so why is this feeling coming back?

A substance use difficulties group participant tended to break away from narrating their emotional event to reference their personal tendencies and preferences by explaining they love music and movies, and to characterize themself by explaining things they always do: "I love movies, and I always reference movies in some sort of way. Or music, like, I have a song for every situation." A co-occurring difficulties group participant tended to stray from describing the details of their emotional event by describing how ancillary details fit into the bigger picture (e.g., details about their friend) and referencing personal anecdotes about what indicates a person has problems.

> The only friend I have lives in Texas, and she'll be here actually next month, but that's it. She was my friend when I left Texas and she has remained my friend for 35 years and,

but she's it. And I'll tell you, God love her, but she's got a zillion times more problems than I do. She has 23 cats. So, yeah, so if that tells you anything, so.

Subtheme: Emotional Distance

Participants differed in their tendencies to use language which created distance between themselves and their emotional experiences while discussing their events. Some participants tended to create distance by using the third-person pronoun "you" or inserting other unnecessary phrases (e.g., "I guess..." or "I might have felt…") before addressing their emotional experience. For example, a control group participant shared "I guess I could say some anger" and a posttraumatic stress difficulties group participant stated, "Probably then, that was when the emotions, so, really came out and that was when that, have, more like the sadness came."

Other participants "owned" their emotional experience and predominantly used the first-person pronoun "I" when describing what they felt and thought during the moments their emotion event occurred. For example, a control group participant shared, "I felt trapped, I felt like... like a caged animal. I felt very threatened…" and a substance use difficulties group participant shared "I was panicking. I was mad. I was confused. I was lost. That's about it, I guess."

Other participants tended to speak from a more neutral stance and simply listed their emotions or thoughts without using "I" or inserting distancing language. For example, a control group participant stated, "Sadness, anger, frustration, helplessness, confusion, ignorance," and a co-occurring difficulties group participant shared, "Worry about my reputation. Nothing else is coming to mind right now."

Subtheme: Beliefs About Emotional Utility

Participants discussed their beliefs around the utility of emotions and provided examples in which these beliefs potentially played a role in their emotional experiences. Some participants discussed believing emotions are helpful and useful and endorsed welcoming even negatively-valenced emotions. For example, a posttraumatic stress difficulties group participant shared they believed negatively-valenced feelings were difficult but helpful.

> …Constructive and they, they, tell me what, in what areas I need to grow. I mean, it's not necessarily fun to experience difficult emotions or negative emotions, but you can gain a lot of personal insight from what they're telling you, in my opinion. Yeah. Yeah, I, I always use it as a learning, a learning tool.

Other participants reported believing negatively-valenced emotions are dangerous and destructive and expressed never wanting to feel them. For example, a co-occurring difficulties group participant explained they experience negatively-valenced emotions often, feel they are detrimental, and would prefer to never have them: "I don't understand what it's like to live without sadness or depression. It doesn't make sense to me, I don't want to feel it at all, I think it inhibits my life." These beliefs seemed to play out when they were called "fat" by a classmate in elementary school, which led to thoughts "That no one liked me and that I wasn't loved by my classmates, by people, my friends, by my teacher," and continued to facilitate "…thought[s] about it for the next 23 years of my life." This participant described another event in which they were fired from a job and beliefs that emotions and dangerous and harmful reflected in their thoughts and feelings characterized by self-judgment (i.e., "rejection of who I am as a person," "loser," "unattractive").

Other participants discussed beliefs regarding emotional utility in a neutral manner, citing the importance of using emotions to learn and grow as well as acknowledging that negatively-valenced emotions can be distracting or annoying. For example, a control group participant shared how negative feelings can be distracting and helpful in learning to look at situations from another perspective.

> …Negative feelings, sometimes it can be a distraction, you, you know, a lot of people, and, at the same time, if, if, if that person goes to the negative feeling, you know, he or she can, like, cope with that and maybe, maybe, can learn that when they come across this, like, stuff again in life, maybe they, they will, like, at different, or they will, they will think different, you know. Or they will, like, take that situation in a different way. So yeah, so, it's kind of learning things at the same time as the destructive part.

Subtheme: Emotional Agency

Participants discussed their general beliefs around emotional control--whether people are in control of their emotions and whether emotions can be changed. They also discussed these beliefs more specifically regarding their own emotional control and provided examples of emotion regulation or dysregulation in emotional situations. Some participants discussed beliefs and emotional experiences in which they demonstrated perceived and enacted agency. For example, a posttraumatic stress difficulties group participant demonstrated agentic beliefs regarding emotion when they discussed how emotions influence behavior but can be changed with intentionality, maturity, and self-awareness. This participant described a more distal emotional event in which they drank alcohol to regulate difficult emotions. They went on to explain that since concentrating effort on addressing their emotions in a healthier manner, they meditate, utilize intentional distraction techniques, and engage in kind/gentle self-talk to regulate

their emotions; these beliefs and regulatory behaviors convey a sense of agency and capability regarding navigating emotions successfully.

On the other hand, some participants discussed their beliefs around how emotions generally control behaviors, that they are difficult to change or alter, and provided examples of their tendencies to engage in dysregulation during emotional situations. For example, a co-occurring difficulties group participant shared their belief that emotions will eventually overpower regulation efforts. They went on to describe how they have "thrown their emotions" on others, attempted to use others to change their emotions, drank alcohol, avoided contact with the outside world, and engaged in binge eating to regulate their emotions. They also described engaging in what they called "maladaptive daydreaming" for hours at a time in which they listen to music and imagine themselves living in a different reality when they become overwhelmed or feel like a failure. These examples convey this participant lacks the motivation/energy they perceive is necessary to act differently than their emotions.

Some participants seemed to be inconsistent in their beliefs and behaviors such that they endorsed positive beliefs about emotional control capabilities but then discussed examples and tendencies which demonstrated dysregulation, rather than control. For example, a substance use difficulties group participant expressed believing people must control their emotions to make the best of situations, so emotions do not take over your life, and so you do not walk around looking sad all the time. This participant went on to share emotion regulation tendencies (e.g., yelling/throwing objects, drinking, emotion suppression) that implied their lack of control over emotions.

Subtheme: Mind-Body Emotional Awareness

Participants demonstrated varying levels of self-awareness around their emotional processes. Some participants demonstrated high levels of self-awareness, as evidenced by their ability to recognize and describe aspects of their emotional functioning (e.g., subjective emotional states, physiological sensations, action urges) in detail, as well as exhibit familiarity with their emotional tendencies (e.g., regulation, expression). For example, regarding awareness around observable emotional expression, a posttraumatic stress difficulties group participant demonstrated high self-awareness by describing the facial expressions and body language they exhibited while informing their instructor they were dropping out of their program via phone call.

> Oh, very jittery, very, kind of, start and stop, having trouble putting thoughts into words and, would kind of start in different ways before I'd finally, you know, get to, get the words out. My posture was really, really slumped. [I was] sitting with my back against the wall on the floor, sort of, kind of, this downward posture, I suppose. Yeah, looking, looking down, I was, eyes were kind of going about the room every which way, so, yeah. I guess those would be the most observable. Probably furrowed brows and angry expression. Probably tense face, stiff upper lip.

A substance use difficulties group participant demonstrated high self-awareness around their urges to act impulsively on their emotions by expressing what they felt prompted to say and do in response to their mother's reaction to them coming out as gay:

> Uh, I just, wanting to punch something, like, that was probably the most, like, I feel at one point, like, I wanted to slap my mom, like, or just shake her. Like, just, why are you

like this, like, can you just wake up and know that people, gay people exist and we're not going anywhere, uh, yeah.

A posttraumatic stress difficulties group participant demonstrated high self-awareness around their physiological sensations when they gave a detailed description of what was happening in their body when they read an email complaint about their organization which was also sent to their superior.

I mean, I remember feeling my throat closing up and my heart rate picking up. My stomach kind of dropped and my feet kind of went numb. Yeah, that was the biggest thing, like, my stomach was dropping and I started feeling nauseous. I kind of just kept, like, laughing, partially because some of the things that she said was absurd, but also because I thought that if I wasn't laughing I was gonna throw up.

Other participants demonstrated lower self-awareness around their emotional processes. For instance, a co-occurring difficulties group participant discussed being unaware of their emotional expression—they discussed being oblivious to how they look to others when they are experiencing emotion, even when others bring to their attention that they seem to be expressing emotion.

I don't show emotions very well, I don't think I do, I don't know. I've never known. I mean I've had a few people ask me, “You not feeling good?” or “What's going on?” or, you know, “What's wrong?” But most time, I'm immune to how people know…

This participant continued to demonstrate lower self-awareness when asked about physiological sensations which arose during their emotional event by reiterating their subjective emotions and thoughts. Even when prompted and specifically encouraged to describe emotional processes, some people were seemingly unable to do so.

Theme 2: Observable Emotional Experience

The observable emotional experience theme encompassed participants' ostensibly observable reactions during the moments of their emotional events as well as observable communicative tendencies demonstrated by participants during their interviews. Three specific subthemes emerged: (1) Labeling and Elaboration, which captured the general level of depth and detail participants provided while narrating emotional events as well as level of nuance and creativity in describing subjective emotional states; (2) Behavioral Response and Regulation, which captured participants' reactive and regulatory behaviors in response to emotions; (3) Expression and Social Sharing, which captured participants' tendencies to share their emotions with others or engage in expressive suppression.

Subtheme: Labeling and Elaboration

Participants differed in how they narrated their emotional events and the level of nuance they used to describe their emotional experiences. Some participants spoke verbosely and provided an abundance of contextual information and detail in describing their emotional events. For example, a co-occurring difficulties group participant provided a copious amount of detail regarding their medical history and specifics about their friend before discussing the core of their emotional event.

> Well, [I] had a heart attack in 2019. It was, it was a mild one, you know, I had a couple of stints but afterwards, I don't know what I went through, but I was angry. I was so angry at everything and everybody around me. They put me on, my doctor, put me on Effexor for that and it really helped a lot but I don't, I just experienced extreme anger after it happened, just at the fact that it happened… Well, I was, um, I was hospitalized twice. I was, after I got out of the hospital the first time, I just, my girlfriend was here visiting

from Dallas when it happened. She got in the day that I was literally, when I picked her up, I was having a heart attack, I didn't even know it. And then after they let me out of the hospital the first time, I was in for four days, and when I came home, I was just, I just blew up. I just absolutely blew up. I was screaming at everybody, I was stomping around, and it was all over the anger that it just happened. That was where the anger was, that this, I cannot believe this happened to me…

Others spoke succinctly and did not add extraneous detail in describing their emotional events. For example, a substance use difficulties group participant who witnessed a tragic accident encapsulated the entire event in just a few sentences:

Okay. I think a real intense moment was 25 years ago, driving down the freeway and seeing a car right in front of us flip. And I think the back of it was about as high as the roof of our car and, of course we pulled over, and saw someone hanging in the backseat. Two people. And then, the driver, his body, his arm, his body was blue already. That quick… So, that was pretty intense. Something that really comes to my mind every time I'm asked something like that. That was probably one of the pretty tense things I've experienced.

Some participants gave rich descriptions of their emotional experience by using differentiated or nuanced emotion words, providing rationale for their emotions, using metaphor, and/or additional context information. Some of these participants spoke succinctly or verbosely. For example, a control group participant succinctly detailed their subjective emotional experience when they found out a younger family member was being sexually assaulted by an adult family member: "Sadness, anger, frustration, helplessness, confusion, ignorance…" A

posttraumatic stress difficulties group participant shared, in a more verbose and detailed manner, their subjective emotional experience around finding their husband dead after he suicided:

> Utter and complete despair. There's an art piece that I saw online where it depicts the person just hunched over and they're filled with rocks because the weight of that grief is so immense. That's, that's what it felt like, like all I could do was sit there and scream and cry because the worst thing that could ever happen to me has just happened, you know… overwhelming… disbelief. It's a little surreal. I had a couple weeks thereafter where I was dissociating a lot, because the, the disbelief and surreal was so much.

Other participants demonstrated less nuance and/or were vague in their descriptions of their emotional experience; they used minimal emotion words, phrases which described thoughts or other aspects of their emotional experience, and/or reiterated or shared additional parts of the event itself. For example, one substance use difficulties group participant shared feeling overcome by panic while driving: “Um, I feel, like, when I feel that way, it almost feels, like, kind of, like, panicky. But, like, I don’t know. Like, it's kind of, it feels a little like, like panic.” Another substance use difficulties group participant described feeling bad and sorry for a person who died during a car accident they witnessed: “Um, I don't know. Sorry, felt sorry for the person, felt bad.” When prompted for additional information, this participant stated, “Like, I don't know how to explain it. It was, like, pretty intense to see something like that.”

Subtheme: Behavioral Response and Regulation

Participants varied in their observable behaviors during their emotional events; some participants engaged in observable regulation behaviors during the moments of their events and others suppressed their expression until they felt it was appropriate to behaviorally react. Some participants engaged in impulsive momentary behaviors, indicative of emotion dysregulation.

For example, a substance use difficulties group participant described impulsively fleeing on foot when police arrived to mitigate an interpersonal conflict they were involved in: “Yeah, I mean I did, I did, I did run. Yeah. They yeah, they had to, um, chase me down and, and get me.” Another substance use difficulties group participant described lashing out with self-harm/violent behavior when they felt a surge of emotion which seemingly came from nowhere while sitting in their car: “Um, I punched a mirror that was above me.” A co-occurring difficulties group participant described trying to ignore people who were harassing them but not being able to hold back giving them the middle finger: “I ignored them the best I could. Flipping them off wasn’t ignoring them, I know that, but no, I didn't do nothing else.” A posttraumatic stress difficulties group participant described dropping everything they were doing to obtain sweets and binge eat: “I angrily, really quickly, walked to the shops and bought a boatload of chocolate, I bought fizzy drinks, and, and I went home and just stuffed my face with some chocolate [and] fizzy drinks.”

Other participants engaged in healthier or more productive regulation strategies, rather than dysregulatory ones. Some participants enacted specific, learned emotion regulation strategies such as breathing exercises or meditation. For example, one posttraumatic stress difficulties group participant shared how they took time out to practice deep breathing after being fired from a job: “I pulled over to a parking lot and I tried to practice breathing.” Some participants engaged in planning, cleaning, or tasking to regulate their emotions. For example, a control group participant shared how they started moving around their house and shuffling through documents to begin planning how to help their daughter get across the country for graduate school: “…Start[ed] to make plans, and try to help her, um, look at finances to see what I can do.” Some participants decided the best course of action was to remove themselves from the situation (as opposed to impulsively fleeing). For example, a co-occurring difficulties group

participant discussed deciding to walk away from a coworker who was being rude to them, rather than engage in a dialogue they felt would not end well: “[I] didn’t say anything, just walked away.” Some participants described acknowledging their emotions and allowing themselves to organically express them using basic expression (e.g., cry, laugh) or simple gestures (e.g., shrug shoulders). For example, a control group participant shared how they allowed themselves to cry while feeling lonely and missing their family: “I just cried a lot, on my own, I cried, a lot…” and a posttraumatic stress difficulties group participant shared that they simply groaned and threw their phone on the bed after seeing a message from their boss that their schedule was changed.

Some participants discussed using a combination of strategies to regulate their emotions. For example, a co-occurring difficulties group participant described engaging in a task and allowing themselves to organically express their emotion by crying after they received news they were fired from their job: “I cried a lot and excessively cleaned.” A posttraumatic stress difficulties group participant discussed removing themselves from a triggering situation and giving themselves space to acknowledge/organically express their emotions, “I went to the bathroom and sat on the floor and cried.”

Some participants reported engaging in momentary expressive suppression then engaging in observable regulation strategies (e.g., tasking/planning, physical activity) when they felt it was appropriate to do so. For instance, a control group participant shared that they got a bad grade on a test and decided in that moment they would withdrawal from the online class—they explained they wanted to close their laptop immediately, but instead decided to sit through the class and start the withdrawal process once class ended: “I didn't end up leaving the meeting, but I did withdraw after.” Another control group participant discussed experiencing anxiety about working on a large project they were printing documents for at the library. They reported

wanting to cancel the print job and leave, but instead continued to busy themself with preparing the document and subsequently engaging in physical activity (i.e., running) when they got home.

Subtheme: Expression and Social Sharing

Participants varied in their beliefs and tendencies around sharing emotions with other people. Some participants expressed beliefs that emotions should be shared with others. Some participants reasoned that if emotions are not shared, they will come out in an unintended way or make a person "explode." For example, a control group participant shared:

> I feel emotions need to be let out and talked about because, like, you don't want to hold that in, or you don't want to have that build up, so eventually it's going to come out on the wrong person at the wrong time, whatever the case is. So, it's better to talk about it over time, or just at that time, if you're feeling whatever, talk about it, you'll feel better a lot of the time.

This participant demonstrated behaviors consistent with their beliefs when they eventually shared their emotions with family regarding the death of their mother.

> I was, like, over time, I eventually opened up and confided in my aunts and other family members …I had an older sister who was about a year or two older to me, and I would talk to her mainly about the situation because we were closer, and we would lean on each other during this time… when we felt sad or when we wanted to talk about that situation and those moments.

Other participants expressed how sharing emotions with others facilitates emotional processing, regardless of the other person's response, which is consistent with response independent interpersonal emotion regulation (Zaki et al, 2013). For example, a substance use difficulties group participant shared:

> …being able to vent helps me process through. And I don't need somebody to fix it, to help it, to just, let me talk. And I will say when my emotions are extremely heavy and strong. I'm all the way… vent and let them out.

This participant discussed how processing their emotions with another person allowed them to realize there was no reason to take things personally when tensions were high at work due everyone having to navigate a natural disaster: "…we're just all overworked, underpaid, stressed as heck, and it was miscommunication on all parts, so that helps."

Some participants who endorsed believing emotions should be shared with others explicitly expressed believing there is an appropriate time and place for sharing, consistent with expressive flexibility or the ability to enhance versus suppress expression of emotions to meet social demands (Bonanno et al., 2004). For example, a posttraumatic stress difficulties group participant shared how they believe people should modulate their sharing behavior based on what is acceptable at the time:

> I think that it is good for people have boundaries, I think it's something that, you know, no matter how intense your emotions, or if someone is, you know, reasonably well-adjusted, reasonably self-aware, reasonably emotionally mature, then they can, sort of, create boundaries. And so I think it, you know, I think it's a good thing that, have, you know, the ability to switch on and off.

This participant shared how they decided not to share their emotions regarding dropping out of a training program on their last night hanging out with a classmate because they felt it was not the appropriate time/setting to do so:

> …No, I didn't try to share my feelings. And the next day, you know, I spent some time with a friend who is, he was… in the same program. I was going to talk about it, and I felt like I wanted to share how I felt, but I deliberately chose not to…

Some participants discussed holding beliefs that other people, but not themselves, should share their emotions. These participants expressed fears that their emotions would be judged or burdensome/too much for others to handle. For example, a posttraumatic stress difficulties group participant discussed how they are in support of others sharing emotions because they know how it feels to hold them in; however, they choose not to share so they do not add stress to others' lives.

> …when it comes to other people, like, "Oh, if they're feeling the stress, they should talk about it and not let it bottle up" because, like, I understand how it feels when it gets bottled up… but also I tend to not let my emotions out because, you know, I just feel like it's so much to go through and I don't want to put that stress on other people.

These beliefs were highlighted when this participant was in need of emotional support and wanted to share their emotions with friends after a difficult day of volunteering at the hospital but hesitated, beat around the bush, and made sure to address everyone else's emotions before their own.

> So, I called them and they were like, "Oh, that's like, a little out of the blue," like, I usually don't call them after volunteering. And at first, I was like, "Oh, yeah, you know, I was just bored, you know, I just wanted to, like, check up on you guys to see, like, how things are going," about their day, and then after I heard about their day, and then, they asked me how mine went, I was like, "Oh, you know, it's bad," and then I kind of talked about, like, what happened.

Other participants expressed generally believing emotions should be shared but not their own because they might be judged. A posttraumatic stress difficulties group participant expressed desire to share their emotions and their tendency to convince themselves not to based on fear of judgment.

> There's part of me that, I'm just, like, yeah, I should talk about it, and let it out, and whatever, um. And then there's another part of me that, just, like, "Why would you do that? You're just going to get hurt, you're going to get judged…"

This participant described this belief manifesting in their behavior when instead of sharing their emotions when invited to do so, they apologized for excusing themselves to cry and collect their thoughts: "Oh, I told him I'm sorry about that, the girl triggered, triggered something in me and I needed to get away. I mean, I kind of just, just left it at that."

Some participants reported believing everyone should deal with emotions on their own because no one has the time or energy to deal with other peoples' emotions. For example, a substance use difficulties group participant shared their beliefs that no one should share emotions: "Umm, mostly, like, you should deal with your own shit and, like, no one wants to deal with your shit, except for you." This participant reported sharing the details of what led up to their arrest, rather than their emotions, with others in their booking cell: "Uh, there was like I, I ended up in this jail with like a number of people and I kind of like rehashed it with them and yeah that was, that was nice." Some participants shared beliefs that emotions should be kept inside because they are a sign of weakness and their behaviors adhered to these beliefs. For example, a co-occurring difficulties group participant shared how they learned men should not share emotions: "…because of the way society is… with the way the world is, and men are not supposed to show emotion or feel emotion, therefore we're not supposed to talk about said

emotions…" and when asked whether they expressed their emotions after witnessing someone die from a heart attack, they simply stated, "No." Other participants believed emotions should be kept inside for no other reason than that is just how things have always been and should continue to be. For example, a substance use difficulties group participant stated, "…I just know that's how I am… I definitely don't like to share my problems with other people." When asked if they shared their emotions around not paying taxes on time, this participant stated, "Um, no. Wasn't, like, you know. It's not the most, yeah, no."

Theme 3: Emotion Socialization

The emotion socialization theme encompassed participants' experiences with other people and culture which contributed to their emotional development and identity. Three specific subthemes emerged: (1) Others' Perceptions and Feedback, which captured what participants have been told about their emotionality and how others have reacted to their expression of emotion; (2) Emotional Modeling by Others, which captured how emotional experience, expression, and regulation was modeled to participants by caregivers and peers; (3) Cultural Identity, which captured how participants viewed their cultural identity and whether/how it contributed to their emotional development.

Subtheme: Others' Perceptions and Feedback

Participants discussed how they came to understand their own emotionality based on what others have told them. They shared what others have told them regarding their temperaments in childhood, feedback they have received about their emotional sensitivity, and how others have generally reacted to their emotional expression throughout their lives. Some participants reported being perceived as too sensitive, difficult, or intense throughout their lives.

A co-occurring difficulties group participant shared feedback they have received regarding their difficult temperament as a baby and their high levels of sensitivity and intensity as an adult.

> I was described as completely inconsolable, crying constantly, I hated being touched, I had no connection with my maternal figure. The happiest I was was when somebody played music and left me alone in my room, but other, man, I was told I screamed constantly. Like, the most difficult infant on the planet, apparently… I'm highly intuitive, perceptive, in tune, sensitive, caring. But to such an extent that it, like, drives people away because that seems to be like the full focus of my personal relationships is all emotional, surprisingly none of its logical.

Some participants reported receiving consistent feedback regarding their calm, cold, or closed off demeanors throughout their lives. For example, a substance use difficulties group participant shared about their shyness and lack of emotionality as a child and their calm/cold demeanor as an adult.

> I was really shy. I didn't talk to anyone but my mom. But I didn't cry a lot, I was just pretty easy, I assume, to deal with… Calm and cold for sure. I definitely don't show as much [emotion] as some people I've known would have liked me too. I'm a little more shut off than most people.

Some participants reported receiving feedback throughout their lives that they were neither too sensitive nor too calm/cold, but rather somewhere in the middle. For example, a posttraumatic stress difficulties group participant described being considered an easy baby/toddler and an even-keeled adult. They described themselves as "A great toddler," and reported being told, "…that I'm calm and that I handle things well. My husband tells me that I'm sensitive, as in maybe not emotionally but, like, empathetically, but that's about it."

Other participants reported receiving feedback throughout their lives that ranged between the extremes of being too emotionally sensitive and too calm/cold. For example, a control group participant reported hearing they had a difficult temperament as a baby and receiving feedback ranging from too sensitive to calm and cold throughout adulthood.

> I've had, you know, “I’m too sensitive,” “I cry at Disney movies,” and I could be driving down a road and a song comes on the radio, and I cry because it triggers an emotional response. And then, I can also come off as being cold, because I am so used to not opening up and sharing who I truly am.

Some participants reported not knowing what they were like when they were babies or toddlers. For example, a co-occurring difficulties group participant shared feeling like they were forgotten about as a toddler and reported never hearing anything about their emotionality in childhood.

> Uh, honestly, I don't know because my parents got divorced when I was nine months and they had two toddlers, so I was kind of, like, the forgotten one. I really don't know much about being a baby or toddler around them, yeah.

Subtheme: Emotional Modeling by Others

Participants were asked how emotions were modeled by important others in their lives while they were growing up. They discussed how their caregivers managed their own emotions and how caregivers responded to one another’s emotions. How emotions were modeled by friends and peers during upbringing was also discussed. Some participants described modeling by caregivers and peers which was conducive to their emotional development. For example, a control group participant shared how their family and peers were generally supportive and transparent about emotions:

> I would say emotions were expressed. My mom is, like, typically very positive and always, like, wants everybody to be okay and trying, you know, she tries to soothe things and pacifies things, and my dad sometimes would, like, if he got mad, he would, like, blow up, you know, and, like, yell or something. But he always, like, would calm down and then he would apologize and, like, and he is, he's pretty, I guess, like, emotive or, like, he's very, like, verbally expressive with his affection, so he would tell us that he loves us and, um, like, he could get, like, mad. My mom, she'd get mad and yell but not very often. I was gonna say I don't think anybody was like hiding emotions… I remember this very specific moment of being in line in elementary school and somebody telling me that, like, we just really need to talk it out if we're not, if we're unhappy… I would say, people probably talked to me about emotions… um… I think some people, you know, maybe my closer peer group, it was, they also expressed their emotions.

Some participants reported how their caregivers and peers modeled emotion dysregulation. For example, a co-occurring difficulties group participant discussed how their father engaged in dysregulation by drinking alcohol and their mother avoided or overshared emotions.

> …we had two households… my dad's every other weekend and he was an alcoholic so he didn't deal with anything, he just drank… not the best coping skills for his issues… with my mom, her distress with things would be so extreme and I remember her struggling with depression a lot so she would just sleep a lot or talk about stuff that she shouldn't be talking [about] with her kids at, you know, young ages…

Other participants described seeing positively-valenced emotions acknowledged, accepted, and encouraged by caregivers and peers, but negatively-valenced emotions kept to the

self or dysregulated. For example, a posttraumatic stress difficulties group participant discussed how positively-valenced emotions were accepted but their mother avoided negatively-valenced emotions by using substances and their father avoided them by isolating and distracting himself:

> I lived in a very textbook alcoholic home, very textbook alcoholic… My mom was extremely negative, because her way of dealing with emotions was to drink, or I mean, she had prescription drugs as well, she abused Xanax quite a bit. And so, with her, it was that. With my dad, it was to leave and go do something else. He would get upset that my mom would be drunk or get upset about what was going on in the household, and we lived on a farm, and so he would go cut down trees to make wood for our wood burning furnace, or he would go fix fences. I mean, he would just go work outside of the house anywhere to not have to be around that. We… would celebrate lots of stuff. It was pretty-short lived. But if something, if something, you know, if one of us got an award for something, or if we passed a test that was really important, you know, it was probably a good 10 or 15 minutes of celebrating, and then it was life goes back to normal…

This participant also discussed having friends who avoided negatively-valenced emotions: "…two [friends] that really kind of knew what my household was like, and even with those two… they really just kind of glazed over anything that was negative…"

Some participants discussed receiving opposing messages about emotion from caregivers, such as growing up in households where one caregiver demonstrated being emotionally open, expressive, and/or supportive whereas the other caregiver demonstrated difficulty with their own and others' negatively-valenced emotions. For example, a control group participant shared how their father would hold emotions in then "blow up" and their mother regulated emotions in a healthier manner.

> …[My dad], like, he would not want to show emotions, like, and I can see him, like, hold it [in] and then blow up. Now [there] will be times like… we'll just be, like, driving in the car and be, like, silence, and my dad be in his head about something and then he just, like, blows up, starts cursing, you know, and, like, [it] terrified me… My mom was a lot more emotional and could express it better.

Some participants reported receiving inconsistent emotional modeling, or opposing messages about emotion, from peers/friends either simultaneously or at different times throughout their youth for a variety of reasons (e.g., moving towns or schools, developing new or losing old friendships, joining teams or groups). For example, a co-occurring difficulties group participant reported an early experience in which emotional expression was modeled by a friend when her parents decided to divorce.

> …one girl that I was friends with [in] elementary school… I was at her house having a sleep over, like, the day that her mom and dad decided on a divorce… and, so, she was really upset or emotional and of course… so that was, like, one of my first memories of, like, having that strong of a real emotion with somebody…

This participant also described experiencing more "superficial" emotion modeling in high school, in which friends tended to discuss, for example, only surface-level interpersonal conflicts.

> [They] didn't really talk much about emotions… it was more like, "I can't believe you did that" or "Wow, she's, she's such a bitch, I can't believe that." Like, it was more in relation to the drama, not necessarily, like, looking back, it wasn't like, "Wow, I'm having a really hard time today, my parents haven't been there for me.

Subtheme: Cultural Identity

Participants were asked how their experiences with emotion growing up were shaped by their cultural identity (e.g., race, religion, sexual orientation, gender) or any subculture they identified. Some participants described how their race, ethnicity, or place of origin impacted their experiences with emotion growing up. A posttraumatic stress difficulties group participant shared how their Asian culture infused negativity around emotions and mental health.

> So, like I said, I grew up in a traditional, like, Asian household, so, like, in that culture they don't really believe in mental health. They think that's, you know, more of like, "Oh, if you have mental health issues, you're mentally weak" and stuff. I guess since I was a girl, also, like, you know, I tend to like be able to, like, express my emotions a little more, but compared to my brother, he's, like, a little more masked about his emotions because in Asian culture as well, you know, the man should be strong and, like, you know, shouldn't be able to express their emotions and not cry. The only way that they could express their emotions is through just, like, negative outbursts of anger, sort of, that type of stuff.

Other participants identified religion as a factor which influenced their experiences with emotion growing up. (Notably, each participant who discussed religion identified Catholicism or Christianity as the religion which impacted their experiences.) A posttraumatic stress difficulties group participant shared how their conservative religious upbringing influenced them to hold emotions in or risk going to hell.

> So, I was raised really conservative. Church of Christ, which is very, very conservative, very by the Bible, everything's a sin, you're going to go to hell all the time, just hellfire and brimstone all the time. And so, that definitely had a lot to do with me not wanting to

> talk about any emotions that were negative or not, and not wanting to be honest about it, because there was a lot of fear there. I was instilled with a lot of fear based on my religion.

Some participants discussed how their gender or sexual preferences influenced their experiences with emotion while growing up. A substance use difficulties group participant shared how being a White male might have impacted their learning not to share emotions.

> Um, I guess, I mean, I don't really have a culture, I guess I'm just, like, a random White person, so I don't know. I, we didn't really have much culture at all. I'm trying to think of what culture even means. Um, as a man, definitely did not want to show any emotions, especially negative ones. Um, that.

Other participants described how their socioeconomic status or parents' education level impacted their experiences with emotion growing up. A substance use difficulties group participant shared how coming from a low SES, "redneck" background influenced their tendency to "blow up" and express their emotions in a physically violent manner.

> They were totally shaped by, I think, by, like, my SES. I guess, like, it's kind of hard to say, so, like if I was feeling anger, I'm the group that, I associate, like, my friends that I associated with and, like, my family were lower SES and, so, the way that we all dealt with it would be through, we'd get anger, angry, and then we would fight. There wasn't that, like, emotional reasoning… You could say, like, it was just, like, they deserve it so let's, let's hurt them for hurting us kind of thing. But then that was kind of a stark contrast with folks that grew up in more, I guess, you could say, like, proper [than] I associated with because they dealt with things much more, like, buttoned up, where me, I was more of, like, a loose cannon, if you will. And, so, we're like the main circle of friends and my

parents, like, we were all pretty, like, loose cannons, right, and I think it had to do with, yeah, SES is like the only way I can think about it. I mean, we were just, we just, I mean we, I mean we were pretty redneck, you know, like, if that's, I mean, that's like a cultural identity of mine.

Some participants discussed the intersectionality of factors (i.e., any combination of factors listed above) which influenced their experiences with emotion growing up. A control group participant shared how their Panamanian culture, gender, and religion influenced how they share emotions and express their sexuality.

So, I think culture in Panama is very much about the whole, like, sharing your feelings without sharing your feelings. The passive aggressiveness, and because I, you know, I am a woman and I grew up being treated as a girl and a woman, I, it was more okay for me to share my emotions. Especially, this in, just, in general, I was, like, I'm just very sweet and, like, friendly with my family and very open, I guess. But then I think it comes to a point where you're kind of expected to stop being so emotional. So, like, as I grew up I confided more and more, just, like, in a couple friends and less in my family. And, also when it started becoming things of, like, self-esteem or personal image and also sexuality. Like, well, my mom and all my family are mostly Catholic so there's a lot of trouble around that. Especially with my mom, she's very, like, conservative and reserved on that. And I felt of many times, especially, like, she's not, like, maybe she was never really that comfortable with her own body, in her own sexuality. And then kind of, like, related to that a little bit she always put, like, what she would consider vanity, or what other people would just think as, you know, like investing time and money [in] makeup, in clothes, in fixing your hair, and stuff like that, um, she always put those things in a very negative

> light. But it was, like, at the same time she felt kind of resentful, maybe, that she, maybe, didn't look as good as she wanted to look? Yeah, yeah, um… You know, as I grew up, and those things are more, yeah, you know, like, self-image and sexuality come more and more a part of my life I started on the one side, being a lot more open about them with myself and with other people, but not with not with her, or in my family, or even just in general in Panama. Especially the sexuality stuff is very weird, it is, like, very in your face everywhere, but at the same time very conservative.

Some participants reported feeling as if they had no culture, or that their culture did not have an impact on their experiences with emotion growing up; some identified an aspect of their culture but were unsure how it impacted their experiences with emotion; some discussed an aspect of their identity or emotional experience which was outside the realm of cultural identity. For example, a co-occurring difficulties group participant shared that culture did not impact their experience with emotion in any way: “It wasn’t any different. I was still handling my emotions the way it's supposed to be. I was not affected by any form of culture or anything.”

Narrative Group Comparison

Although specific quantitative comparisons were neither the goal of the study nor feasible with a small sample size, there were some general qualitative patterns that emerged among study groups. In this study, the control group seemed generally emotionally well-adjusted. They used momentary perspectives and global references to connect their emotional experiences to their larger narratives. They used neutral and emotionally distancing language, held more neutral beliefs about emotional utility and control, and demonstrated agency over their emotions. Control group participants had more general self-awareness around their emotional processes, were moderately elaborative and nuanced and creative in describing their emotional experiences.

They utilized momentary expressive suppression and subsequently employed helpful/adaptive strategies when they felt it was appropriate. They were more open/flexible about sharing emotions and acknowledged an element of responsibility in sharing with others. Their emotional sensitivity was regarded as more neutral by others (i.e., between too sensitive and calm/cold) and their experiences with emotional modeling consisted of supportive/positive attitudes toward emotion and adaptive regulation. They identified a range of cultural identities (i.e., religion, gender/sexual identity, intersectionality) which impacted their experiences with emotion growing up. (See Table 3 for detailed breakdown of subtheme similarities and differences between groups.)

In general, the substance use difficulties group seemed less aware of and less connected to their emotional experiences. These participants used more neutral language (rather than emotionally distancing or "I" language) when discussing their subjective emotional states. They demonstrated less overall self-awareness around their emotional processes and were succinct in narrating their emotional events. They demonstrated moderate nuance and creativity in describing their emotional experiences which seems in opposition to prior work identifying emotional clarity as a deficit among this population (Hardy et al., 2018). In line with previous research, substance use difficulties group participants engaged in more impulsive behaviors to regulate their emotions (Cyders & Smith, 2007; Verdejo-García et al., 2007), though they also tended to employ interpersonal regulation strategies. Some of these participants believed emotions should be kept to the self and, in support of previous research, acted accordingly (Dingle et al., 2018; Punzi & Lindgren, 2019); however, others believed emotions should be shared with others to prevent the self from "exploding" and their sharing behavior reflected this belief (i.e., they tended to share their emotions with others). Substance use difficulties group

participants tended to be known as calm/cold by others, which seems to contradict research regarding this population as emotionally reactive (Leite et al., 2014). Emotional modeling for these participants consisted of either supportive/positive attitudes toward emotion and adaptive regulation or difficulty experiencing and regulating negatively-valenced emotions. These participants tended to either recognize how religion affected their experiences with emotion growing up or were unaware of their culture and/or its influence on their emotional development. (See Table 3 for detailed breakdown of subtheme similarities and differences between groups.)

The posttraumatic stress difficulties group seemed to generally function in a more emotionally intense manner. They spoke from a predominantly momentary perspective and used emotionally distancing language when discussing their emotional events. Previous work indicates people with posttraumatic stress tend to believe emotions are dangerous/destructive (Asmundson & Stapleton, 2008; Collimore et al., 2008; Ehlers & Clark, 2000), which was true for some of these participants, but others endorsed beliefs that emotions are useful and helpful. Their beliefs about emotional control ranged from neutral to agentic and their regulatory behavior ranged from agentic to powerless. These participants demonstrated more self-awareness around their physiological emotional experiences which might support prior work indicating people with posttraumatic stress commonly experience emotion-related physical sensations in the extreme (Naragon-Gainey, 2010; Sönmez et al., 2017; Weston, 2014). These participants were more verbose in their narration, and nuanced and creative in describing their emotional experiences, which contradicts prior work identifying emotional clarity as deficit for people with posttraumatic stress (Ehring & Quack, 2010). This group demonstrated greater diversity in observable regulation strategies—they engaged in more interpersonal regulation than the other groups and endorsed impulsive behaviors (Contractor et l., 2018; Kim & Choi, 2020; Mirhashem

et al., 2017; Weiss et al., 2020), problem solving/planning, tasking, expressive suppression, and meditation/breathing exercises. They believed others (but not themselves) should share emotions and their sharing tendencies were mostly in line with this belief (i.e., they tended not to share their emotions with others). These participants were typically known by others as too emotionally sensitive. Emotional modeling tended to consist of difficulty around negatively-valenced emotions, which aligns with prior work linking poor emotion socialization to posttraumatic stress (see Baker & Veilleux, 2020). These participants identified and described the intersection of multiple cultural identities and their influence on emotional development. (See Table 3 for detailed breakdown of subtheme similarities and differences between groups.)

Participants in the co-occurring difficulties group experienced poor emotion socialization, held more negative beliefs about emotion, and had more difficulty with emotional expression than the other groups. They held beliefs that emotions are dangerous/destructive (Asmundson & Stapleton, 2008; Collimore et al., 2008; Ehlers & Clark, 2000) and their beliefs about emotional control ranged from powerless to agentic; however, their actions reflected a more powerless stance toward emotion regulation. These participants demonstrated more self-awareness of their urges but less self-awareness of their expressive tendencies. They used succinct to moderate narration, and low to high nuance and creativity, in describing their emotional experiences. They engaged in more impulsive (Morris et al., 2020), specifically fleeing/escape, behaviors to regulate their emotions. They held beliefs that emotions should be kept to the self and consistent with prior work, tended to behave accordingly (e.g., Dingle et al., 2018; Punzi & Lindgren, 2019). More participants from this group did not know what they were like as babies/children compared to the other groups. Others reportedly tend to know them as either too emotionally sensitive or calm/cold. Their emotional modeling experiences tended to be characterized by

shame/ridicule and difficulty with negatively-valenced emotions (see Baker & Veilleux, 2020). They were either unsure of their cultural identity and/or how it impacted their emotional development or identified intersecting identities and their impacts. (See Table 3 for detailed breakdown of subtheme similarities and differences between groups.)

Table 3

Group Similarities and Differences in Subthemes

Themes and Subthemes	Substance Use Difficulties Group	Posttraumatic Stress Difficulties Group	Co-occurring Difficulties Group	Control Group
Theme 1: Internal Emotional Experience				
Momentary Perspective vs Global References	Relatively spread between momentary perspective and global tendencies	**Used more momentary perspective**	Relatively spread between momentary perspective and global tendencies	Relatively spread between momentary perspective and global tendencies
Emotional Distance	Used more neutral language	**Used more distancing language**	Used neutral and distancing language	Used neutral and distancing language
Beliefs about Emotional Utility	Beliefs spread between emotions are useful/helpful and dangerous/destructive	Beliefs spread between emotions are useful/helpful and dangerous/destructive	**Held more beliefs that emotions are dangerous and destructive**	Held more neutral beliefs
Emotional Agency	Neutral to agentic beliefs; **more powerless actions**	Neutral to agentic beliefs; powerless to agentic actions	Powerless to agentic beliefs; **more powerless actions**	Neutral to agentic beliefs; more agentic actions

Mind-Body Awareness	**Less general self-awareness of emotional processes**	**More self-awareness of physiological emotional experience**	**More self-awareness around urges, less self-awareness of expression**	More general self-awareness of emotional processes
Theme 2: Observable Emotional Experience				
Labeling and Elaboration	**Succinct** and moderately nuanced/creative in describing emotional experience	**Moderate-verbose narration and more nuance/creativity in describing emotional experience**	Moderate-succinct narration and low-high nuance/creativity in describing emotional experience	Moderately elaborative and more nuance/creativity in describing emotional experience
Behavioral Response and Regulation	**More impulsive**	**More diverse,** impulsive	**More impulsive, more fleeing**	**Momentary expressive suppression and subsequent adaptive strategies**
Expression and Social Sharing	Beliefs that emotions should be kept to the self, **more beliefs that emotions should be shared so you "don't explode,"** interpersonal regulation	**More beliefs that others should share emotions (but not me), more interpersonal regulation**	**More beliefs that people should keep emotions to the self**	More beliefs that emotions should be shared (responsibly)
Theme 3: Emotion Socialization				

Others' Perceptions and Feedback	Mostly easy, some difficult childhood temperament; **calm/cold**	Mostly easy, some difficult childhood temperament; **too sensitive**	More unsure of childhood temperament, otherwise mostly easy, some difficult; **split between too sensitive and calm/cold**	Mostly easy, some difficult childhood temperament; too sensitive to calm/cold
Emotional Modeling by Others	Positivity, support, regulation and difficulty experiencing and regulating negatively-valenced emotions	**More difficulty experiencing and regulating negatively-valenced emotions**	**Shame, ridicule** and difficulty experiencing and regulating negatively-valenced emotions	**More positivity, support, regulation**
Cultural Identity	Religion, unsure	**More intersectionality**	Intersectionality and unsure	Religion, gender/sexual identity, intersectionality, unsure

Note. Bolded text indicates notable difference from other group(s).

Discussion

This study aimed to identify similarities and differences in emotional processes among people who struggle with substance use, posttraumatic stress, and co-occurring difficulties, as well as a control group to gain a more cohesive and comprehensive understanding of emotional functioning for individuals who comprise these populations. Unique momentary emotional processes in response to specific emotional events, as well as more general emotional tendencies and factors which contributed to emotional development were explored. Three overarching themes (Internal Emotional Experience, Observable Emotional Experience, and Emotion Socialization) emerged which revealed similarities and differences in emotional functioning for people with substance use and/or posttraumatic stress and provided support for understanding these difficulties using a transdiagnostic model focused on emotion dysregulation (Cassiello-Robbins et al., 2020; Westphal et al., 2017).

This study also shed light on how the nuts and bolts of group-level findings fit together with person-level factors to work like a cohesive machine in response to emotional events for individual people who struggle with substance use and/or posttraumatic stress. This was demonstrated by the hypothetical examples from the introduction of this paper in which group-level findings mostly aligned with aspects of Kit, Andre, and Lana's emotional functioning but could not have predicted the specifics of how their emotional experiences would unfold. For example, deficits in emotional clarity (Ehring & Quack, 2010; Hardy et al., 2018), problematic beliefs about emotional control (De Castella, 2017; Edwards & Wupperman, 2019; Schroder et al., 2019), and impulsive or emotion-driven behaviors (Cyders & Smith, 2007; Kim & Choi, 2020; Mirhashem et al., 2017; Verdejo-García et al., 2007) have been cited by prior research as common among people with substance use and posttraumatic stress. These findings aligned with

Andre's (substance use difficulties) emotional experience in response to a breakup but could not capture the specific person-level aspects of their experience (i.e., low awareness of his "gross" and "ugly" feelings, beliefs about overcontrolling emotions which stem from their history of their emotions being shut down, emotion-driven escape to the bathroom to intravenously inject heroin). These group-level findings were mostly in line with Lana's (co-occurring substance use and posttraumatic stress) emotional experience in response to a breakup; however, contrary to group-level findings, she demonstrated moderate, rather than deficient emotional clarity. As was the case with Andre, group-level findings were helpful in providing a guide to potentially understanding aspects of Lana's emotional functioning but fell short of capturing specific person-level details (i.e., moderate awareness of feeling disgusted and infuriated, beliefs that she cannot control her emotions which stem from her experiences with holding her emotions in then "exploding," impulsively yelling and pulling her girlfriend's hair). Taken together, these examples accentuate that while group level-findings can provide a map to understanding generalities regarding emotion-related experiences among people with substance use and/or posttraumatic stress, they do not align with all experiences and cannot predict the unique, person-level aspects of emotional experience.

In this study, participants' narrative tendencies (i.e., elaboration, emotional distance, momentary perspective versus global references) qualitatively differed between groups and held both similarities and differences to group-level findings. Prior work shows people with complex trauma demonstrate self-narrative incoherence (Macaulay & Angus, 2019) and other work highlights the importance of improving self-narrative for recovery in people with substance use difficulties (McConnell & Snoek, 2018). In this study, the posttraumatic stress difficulties group spoke verbosely which is contrary to group-level findings. Perhaps posttraumatic stress

difficulties group participants' abilities to elaboratively and coherently narrate their emotional events in this study can be explained by less complex trauma or history of undergoing treatment. It could also be that narrative coherence and emotional coherence and depth are not the same--a person's view of themselves as a whole is not necessarily the same as their abilities to speak in a deep way about their feelings. Participants in the substance use difficulties group spoke succinctly when narrating their emotional events, which is line with group-level findings; the lack of coherence and depth demonstrated by this group could be indicative of limited to no experience with recovery efforts or might indicate severity of symptomology or low levels of general functioning. Future work could examine whether relationships exist between self-narrative coherence and narrative coherence pertaining to emotional functioning and/or specific emotional event narratives. Researchers could also explore whether/how narrative coherence and elaborative tendencies relate to symptomology and aspects of recovery, and whether this differs depending on the emotional content of narration (i.e., traumatic event versus non-traumatic event). Future research could also examine whether undergoing treatment (and which specific treatment techniques) impacts coherence and elaborative tendencies in narration, and whether this is related to symptom improvement.

Emotional avoidance and emotional activation, which are commonly enacted/experienced by people with substance use and/or posttraumatic stress (Kemmis et al., 2017; Messman-Moore & Bhuptani 2017) are also likely reflected in their linguistic strategies. For instance, prior work has shown abstractness and reduced imagery is linked to increased emotional avoidance (Behar et al., 2012), whereas concreteness is protective against intrusive memories and linked to reduced emotional reactivity for people with PTSD symptoms (White & Wild, 2016). This work seems to highlight how emotional avoidance may be linked to less elaborative narration, use of certain

global references, and emotionally distancing language whereas greater narrative depth, use of "I" rather than distancing language, and speaking from a momentary perspective may be protective. It is also possible the latter strategies could elicit emotional activation or over-activation (e.g., Foa et al., 2007). This is clinically important, as psychotherapy typically aims to decrease emotional avoidance and facilitate a healthy level of emotional activation, especially in exposure therapy where a specific level of emotional activation is required to facilitate therapeutic gains but overactivation is linked to treatment dropout (Alpert et al., 2020). A deeper understanding of whether/how these specific linguistic tendencies/strategies are linked to momentary emotional avoidance/activation could facilitate their identification in the therapy room and in turn enable clinicians to foster these mechanisms of change (i.e., emotional activation) or intervene on barriers to therapeutic growth (i.e., emotional avoidance). It would also be useful to test whether/how psychotherapy contributes to the evolution of these narrative strategies. Researchers could also focus on momentary internal experiences (e.g., subjective emotional states, intensity of emotion, physiological responses) that emerge during narration of emotional events and whether/how they are linked to specific linguistic strategies for people with substance use and/or posttraumatic stress. Taken together, such information could steer clinicians toward identifying mechanics of emotional avoidance and finding balance between challenging avoidance and pushing personal boundaries for patients with substance use and/or posttraumatic stress.

Regarding emotional clarity, findings from this study were not necessarily in line with prior work (e.g., Ehring & Quack, 2010) which identifies emotional clarity (and differentiation) as a deficit for people with substance use and/or posttraumatic stress difficulties. While this study did not directly examine differentiation, it explored how participants utilized nuanced and

creative language to describe their subjective feelings, which is likely related to differentiation (see Thompson et al., 2021). Emotion differentiation is associated with psychosocial adjustment (Smidt & Suvak, 2015), and is typically promoted in psychotherapy (Mikkelsen et al., 2021; Thompson et al., 2021). But what if nuance and creativity in language around emotion is less rigid than strictly using emotion words? Future research could determine whether the benefits of labeling and differentiating emotions generalize to using language other than emotion words (e.g., metaphor). Such findings could enhance clinical decision-making regarding how time is best spent in the therapy room. On the other side of emotional nuance and creativity, some people seem to have a deficiency in their abilities to paint a rich picture of their emotional experience. Prior work cites alexithymia as common in people with substance use difficulties (Honkalampi et al., 2022; Kun et al., 2023; Morie et al., 2016) and posttraumatic stress (Ehring & Quack, 2010; Frewen et al., 2008; Putica et al., 2021), but only the co-occurring difficulties group seemed deficient in describing their emotional experiences with creativity and nuanced descriptions. Perhaps levels of dysfunctionality or impairment (e.g., co-occurring difficulties versus substance use alone) account for this deficit more than specific type of pathology (i.e., substance use). Future work could examine potential factors (e.g., comorbidities, levels of impairment) which contribute to alexithymic presentations among people with substance use and comorbid substance use.

Beliefs about emotional utility and control, and whether regulatory behaviors align with these beliefs, likely has a significant impact on emotional functioning and treatment/recovery factors for people with substance use and/or posttraumatic stress (Ford & Gross, 2019). In this study, substance use difficulties participants tended to believe emotions should be shared with others to avoid exploding. This belief (e.g., there will be consequences if I do not share) seems to

have a different quality than, for example, believing emotions should be shared to process them and gain clarity (e.g., I will experience relief and understand myself better). It seems important for clinicians to examine nuance in beliefs about emotions because they are complex, multifaceted, and can facilitate insight into other aspects of emotional functioning. Extant literature lacks the examination of beliefs about emotions among people with substance use and/or posttraumatic stress (see Baker & Veilleux, 2020). Future work should examine differences in nuance and rationale around beliefs about emotion and whether/how these differences reflect in corresponding behaviors (e.g., emotional sharing) among people with substance use and/or posttraumatic stress. In this study, beliefs about emotional agency did not necessarily reflect in regulatory behaviors, which is consistent with some prior work (e.g., Benfer et al., 2018). While the control group tended to have agentic beliefs and corresponding regulatory behaviors, the substance use and co-occurring difficulties groups tended to hold neutral to agentic beliefs but demonstrated powerlessness over their emotions. This seems to contradict other work connecting greater self-efficacy to more positive substance use related outcomes (e.g., abstinence; Chavarria et al., 2012) and less self-efficacious beliefs to poorer outcomes (e.g., relapse; Burling et al., 1989; Kadden & Litt, 2011). Either way, incongruence between beliefs and behaviors can cause discomfort (i.e., cognitive dissonance) which typically motivates resolution of the discomfort via morphing beliefs, actions, or perceptions of actions (Festinger, 1957). Incongruence between beliefs about emotions and regulatory behaviors is likely detrimental to emotional functioning for people with substance use and/or posttraumatic stress and might perpetuate psychopathology. Researchers could uncover potential emotional and behavioral consequences of having incongruent beliefs and behaviors around emotions for people with substance use and/or posttraumatic stress and how they differ from those whose

beliefs are consistent with their behaviors in either direction. It also seems prudent for clinicians to be aware of inconsistencies in their patients' beliefs and behaviors, as such conflicts may drive symptoms and/or emotion dysregulation.

The literature pertaining to interpersonal emotion regulation is relatively young. One study exploring interpersonal emotion regulation among people with substance use and posttraumatic stress difficulties found PTSD symptom severity was associated with the tendency to regulate positive, but not negative, emotions with others (Vidaña, 2020). In the current study, interpersonal emotion regulation was used frequently among substance use and posttraumatic stress difficulties group participants (in addition to impulsive strategies). The current study did not differentiate between negatively and positively-valenced emotional events when considering regulation strategies; therefore, findings may partially support Vidaña's (2020) in that positively-valenced emotions were regulated with other people but contrasts this work in that negatively-valenced emotions were also interpersonally regulated. That participants from the substance use and posttraumatic stress difficulties groups frequently used interpersonal emotion regulation is clinically useful in that patients' existing emotion regulation tendencies can be sharpened into strengths in psychotherapy to improve emotional functioning and enhance the effects of treatment (Berking et al., 2008). Future work could empirically assess how people with substance use and/or posttraumatic stress tend approach interpersonal regulation, for example whether they tend to use response dependent (i.e., regulation depends on the other person's response) or response independent (i.e., regulation is independent of the other person's response; Zaki & Williams, 2013) emotion regulation. Researchers could also explore how use or avoidance of interpersonal emotion regulation relates to different aspects of emotional functioning, symptomology, and recovery factors among people with substance use and

posttraumatic stress difficulties. It would also be useful to assess whether those who tend to engage in response-dependent interpersonal emotional regulation show decreases in symptoms and related factors after education/training and practice of response-independent emotion regulation.

In this study, posttraumatic stress difficulties participants engaged in a diverse range of emotion regulation strategies. Perhaps these participants generally had more emotion regulation strategies in their repertoires and/or greater levels of emotion regulation flexibility (i.e., the ability to flexibly regulate emotions to manage the various demands of different situations; Aldao et al., 2015); however, this would contradict prior work linking lower emotion regulation flexibility to development of PTSD after trauma exposure (Levy-Gigi et al., 2015) and reduced flexibility in people with higher, but not lower (e.g., subclinical), levels of posttraumatic stress symptomology (Fine et al., 2023). Perhaps psychotherapy mediates/moderates the relationship between posttraumatic stress symptoms and emotion regulation flexibility; future research could examine this potential relationship in addition to solidifying extant findings around emotion regulation flexibility for this population. Such findings would shed additional light on the benefits of education and training around emotion regulation in psychotherapy and subsequently facilitate individualized treatment planning.

Others' perceptions of participants' emotional sensitivity qualitatively varied by group in this study. Substance use difficulties group participants reported being perceived as emotionally calm/cold, posttraumatic stress difficulties group participants reported being perceived as too emotionally sensitive, and co-occurring difficulties group participants reported being perceived as either calm/cold or too sensitive. It seems likely that others' perceptions impact self-perceptions and in turn perpetuate beliefs and behavior which align with them for people with

substance use and/or posttraumatic stress difficulties. These speculations could be empirically evaluated, and findings could shed light on important factors for clinicians to assess and address in treatment.

In this study, some co-occurring difficulties group participants did not have information to report regarding their early childhoods. This may reflect upbringing in chaotic and dysfunctional home environments, which is related to posttraumatic stress (and comorbid) symptomology (see Baker & Veilleux, 2020). In a similar vein, it is likely that not having a sense of one's cultural identity is related to substance use and/or posttraumatic stress symptomology. Personal sense of identity, including culture and family origins is an important aspect of emotional functioning and plays a role in psychopathology (Basten & Touyz, 2020; Causadias & Cicchetti, 2018; Groen et al., 2019). Perhaps having a strong sense of cultural identity and recognition of cultural values is important for resilience and recovery from substance use and posttraumatic stress. Research in this area could guide efforts in developing and modifying treatments for substance use and/or posttraumatic stress to be more culturally informed, which could facilitate patients' identity development, and subsequently enhance emotional functioning.

Awareness of emotional experience plays an important role in emotional functioning (Lane & Smith, 2021) and prior work demonstrates people with substance use (Dingle et al., 2018) and posttraumatic stress difficulties (Frewen et al., 2008; Tripp et al., 2015) tend to have low emotional awareness. Findings from this study were consistent with those at the group level regarding the substance use difficulties group which demonstrated lower overall self-awareness around emotional processes; however, posttraumatic stress difficulties group participants demonstrated high awareness around their physiological emotional reactions and the co-occurring difficulties group participants demonstrated low awareness around their expressive

tendencies and high awareness around their action urges. Keen awareness around only specific areas of emotional functioning, as opposed to others, seems to provide clues about emotional functioning which are clinically useful. For example, posttraumatic stress difficulties group participants' increased awareness of physiological sensations seems to hint at potential hypervigilance or anxiety sensitivity (Naragon-Gainey, 2010; Sönmez et al., 2017; Weston, 2014). These potential variations of emotional awareness and how they differ among people with substance use and/or posttraumatic stress could be examined empirically and potentially provide useful information to guide assessment and intervention targets around patients' emotional awareness.

Limitations

Findings from this study should be considered in light of its limitations. While this study's qualitative nature and fairly small sample size allowed for depth and detail in examining emotional functioning of individuals with substance use and/or posttraumatic stress, findings cannot be supported with statistical significance. Findings from this study may not generalize due to its qualitative nature and broad inclusion criteria (e.g., not substance specific, included sub-clinical levels of substance use and posttraumatic stress, not specific to type of trauma experience, not age or location specific). Interviews for this study were conducted during the height of the COVID-19 pandemic which could have impacted how participants presented themselves emotionally. Some participants in this study might have been reluctant to share personal emotional experiences with a stranger while others explicitly expressed excitement around sharing and mentioned rarely getting the opportunity to talk about emotional experiences with another person—these factors likely influenced some of the study's findings regarding elaboration and depth. Other potential co-occurring mental health difficulties (e.g., depression,

anxiety) were not assessed in this study and could have contributed to aspects of participants' emotional functioning and how they presented themselves emotionally. Past or current engagement in psychotherapy was also not assessed and likely influenced how participants talked about their emotional experiences. There was a lack of racial/ethnic diversity in this study as most participants identified as White. Culture and region, which were not assessed in this study, could have influenced how participants spoke about their emotional experiences. For example, culture influences whether a person speaks with high (i.e., more reliance on context to interpret the meaning of messages) vs low context (i.e., more reliance on the content of what is said to interpret the meaning of messages; Hall, 1976; Sue et al., 2019). Further the degree of fluency in the English language likely impacts how descriptive and creative a person sounds in English.

Strengths

This study also had several strengths. The qualitative interview methodology adopted in this study allowed for zooming in from extant group-level findings to person-level, real-life emotional experiences for people with substance use and/or posttraumatic stress. Though the sample size was fairly small, a diverse range of emotional experiences were reported from different age groups and many walks of life. Information gleaned from this study is clinically useful in that it provides a glimpse into what might actually be encountered regarding patients' emotional functioning and regulatory tendencies both in and out of the therapy room. This study also highlighted a multitude of directions for future research which could advance knowledge in specific realms of emotional functioning for people with substance use and/or posttraumatic stress difficulties.

This study introduced and was the first to utilize the semi-structured clinical emotion interview using the I-MAP (Veilleux et al., 2020) as a framework. This study demonstrated the interview's clinical utility in gathering comprehensive and individualized information about a person's emotional functioning based on emotional background characteristics, aspects of internal momentary emotional experience and observable emotional reactions in response to highly contextualized emotional events, as well as general tendencies around emotion. The capacity of the interview to glean robust and intricate information about an individual person's emotional world, as demonstrated in this study, deems it a useful clinical tool for assessing emotional functioning and planning treatment accordingly around patient strengths and areas for improvement in the realm of emotion dysregulation. As such, this study has provided sufficient initial groundwork for the development of a modular transdiagnostic treatment which will address emotion dysregulation for people with substance use and/or posttraumatic stress.

Conclusion

The purpose of this study was to gain a more cohesive and comprehensive understanding of how components of emotional functioning connect and operate for individual people who struggle with substance use and/or posttraumatic stress, and to uncover how relevant group-level findings actually unfold for people who comprise these populations. This study expanded beyond extant group-level findings to reveal the complex and unique emotional experiences of 44 individuals across three overarching themes: Internal Emotional Experience, Observable Emotional Experience, and Emotion Socialization. Qualitative similarities/differences between and within groups were revealed and cohesive real-life experiences were considered in reference to existing research. This study also highlighted an abundance of idiosyncrasies, demonstrating that just because people who comprise a specific population typically possess specific

characteristics at the trait-level (e.g., people with substance use tend to have low emotional clarity) it does not mean an individual person necessarily does. The semi-structured clinical emotion interview using the I-MAP as a framework allows clinicians to assess these concepts ideographically and facilitates understanding, not only of what people tend to do regarding their emotions, but why (e.g., emotion socialization, self-protection). This interview highlights that people's emotional experiences are nuanced and messy and that it would be a clinical misstep to assume just because someone struggles with a particular difficulty (e.g., substance use and/or posttraumatic stress), their emotional functioning aligns with common trait-level characteristics of the larger population in question. To understand a patient's idiosyncrasies, a clinician must ask. Taken together, these findings accentuate the importance of approaching case conceptualization and treatment for people with substance use and/or posttraumatic stress from an individualized and transdiagnostic perspective. This study will serve as a steppingstone in efforts toward developing a modular transdiagnostic treatment for emotional difficulties geared toward people who struggle with substance use and posttraumatic stress.

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Appendix A

Individual Difference Measures

Alcohol Use Disorders Identification Test

The Alcohol Use Disorders Identification Test: Self-Report Version

PATIENT: Because alcohol use can affect your health and can interfere with certain medications and treatments, it is important that we ask some questions about your use of alcohol. Your answers will remain confidential so please be honest.
Place an X in one box that best describes your answer to each question.

Questions	0	1	2	3	4	
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week	
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more	
3. How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year	
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year	
					Total	

STANDARD DRINK EQUIVALENTS	APPROXIMATE NUMBER OF STANDARD DRINKS IN:
BEER or COOLER	
12 oz.  **~5% alcohol**	12 oz. = 1 16 oz. = 1.3 22 oz. = 2 40 oz. = 3.3
MALT LIQUOR	
8-9 oz.  **~7% alcohol**	12 oz. = 1.5 16 oz. = 2 22 oz. = 2.5 40 oz. = 4.5
TABLE WINE	
5 oz.  **~12% alcohol**	a 750 mL (25 oz.) bottle = 5
80-proof SPIRITS (hard liquor)	
1.5 oz.  **~40% alcohol**	a mixed drink = 1 or more* a pint (16 oz.) = 11 a fifth (25 oz.) = 17 1.75 L (59 oz.) = 39 *Note: Depending on factors such as the type of spirits and the recipe, one mixed drink can contain from one to three or more standard drinks.

http://pubs.niaaa.nih.gov/publications/Practitioner/pocketguide/pocket_guide2.htm

Drug Use Disorders Identification Test

DUDIT Drug Use Disorders Identification Test

Here are a few questions about drugs. Please answer as correctly and honestly as possible by indicating which answer is right for you.

☐ Man ☐ Woman			Age ☐		
1. How often do you use drugs other than alcohol? (See list of drugs on back side.)	Never ☐	Once a month or less often ☐	2-4 times a month ☐	2-3 times a week ☐	4 times a week or more often ☐
2. Do you use more than one type of drug on the same occasion?	Never ☐	Once a month or less often ☐	2-4 times a month ☐	2-3 times a week ☐	4 times a week or more often ☐
3. How many times do you take drugs on a typical day when you use drugs?	0 ☐	1-2 ☐	3-4 ☐	5-6 ☐	7 or more ☐
4. How often are you influenced heavily by drugs?	Never ☐	Less often than once a month ☐	Every month ☐	Every week ☐	Daily or almost every day ☐
5. Over the past year, have you felt that your longing for drugs was so strong that you could not resist it?	Never ☐	Less often than once a month ☐	Every month ☐	Every week ☐	Daily or almost every day ☐
6. Has it happened, over the past year, that you have not been able to stop taking drugs once you started?	Never ☐	Less often than once a month ☐	Every month ☐	Every week ☐	Daily or almost every day ☐
7. How often over the past year have you taken drugs and then neglected to do something you should have done?	Never ☐	Less often than once a month ☐	Every month ☐	Every week ☐	Daily or almost every day ☐
8. How often over the past year have you needed to take a drug the morning after heavy drug use the day before?	Never ☐	Less often than once a month ☐	Every month ☐	Every week ☐	Daily or almost every day ☐
9. How often over the past year have you had guilt feelings or a bad conscience because you used drugs?	Never ☐	Less often than once a month ☐	Every month ☐	Every week ☐	Daily or almost every day ☐
10. Have you or anyone else been hurt (mentally or physically) because you used drugs?		No ☐	Yes, but not over the past year ☐		Yes, over the past year ☐
11. Has a relative or a friend, a doctor or a nurse, or anyone else, been worried about your drug use or said to you that you should stop using drugs?		No ☐	Yes, but not over the past year ☐		Yes, over the past year ☐

LIST OF DRUGS

(Note! Not alcohol!)

Cannabis	Amphetamines	Cocaine	Opiates	Hallucinogens	Solvents/inhalants	GHB and others
Marijuana Hash Hash oil	Methamphetamine Phenmetraline Khat Betel nut Ritaline (Methylphenidate)	Crack Freebase Coca leaves	Smoked heroin Heroin Opium	Ecstasy LSD (Lisergic acid) Mescaline Peyote PCP, angel dust (Phencyclidine) Psilocybin DMT (Dimethyltryptamine)	Thinner Trichlorethylene Gasoline/petrol Gas Solution Glue	GHB Anabolic steroids Laughing gas (Halothane) Amyl nitrate (Poppers) Anticholinergic compounds

PILLS – MEDICINES

Pills count as drugs when you take

- more of them or take them more often than the doctor has prescribed for you
- pills because you want to have fun, feel good, get "high", or wonder what sort of effect they have on you
- pills that you have received from a relative or a friend
- pills that you have bought on the "black market" or stolen

SLEEPING PILLS/SEDATIVES

Alprazolam	Glutethimide	Rohypnol
Amobarbital	Halcion	Secobarbital
Apodorm	Heminevrin	Sobril
Apozepam	Iktorivil	Sonata
Aprobarbital	Imovane	Stesolid
Butabarbital	Mephobarbital	Stilnoct
Butalbital	Meprobamate	Talbutal
Chloral hydrate	Methaqualone	Temesta
Diazepam	Methohexital	Thiamyal
Dormicum	Mogadon	Thiopental
Ethcholorvynol	Nitrazepam	Triazolam
Fenemal	Oxascand	Xanor
Flunitrazepam	Pentobarbital	Zopiklon
Fluscand	Phenobarbital	

PAINKILLERS

Actiq	Durogesic	OxyNorm
Coccilana-Etyfin	Fentanyl	Panocod
Citodon	Ketodur	Panocod forte
Citodon forte	Ketogan	Paraflex comp
Dexodon	Kodein	Somadril
Depolan	Maxidon	Spasmofen
Dexofen	Metadon	Subutex
Dilaudid	Morfin	Temgesic
Distalgesic	Nobligan	Tiparol
Dolcontin	Norflex	Tradolan
Doleron	Norgesic	Tramadul
Dolotard	Opidol	Treo comp
Doloxene	OxyContin	

Pills do NOT count as drugs if they have been prescribed by a doctor and you take them in the prescribed dosage.

PTSD Checklist for DSM-5 (PCL-5) with Life Events Checklist for DSM-5 (LEC-5) and Criterion A

PCL-5 with LEC-5 and Criterion A

Part 1

Instructions: Listed below are a number of difficult or stressful things that sometimes happen to people. For each event check one or more of the boxes to the right to indicate that: (a) it happened to you personally; (b) you witnessed it happen to someone else; (c) you learned about it happening to a close family member or close friend; (d) you were exposed to it as part of your job (for example, paramedic, police, military, or other first responder); (e) you're not sure if it fits; or (f) it doesn't apply to you.

Be sure to consider your entire life (growing up as well as adulthood) as you go through the list of events.

Event	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
1. Natural disaster (for example, flood, hurricane, tornado, earthquake)						
2. Fire or explosion						
3. Transportation accident (for example, car accident, boat accident, train wreck, plane crash)						
4. Serious accident at work, home, or during recreational activity						
5. Exposure to toxic substance (for example, dangerous chemicals, radiation)						
6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)						
7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)						
8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)						
9. Other unwanted or uncomfortable sexual experience						
10. Combat or exposure to a war-zone (in the military or as a civilian)						
11. Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)						
12. Life-threatening illness or injury						
13. Severe human suffering						
14. Sudden violent death (for example, homicide, suicide)						
15. Sudden accidental death						
16. Serious injury, harm, or death you caused to someone else						
17. Any other very stressful event or experience						

Part 2

A. If you checked anything for #17 in PART 1, briefly identify the event you were thinking of:

B. If you have experienced more than one of the events in PART 1, think about the event you consider the worst event, which for this questionnaire means the event that currently bothers you the most. If you have experienced only one of the events in PART 1, use that one as the worst event. Please answer the following questions about the worst event (check all options that apply):

Briefly describe the worst event (for example, what happened, who was involved, etc.).

How long ago did it happen? _____ (please estimate if you are not sure)

How did you experience it?

_____ It happened to me directly
_____ I witnessed it
_____ I learned about it happening to a close family member or close friend
_____ I was repeatedly exposed to details about it as part of my job (for example, paramedic, police, military, or other first responder)
_____ Other, please describe

Was someone's life in danger?

_____ Yes, my life
_____ Yes, someone else's life
_____ No

Was someone seriously injured or killed?

_____ Yes, I was seriously injured
_____ Yes, someone else was seriously injured or killed
_____ **No**

Did it involve sexual violence? _____ Yes _____ No

If the event involved the death of a close family member or close friend, was it due to some kind of accident or violence, or was it due to natural causes?

_____ Accident or violence
_____ Natural causes
_____ Not applicable (The event did not involve the death of a close family member or close friend)

How many times altogether have you experienced a similar event as stressful or nearly as stressful as the worst event?

_____ Just once
_____ More than once (please specify or estimate the total number of times you have had this experience _____)

Part 3

Below is a list of problems that people sometimes have in response to a very stressful experience. Keeping your worst event in mind, please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being "superalert" or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

Brief Inventory of Psychosocial Functioning

B-IPF								
Overall, in the past 30 days	Not at all	Somewhat			Very much			Not applicable
1. I had trouble in my romantic relationship with my spouse or partner.	0	1	2	3	4	5	6	7
2. I had trouble in my relationship with my children.	0	1	2	3	4	5	6	7
3. I had trouble with my family relationships.	0	1	2	3	4	5	6	7
4. I had trouble with my friendships and socializing.	0	1	2	3	4	5	6	7
5. I had trouble at work.	0	1	2	3	4	5	6	7
6. I had trouble with my training and education.	0	1	2	3	4	5	6	7
7. I had trouble with day-to-day activities, such as doing household chores, running errands, and managing my medical care.	0	1	2	3	4	5	6	7

Appendix B

Emotion Interview

Patient Handouts and Forms for Emotion Interview

Part I

Below are questions about emotions. Choose the number associated with which "pole" you tend to side with. A "middle" choice would suggest that you aren't consistent in your beliefs, that sometimes you tend to lean to one side, and other times to the other side. There are no wrong answers here; people believe a lot of different things about emotions!

1.	Where do emotions come from?	1 Emotions come from out of the blue, for no reason	2	3	4	5 Emotions happen because of clear identifiable causes
2.	What is your attitude toward negative emotions?	1 Negative feelings are helpful and useful; I welcome my negative feelings.	2	3	4	5 Negative feelings are bad and destructive; I would prefer to never feel bad.
3.	Should emotions be simple or complex?	1 I should feel a variety of conflicting emotions at once	2	3	4	5 I should only feel one thing at a time
4.	Should emotions be shared with others?	1 Emotions must be "let out" and expressed to the world	2	3	4	5 Emotions should be kept inside the self; no one wants to deal with other people's emotions
5.	Which do you prefer, thought or feeling?	1 Feeling is preferable to effortful thought.	2	3	4	5 Logic is preferable to emotion
6.	Do emotions control behavior?	1 It is extremely hard, maybe impossible, to act differently than what my emotions tell me to do.	2	3	4	5 It is possible, maybe even easy, to act differently than how I feel inside.
7.	Can emotions be changed?	1 Emotions have to "run their course"; they are hard to change or alter	2	3	4	5 Everyone can learn to control their emotions.
8.	Are your emotions different from other peoples?	1 My emotions are similar to everyone elses	2	3	4	5 No one seems to experience emotions the way I do
9.	How long do negative feelings last?	1 Negative feelings seem to last forever	2	3	4	5 Negative feelings are difficult but don't last very long
10.	Do your beliefs about emotions (all of the above) *change* when you are in a strong emotions?	No Yes				

Emotion Interview

Instructions to Interviewer:

In these instructions, all comments to you (the interviewer) will be in italics, and things you should actually say are in regular font with the word SAY in front of it.

As you go through the interview, make notes as needed in the spaces and also score as you go. Do not actually SHARE the scoring with your

Part I: Emotion Beliefs

SAY: Please complete this brief measure about your emotion beliefs and assessment of your values.

Part II: Asking About Emotional Events

SAY: In this interview, I'm going to ask you a variety of questions about your emotions. There are no right or wrong answers to these questions, just be as honest as you can about your experiences.

I am going to ask questions about emotions. Other words that people tend to use for emotion are "feelings," or "mood" or maybe "affect." However, these aren't exactly the same. Emotions are stronger feelings with a beginning, middle and end that typically are responses to something, whereas a "mood" is more of a longer lasting state that might not have a beginning or end. If you think about the ocean, moods are like the tides, and emotions are like the waves. Primarily we are going to be talking about emotions in this interview—the stronger feelings with a beginning middle and end.

<u>Emotional Event #1: Strong Emotion</u>

SAY: Think about a time when you experienced an intense and distressing emotion (or emotions). I'd like you to tell me about the event and the really strong emotion (or emotions) you felt. You don't have to talk about the most upsetting thing that ever happened to you if you don't want to, you can decide what you're willing to discuss during this interview. But the emotion should be intense. If you can think of several examples, choose the most recent one, but any is fine. [*Note: If patient cannot think of one, ask* "Is there an event where people said you "should" have experienced a strong emotion or other people experienced stronger emotions?]

SAY: When was this? Where were you? Who were you with? What happened?

[*Very small details are not important here, just trying to get the patient in the framework of the emotional event]*

SAY: What words would you use to describe the emotion(s) you felt at the time?

[*Looking for a label of a subjective feeling—is the person reporting feeling "bad" or "upset" or are they specifically labeling their emotions? How nuanced is their label?*]

SAY: What were you feeling in your body?

[*Looking for description of any physical sensations; can person describe physical sensations?*]

SAY: What kinds of thoughts were you having about what was happening in that moment? Thoughts about other people, the situation, yourself in the situation….

[*Looking for awareness of appraisals; may need to ask questions about mental images, words, or general impressions if awareness of thoughts is low*]

If needed, ask "You said you felt (*fill in what they said*_____. What thoughts did you have that prompted that emotion?

SAY: A lot of times, in emotional situations, we feel the urge to do something. It doesn't mean we always do the thing we feel like doing, but there are often urges to act. What did you feel like doing in that situation?

[*Looking for awareness of action urges here; This is different than perhaps what the person actually did*]

Emotion-Driven Behavior

SAY: What did you actually do? (*If needed:* Take me through what you said or did in that situation.)

[*Looking for emotion-driven behavior. Did the person yell, lash out—generally externalize, or did the person internalize? Did the person try to escape the situation to avoid the emotional experience?*]

Expression

SAY: [If you were with other people] Could other people tell how you were feeling? What, if anything, could people tell you were feeling from your face or behavior?

[*Looking for expression—did person verbally state their feeling? What kinds of non-verbals might they have expressed, was there crying?*]

[Only if needed, if above question wasn't sufficient] If there had been a mirror or camera facing you during this experience, what do you think you would have looked like? Can you physically show me what your body was doing in that situation?

SAY: [If you were with other people] Did you try to share your feelings with someone else? What did you say or do? Pretend I'm the other person in the situation—what did you say, and how did you say it?

[*Looking for beliefs about expression and suppression here as well as their actions. Try to get at specific language they used, and specific tone.?*]

Judgment.

SAY: Did you look back and wish you would have reacted differently?

SAY: *If situation involved someone else:* Did you look back and wish the other person would have acted differently?

[*Looking for judgments about the feeling, judgments about the expression, judgments of others' expressions, judgments about behavior. Look for "should" statements*]

SAY: Thank you for sharing this event. I'm curious if you feel this event is similar to the typical way you experience emotions, or if this was "out of the ordinary" for some reason?

[*Some people describe major life events in this section—loss of a parent, major sporting event win. What you are trying to understand here is how prototypical those emotional events were compared to day-to-day events. If the person admits that these are atypical to how they normally experience emotions, ask some follow-up questions to get a sense of their emotional awareness, expression of emotion and action urges on a day-to-day basis.*]

Emotional Event #2: Typical Emotion

SAY: I want to ask about another event, but this one should be something you experienced recently, that is more of a "typical" emotion from the fluctuations of daily life. Pick any emotion you've experienced in the last several weeks. [*Note: If patient cannot think of one, ask:* "Is there an event where other people might have thought you "should" have experienced an emotion or other people would have probably experienced emotions?]

SAY: When was this? Where were you? Who were you with? What happened?

[*Very small details are not important here, just trying to get the patient in the framework of the emotional event]*

SAY: What words would you use to describe your feeling at the time?

[*Looking for a label of a subjective feeling—is the person reporting feeling "bad" or "upset" or are they specifically labeling their emotions? How nuanced is their label?*]

SAY: What were you feeling in your body?

[*Looking for description of any physical sensations; can person describe physical sensations?*]

SAY: What kinds of thoughts were you having about what was happening in that moment? Thoughts about other people, the situation, yourself in the situation….

[*Looking for awareness of appraisals; may need to ask questions about mental images, words, or general impressions if awareness of thoughts is low*]

If needed, ask "You said you felt (*fill in what they said*_____. What thoughts did you have that prompted that emotion?

SAY: A lot of times, in emotional situations, we feel the urge to do something. It doesn't mean we always do the thing we feel like doing, but there are often urges to act. What did you feel like doing in that situation?

[*Looking for awareness of action urges here; This is different than perhaps what the person actually did*]

Emotion-Driven Behavior Example 2

SAY: What did you actually do? (*If needed:* Take me through what you said or did in that situation.)

[*Looking for emotion-driven behavior. Did the person yell, lash out—generally externalize, or did the person internalize? Did the person try to escape the situation to avoid the emotional experience?*]

Expression Example 2

SAY: [If you were with other people] Could other people tell how you were feeling? What, if anything, could people tell you were feeling from your face or behavior?

[*Looking for expression—did person verbally state their feeling? What kinds of non-verbals might they have expressed, was there crying?*]

[Only if needed, if above question wasn't sufficient] If there had been a mirror or camera facing you during this experience, what do you think you would have

looked like? Can you physically show me what your body was doing in that situation?

SAY: [If you were with other people] Did you try to share your feelings with someone else? What did you say or do? Pretend I'm the other person in the situation—what did you say, and how did you say it?

[*Looking for beliefs about expression and suppression here as well as their actions. Try to get at specific language they used, and specific tone.?*]

Judgment Example 2.

SAY: Did you look back and wish you would have reacted differently?

SAY: *If situation involved someone else:* Did you look back and wish the other person would have acted differently?

[*Looking for judgments about the feeling, judgments about the expression, judgments of others' expressions, judgments about behavior. Look for "should" statements*]

Emotional Experience: General

SAY: Are there particular emotions that you tend to experience often? If you can't identify specific emotions, do you generally feel more negative or positive?

[*Looking for evidence of differentiation/labeling as well as insight into patterns. Does person use "anger" or "sadness" or "anxiety" or does person tend to use more secondary emotions (e.g., "shame") or cognitive based emotions "loneliness")]*

SAY: How often do you feel these emotions—daily, weekly, or hardly ever?

[*Looking for reactivity and sensitivity, as well as intensity of emotions experienced, potentially getting at life difficulties/stressors*]

SAY: When was the last time that you cried? Got angry? Felt scared or worried? Laughed?

Part III: Learning History

SAY: All right, thank you for doing that charting. We're going to go back to the interview now and change gears a little bit. Up to this point, we've talked mostly about specific emotion events. I now want to step back and ask you about how emotions were dealt with by people in your life when you were a child.

Learning history around emotion

SAY: What were you told you were like as a baby? Some babies are "easy" babies, and other babies or small children were "difficult" babies. What kind of baby and toddler were you?

[*Looking for evidence of temperament/sensitivity—was baby active or passive? Did baby "have" colic, cry a lot inconsolably? Was baby shy and frightened or excited to meet strangers? Look to see what multiple caregivers or adults in the social circle of the child might have said]*

SAY: How were emotions treated in your house growing up?

[*Looking for how caregivers responded to patient's emotions, and how caregivers dealt with their own emotions. Did parents/guardians express a lot of emotion, either positive or negative? Was client taught—either explicitly or by how the adults in your life acted—that emotions need to be "released" or that emotions should be private and hidden?]*

SAY: How were emotions treated in your peer group when you were young?

[*Looking for evidence of social relationships as a child/teen, and what the*

norms were around emotions in those peer groups. Did peers co-ruminate and share in the emotions, or did peers ignore emotion? Were emotions "allowed" in friend groups—which ones? Can talk about younger childhood or adolescence here, whatever seems most prominent to the patient.]

SAY: How were your experiences with emotion growing up shaped by your cultural identity? By that I mean race, religion, sexual orientation, gender, or any other subculture that you identified with growing up?

[*Looking for cultural/systemic factors that influenced their emotional upbringing.*]

SAY: Lets now come back to your current self. What kind of feedback have you gotten from people—significant others, friends, co-workers—about your emotional sensitivity? Do people ever tell you that you are "too sensitive," or on the flip side, "Always calm" or maybe even "Icy?"

[*Looking here for awareness of perception from others, feedback that would speak to sensitivity and/or reactivity to emotion.*]

SAY: Do you find yourself quick to react emotionally? Are you easily "worked up?" Or do things hardly ever seem to get to you?

[*Looking here for awareness of self-perceptions about emotional intensity and sensitivity*]

Part IV: Emotion Beliefs

SAY: Now I want to ask you some questions about a questionnaire you completed earlier, this one about Beliefs about Emotion.

(*Pull out the completed Part I Beliefs about Emotion Screening and ask the patient to elaborate on their responses by asking the questions below. Start the first few by asking about how that belief changes when they are in a negative or strong emotional state, but if they keep denying that their beliefs change, don't keep asking them.*)

1. **SAY**: On the first belief, which is where emotions come from, you said a _____ [provide patient's number]. What made you choose that value? How does your belief shift when you're in a strong emotional state versus a typical state?

2. **SAY:** The second belief is about your attitude toward negative emotions. One side is that negative feelings are bad and destructive, where a person would prefer to never feel bad, and the other side is that negative feelings are helpful and useful. Why did you say _____ on this item? How does your belief shift when you're in a strong emotional state versus a typical state?

3. **SAY:** The third belief is about experiencing multiple emotions at once. One pole is for people who think it's OK to experience a variety of conflicting emotions at once, and the other pole is for people who think you should only feel one thing at a time. Why did you say _____ on this item? (How does your belief shift when you're in a strong emotional state versus a typical state?)

4. **SAY:** The next item (*#4*) asks about your beliefs around sharing emotions with others. On one side is the idea that emotions should be "let out" and expressed to others, and the other side is the belief that emotions should be kept private to the self.

You said _____. What makes you say this? (How does your belief shift when you're in a strong emotional state versus a typical state?)

5. **SAY**: On item 5, which asks about feeling versus logic, you said _____. What makes you say this? (How does your belief shift when you're in a strong emotional state versus a typical state?)

6. **SAY:** On the question about whether you believe emotions control behavior, from it being difficult to act differently than emotions versus it being easy to act differently than how you feel, you said ____. What makes you say this? (How does your belief shift when you're in a strong emotional state versus a typical state?)

7. **SAY**: On the item asking about whether emotions can be changed or not, you said ____. What makes you say this? (How does your belief shift when you're in a strong emotional state versus a typical state?)

8. **SAY:** On number 8, which asks about whether you believe your emotions are similar or different from other peoples emotions, you said ____. How do you know this? (How does your belief shift when you're in a strong emotional state versus a typical state?)

9. **SAY**: Finally, on the item which asks about how long your feelings last, you said _____. What makes you say this? (How does your belief shift when you're in a strong emotional state versus a typical state?)

Part V: Regulation Efforts

Regulation and Emotion-Driven Behavior

SAY: Now I want to ask you some questions about what you do *after* you experience a significant emotion, like what you might try to do to make that feeling go away, or maybe what you might to do keep experiencing a feeling that you want to feel.

Sometimes when people experience strong emotions they tend to try to "dull" those emotions by taking drugs or drinking alcohol. Is that something you've tried? How often do you do that?

[*Looking for drinking or drugging to cope*]

SAY: Other people might try to change the emotion with physical activities, either by exercising or working out, or maybe even physical pain such as self-injury. Have you ever tried altering your emotions with physical activity or physical pain? How often do you do that?

[*Looking for non-suicidal self-injury (NSSI), also exercise tendencies*]

SAY: Some people also turn to eating when they are feeling emotional. Are you someone who's engaged in "emotional eating" or "eating your sorrows?"

[*Looking for eating as a regulation strategy.*]

SAY: Some people try to manage emotions using their thoughts, like either trying to think about the situation differently, or maybe just trying to not think about the situation at all. Have you tried to manage your emotions with your thoughts? How?

[*Looking for reappraisal and thought suppression primarily, but could be other cognitive regulation efforts that would appear here.*]

SAY: Do you ever try to just not feel how you're feeling? Does that work?

[*Looking for experiential suppression here.*]

SAY: Some people try to share their feelings with others Do you tend to reach out to others for emotional support when you're feeling upset?

[*Looking for social support here.*]

SAY: When you share your feelings with others, how does that help you manage your own feelings?

[*Looking for evidence of regulation as dependent on the response of the other person; will only feel better if the other person responds in the "right" way. Or "response-independent" where people might feel better just by "talking things out" and it doesn't matter what the other person says*]

SAY: Besides the specific things I've asked you about, are there other things that you tend to do that help you manage what you're feeling, maybe even make the strong feeling go away?

[*Looking for any other regulation tendencies here, both helpful and unhelpful behaviors. Also here looking for avoidance or escape efforts as regulation strategies*]

Part VI: Repetitive Negative Thinking

Repetitive Negative Thinking (Worry, Rumination)

SAY: Finally, we know that some people tend to "get over" emotional events easily, and other people tend to think about emotions or emotional situations a lot. People who think about emotions a lot might think about past emotional events, or things that could happen in the future? Have you ever found it hard to stop thinking about either past or future emotional events?

[*Looking for evidence of repetitive negative thinking, worry and rumination, thinking about why, getting "stuck" on thoughts without meaning-making.*]

SAY: [*If evidence that person engages in worry/rumination:]* What happens in these episodes, have you been able to identify any prompts as to what starts you thinking about emotional events?

[*Looking for awareness of antecedents to rumination/worry, patterns*]

SAY: [*If evidence that person engages in worry/rumination:*] How long do you find yourself thinking about emotional events? What happens, what gets you out of thinking about those events?

[*Looking for efforts to regulate or halt repetitive negative thinking*]

Part VII: OPTIONAL QUESTIONS

The rest of the questions are OPTIONAL; ask any of these only if you do not have a good sense of the patient's general emotional patterns from questions in the previous sections.

SAY: Do you tend find yourself upset in particular situations or when you are around specific people?

[*Looking for awareness of patterns, particular contextual triggers]*

SAY: How long do emotions tend to last for you?

[*Looking for perceptions of duration—from a few seconds to several days or even longer*]

Additional questions if desired (*all of these get at awareness of emotional patterns*)

SAY: What kind of events do you consider emotional for you?

SAY: Are there certain times that are more emotional than others (e.g., night time, holidays)?

SAY: Are there any locations that make you feel emotional?

SAY: Do you tend to experience emotions when alone? With others? Are there certain people that bring about emotions in you? Certain people/certain emotions?

SAY: Are you more emotional in different states (e.g., hungry, tired)?

Expression: General

SAY: In general, would you say you are someone who tends to express your emotions or "wear them on your sleeve"?

SAY: When you're feeling a strong emotion, do you want to let others know how you are feeling or do you tend to hide it from others?

SAY: Is it difficult for you to describe how you are feeling? If I came to your house at a random time and asked, "How are you feeling" would you be able to answer that question?

Judgments - General

SAY: Do you ever feel like you shouldn't feel the way you do?

SAY: Do you find yourself wishing that you could have controlled your emotions in certain situations?

SAY: Do you find yourself feeling negatively/bad about how you reacted to a situation?

SAY: Do you think you are typically justified in the emotions your feel?

SAY: Do you think you are typically justified in the way you express emotions?

SAY: Do you think other people whished you had different emotions?

SAY: Do you think other people wish you would have expressed your emotions differently?

SAY: Do you feel worse after expressing an emotion than you did before you expressed it?

Part VIII: FEEDBACK & SCORING

This is the section where you essentially give the patient feedback about what you heard. Note that in some areas you might not be able to score clearly; this is an opportunity to point out discrepancies to the participant and get their input as to the scoring. For each piece, circle your tentative score and write down evidence elements from the interview, taking care to not just search for confirmatory information but also any conflictual pieces.

SAY: Thank you for doing that interview. I'm done asking you questions, but I do want to take some time and give you some feedback about what I heard in terms of your emotional functioning.

First, in this interview I was assessing your *emotional sensitivity.* This is essentially how quickly and strongly you react to emotional things, and is often visible to others. Based on what you told me today, it seems as though you are:

Sensitivity		*Evidence (e.g., describe self-report data and/or content from interview—did they cry? Does their chart suggest sensitivity)*	*Any contradictory evidence or conflictual pieces?*
	Circle One		
Low	Limited sensitivity/reactivity to emotional stimuli		
Mod	Moderate reactivity to emotional stimuli; neither high nor low		
High	reacts strongly and intensely to emotional stimuli.		
Flexible	sensitivity seems to vary across contexts adaptively		
Unclear	Not enough information to be able to score		

(*If needed,*) **SAY:** Emotional sensitivity has a big biological piece to it, but it's not all biological. Experiencing traumatic events can increase emotional sensitivity, and emotional sensitivity can change over time based on how people respond in your environment.

SAY: Another thing I was listening for was your awareness of different aspects of emotion. Emotions have different components—there is a physical or physiological component, there are action urges that go with emotions and there are thoughts that go with emotions. I was partially listening for how well you seem to be aware of the thoughts that go along with emotions. Based on what you told me today, it seems as though you are:

Awareness of appraisals		*Evidence: Do they mention thoughts when describing emotions? Can they articulate how they are interpreting events? You will likely need to pay close attention to score this!*	*Any contradictory evidence or conflictual pieces?*
Circle One			
Low	Limited/no ability to describe appraisals of events		
Mod	Can describe appraisals of events but without insight		
High	Describes appraisals of events with high insight into function of appraisals		
Unclear	Not enough information to be able to score		

SAY: In terms of your awareness or attention to the physical elements of emotion, it seems as though you are:

Awareness of physical		*Evidence: Can they talk about their physical sensations around emotion? When prompted? What sensations are typically experienced?*	*Any contradictory evidence or conflictual pieces?*
Circle One			
Low	Limited/no ability to describe physical sensations in emotional events		
Mod	Can describe physical sensations in emotional events		
High	Describes physical sensations of with detail; attentive to nuance and change in physicality		
Unclear	Not enough information to be able to score		

SAY: In terms of your awareness of the emotional action urges, the things your emotions want you to do, it seems as though you are:

Awareness of physical		*Evidence: Can they talk about their emotion urges? Does this make sense based on the emotion? Which action urges are common (approach/avoid)?*	*Any contradictory evidence or conflictual pieces?*
	Circle One		
Low	Limited/no ability to describe action urges in emotional events		
Mod	Can describe action urges simply		
High	Describes action urges clearly and with detail		
Unclear	Not enough information to be able to score		

SAY: I was also paying attention to how you talk about emotions. Some people use a lot of different terms to describe their emotions and are very clear on the nuances of their emotional experience. Other people talk about being "upset" or feeling "bad" without a lot of differentiation as to whether they were feeling angry, sad, anxious, etc. This is called emotion differentiation and it matters because people who are better at identifying what variety of emotion they are experiencing tend to have an easier time managing their emotions and coping with negative emotions. Based on what you told me, it seems that you are:

Subjective Feeling (Differentiation)		*Evidence: Can they talk about their emotions in a clear, nuanced manner?*	*Any contradictory evidence or conflictual pieces?*
	Circle One		
Low	Limited/no ability to differentiate feelings. May use "Bad" or "upset" or the same word for every situation.		
Mod	Can describe multiple emotions with simple distinguishing labels (e.g., "sad" or "angry")		
High	Describes feelings with many emotion words, may describe mixed or complex feeling states		
Unclear	Not enough information to be able to score		

SAY: Beyond just how you experience emotions inside yourself, I was listening for how you express or share your emotions with others. Some of that was evident from how you talked about these emotional experiences with me, as well as what you said about how your emotions were treated when you were growing up and how you choose to share your emotions these days. Based on what you told me, it seems that you:

Expression		*Evidence: Did they cry in session? Get emotional with you, or talk in a matter-of-fact way? Did they indicate sharing emotions with people in their life?*	*Any contradictory evidence or conflictual pieces?*
	Circle One		
Low	Actively suppresses expression or just has low expressive tendencies; rarely expresses emotions		
Mod	Moderate levels of expression		
High	Extremely emotionally expressive across most contexts		
Extremes	Often tries to suppress but is ineffective and has explosive "blow-ups"		
Flexibly Adaptive	Evidence that person shifts expression flexibly and adaptively across contexts		
Unclear	Not enough information to be able to score		

SAY: All of those things I just talked about were about how you experience emotion. In addition to experiencing emotion, we also *respond* to our emotions in all kinds of ways. I was first paying attention to how you act in response to your emotions. We call this emotion driven behavior. Some people act on their emotion's action urges. Other people try to control or act *against* their emotions, to try to make sure their emotions don't get them intro trouble. Based on what you told me, you seem to:

Emotion-Driven Behavior		*Evidence: Does patient engage in emotion-driven behavior? Are they undercontrolled or overcontrolled?*	*Any contradictory evidence or conflictual pieces?*
	Circle One		
Approach	Tends to act out; verbally or physical behaviors (typically		

	impulsive risk behaviors that people "regret" later)		
Avoid	Escapes or leaves situation; active avoidance efforts		
Mixed	Uses both approach and avoidance problematically		
Controlled	Person has little evidence of emotion-driven behavior; does not seem to act with emotion		
Flexibly Adaptive	Evidence that person shifts behavior across situations; typically uses emotions to serve effective behavioral choices		
Unclear	Not enough information to be able to score		

SAY: Another way we respond to our emotions is in terms of how we think about our emotions, how we judge whether our emotions are "normal" or "natural." This can do with our judgments of ourselves for having emotions, sharing emotions or acting on them, whether we judge ourselves as bad or we judge ourselves as good (or trying the best we can). Based on what you told me, you seem to:

Judgments		*Evidence: Include content of judgments and any evident secondary emotional responses*	*Any contradictory evidence or conflictual pieces?*
Circle All That Apply			
Feeling - Self	Person tends to think they "shouldn't" feel the way they feel		
Expression - Self	Person tends to think they shouldn't have expressed in the way they did (can include expression or lack of)		
Expression - Others	Person tends to think others shouldn't express the feelings they express		
Behavior – Self	Person tends to think they shouldn't have acted how they did		
Behavior – Others	Person tends to believe others shouldn't act how they act in emotional situations		

Unclear	Not enough information to be able to score		

SAY: The way that you respond to your emotions, both in terms of your behavior and in terms of your judgments, makes sense considering what you told me about your emotional beliefs.

Emotion Beliefs		*Evidence: Include content of judgments and any evident secondary emotional responses*	*Any contradictory evidence or conflictual pieces?*
Circle Any that Apply			
Emotions come from out of the blue, for no reason	Emotions happen because of clear identifiable causes		
Negative feelings are helpful and useful	Negative feelings are bad and destructive		
I should feel a variety of conflicting emotions at once	I should only feel one thing at a time		
Emotions must be "let out" and expressed to the world	Emotions should be kept inside the self;		
Feeling is preferable to effortful thought.	Logic is preferable to emotion		
It is extremely hard, maybe impossible, to act differently than what my emotions tell me to do.	It is possible, maybe even easy, to act differently than how I feel inside.		
Emotions have to "run their course"; they are hard to change or alter	Everyone can learn to control their emotions		
My emotions are similar to everyone elses	No one seems to experience emotions the way I do		

Negative feelings seem to last forever	Negative feelings are difficult but don't last very long		

SAY: Finally, the last things I was listening for were for how you try to regulate or cope with your emotions, particularly the negative emotions. Most people use a variety of strategies to manage their emotions, and I was listening for the types of things you said that you do. Many of the emotion strategies people use are internal—these are ways we try to manage our internal worlds privately, including ways we try to make sense of ourselves. Based on what you told me, you tend to:

Mental regulation strategies.		*Include content of patient's go-to intrapersonal regulation strategies (e.g., reappraisal, distraction, acceptance, avoidance, thought suppression, etc.)*	*Any contradictory evidence or conflictual pieces?*
Circle One or More			
Mental Regulation	Tries to use cognitive strategies (e.g., reappraisal, suppression, acceptance)		
Worry	Mentally thinks repetitively and pessimistically about future events; with judgment and "should"		
Rumination	Mentally thinks repetitively and pessimistically about past events ; with judgment and "why"		
Reflection	Thinks about future or past events reflectively, seeks meaning and growth		
Low repetitive negative thinking	Person does not typically think about emotions or behaviors; not particularly cognitive		
Unclear	Not enough information to be able to score		

(*Note: you can give feedback on your perception of how effective these strategies in general according to research, are as well as how effective these strategies seem to be for the person)*

SAY: And some of the regulation strategies that people use are behavioral, things we do. These are things other people see us do, and sometimes actually involve other people. And some of the regulation strategies that people use are behavioral, things we do. These are things other people see us do, and may involve other people—one of the primary things people do when upset is seeking out the support of others. Based on what you told me, the behaviors that you tend to engage in to regulate your emotions are:

Intrapersonal regulation strategies.		*Include content of seeking social support, how patient asks for help, etc.*	*Any contradictory evidence or conflictual pieces?*
	Circle One		
Physical	Tries to use physical strategies for regulation (exercise, drugs/alcohol, yoga, deep breathing)		
Behavioral	Tries to use behavioral strategies (non-physical) to distract (e.g., reading, watching TV, playing music)		
Seeks Support-response dependent	Person needs response from the other person to regulate feelings		
Seeks support-response independent	Sharing emotions with others helps the patient regulate regardless of their response		
Mixed	Uses multiple strategies ineffectively		
Ineffective			
Flexibly Adaptive	Evidence that person shifts strategy based on situational need; typically uses a variety of strategies effectively		
Unclear	Not enough information to be able to score		

(*Note: you can give feedback on your perception of how effective these strategies in general according to research, are as well as how effective these strategies seem to be for the person)*

SAY: I learned a lot about you and your emotional life during this interview. The one thing we actually haven't talked at all about yet are the values that you articulated at the very beginning of this interview. You selected the values (*review top 5 values, perhaps also 6-10).* Considering these values, your approaches to emotion make sense because [*discuss here*]. (*If needed*) On the other hand, considering your values of _____, some of the ways you approach your emotions might not makes sense because [*discuss here.*] In general, we find that people are happier when they live life according to their values, and emotions are often a clue to whether our values are being lived or blocked. I encourage you to keep your values in mind in the future when you encounter emotions and continue to try to manage them.

Appendix C

IRB Approval

UNIVERSITY OF ARKANSAS

To:	Jennifer C Veilleux MEMH 312
From:	Douglas J Adams, Chair IRB Expedited Review
Date:	01/25/2021
Action:	**Expedited Approval**
Action Date:	01/25/2021
Protocol #:	1909212208A001
Study Title:	Emotion Conceptualization Interview
Expiration Date:	09/08/2021
Last Approval Date:	01/25/2021

The above-referenced protocol has been approved following expedited review by the IRB Committee that oversees research with human subjects.

If the research involves collaboration with another institution then the research cannot commence until the Committee receives written notification of approval from the collaborating institution's IRB.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date.

Protocols are approved for a maximum period of one year. You may not continue any research activity beyond the expiration date without Committee approval. Please submit continuation requests early enough to allow sufficient time for review. Failure to receive approval for continuation before the expiration date will result in the automatic suspension of the approval of this protocol. Information collected following suspension is unapproved research and cannot be reported or published as research data. If you do not wish continued approval, please notify the Committee of the study closure.

Adverse Events: Any serious or unexpected adverse event must be reported to the IRB Committee within 48 hours. All other adverse events should be reported within 10 working days.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, study personnel, or number of participants, please submit an amendment to the IRB. All changes must be approved by the IRB Committee before they can be initiated.

You must maintain a research file for at least 3 years after completion of the study. This file should include all correspondence with the IRB Committee, original signed consent forms, and study data.

cc: Elise A. Warner, Investigator
Danielle E. Baker, Investigator
Kaitlyn D Chamberlain, Investigator
Regina E Schreiber, Investigator
Jeremy Clift, Investigator