8-2019

Perception of Emotional Invalidation as Related to Behavioral Inhibition

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A Thesis

Presented to

The Faculty of the Department of Psychology

University of South Carolina Aiken

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science

By

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August 2019

Abstract

Emotional invalidation (EI) occurs when an individual degrades or does not acknowledge another individual's emotions (Linehan, 1993). While much of the literature emphasizes a relationship between childhood EI and BPD, the current study examined the relationship between childhood EI and behavioral inhibition (BI) as a symptom of anxiety. In a counterbalanced order, participants watched three videos in which an individual was invalidated, validated, or received a neutral emotional response. Following each video, participants completed the modified Perceived Emotional Invalidation Scale (PIES). Participants then completed the following measures: Invalidated Childhood Environments Scale (ICES), Adult Measure of Behavioural Inhibition (AMBI), and Interpersonal Reactivity Index (IRI): Perspective Taking (PT). The main hypothesis stating that characteristics of trait behavioral inhibition and self-reported childhood emotional invalidation would predict current perceptions of emotional invalidation in each video condition was not supported. Results demonstrated that participants were able to identify the presence or absence of emotional invalidation in each condition, but their perceptions could not be predicted based on the other variables examined. Possible explanations for these unexpected findings are discussed.

Introduction

Emotional Validation and Invalidation

In a dyadic interaction, when an individual expresses their emotions, there are three ways in which the other individual may respond. They may emotionally validate the individual, emotionally invalidate them, or provide some sort of neutral emotional response. Two prominent concepts within the realm of emotion and emotional expression are the concepts of emotional validation (EV) and emotional invalidation (EI)—both of which are interpersonal rather than solely intrapersonal. EV, according to Linehan (1993), involves acknowledging another individual's emotions and rendering them as valid and appropriate. It is as if the individual is normalizing the emotions that the other individual expressed. In contrast, EI is related to the lack of acknowledgement of another individual's emotions and/or degrading their emotional expressions (Linehan, 1993).

Both EI and EV can be expressed as verbal and nonverbal behaviors. While the behaviors themselves are important, an individual's perception and interpretation of the validating, invalidating, or even emotionally neutral behavior are the critical components of EI and EV. In the context of cognitive behavioral therapy (CBT), thoughts, emotions, and behaviors interact and are connected. Within these three tenets, it is the perception of each that is key. For instance, while there is the cognitive understanding of an emotional response, there is the implicit emotional meaning that underlies the perception of the behavior. As such, the perception of emotion can influence behavior (Samoilov & Goldfried, 2006). Therefore, it is the individual's own cognitive perception of the behaviors that signify the effects of EI and EV. Another study found that the perception of an individual's behavior, particularly nonverbal behavior, significantly affected the overall perception of the emotional state of the other individual

(Rosenthal-von der Pütten, Krämer, & Hermann, 2018). The individual's response that follows their perception is critical as well in that it may signify the effect or toll that the EI and EV is taking on the individual, especially after enduring chronic EV or EI over a long period of time.

Certain environments may enhance the frequency of EI and/or EV behaviors and thereby influence the perceptions of EI and EV. For instance, in a chronic emotionally invalidating environment, a child would receive continual messages that his or her feelings are unimportant or incorrect from an influential person (parent/guardian, teacher, family member, etc.). Extended exposure in this particular environment would hinder or even halt an individual's understanding and expression of emotions since they would not have much prior experience with expressing and perceiving emotions. This environment teaches an individual that their internal thoughts, feelings, and emotions are wrong or abnormal and that it is their fault that they are experiencing socially abnormal emotions (Linehan, 1993). When an individual is not allowed the opportunity to fully experience emotions by expressing them, receiving validating responses, and perceiving emotions from other individuals, they do not develop the knowledge on how to express emotions across contexts. This is a process by which contributes to emotional dysregulation, or the inability to efficiently manage their emotions (Linehan, 1993). In contrast, in an emotionally validating environment, an individual's emotions are not minimized or ignored and therefore, the individual is generally able to experience and express their emotions, assuming there are no other etiological or psychological factors at play (Elzy & Karver, 2017). Prolonged exposure in this type of environment would allow the individual the opportunity to develop a more holistic understanding of the realm of emotions and proper emotional expression.

Throughout much of the literature, researchers focus on the effects of chronic EI exposure. Utilizing the terminology of "chronicity" highlights the negative denotation of EI in

that it is recurrent, persistent, and/or severe. In order to further suggest that chronic EI is adverse for an individual, it is important to discuss the potential adverse effects. For instance, research regarding chronic EI has uncovered that there is both a correlational and a causal relationship with the development of Borderline Personality Disorder (BPD) (Crowell, Beauchaine, & Linehan, 2009). BPD is characterized by the instability of emotional expression and irregular mood cycles—both of which are rooted in previously having to suppress or avoid healthy expressions of emotions (American Psychiatric Association [APA], 2013). The suppression of emotions may be attributed to chronic exposure to EI from other individuals, or the chronic EI may lead an individual to suppress their emotions because their emotional intelligence is not able to adequately develop.

There are other adverse effects that may result following chronic exposure in an EI environment. These effects build off one another and are viewed as consequences of perceived childhood EI. For instance, individuals who are exposed to habitual EI responses do not learn how to accurately label their emotions and therefore are not able to label what occurs internally or label what another individual is experiencing. Another adverse effect is that an individual does not learn how to tolerate and cope with emotional distress. For the individual who struggles to label emotions, this individual would also likely struggle to process emotions that they were instructed to avoid. An individual in this situation may express their emotions in more extreme manners in efforts to trigger the EV response that they long for. Even with the extreme emotional expressions, these individuals may express EI towards themselves, or self-invalidate, since they do not fully trust the legitimacy of their own internal experiences. When an individual self-invalidates, this may lead to emotional distress, which thereby leads back to emotional dysregulation (Linehan, 1993). Whether an individual experiences these negative emotional

consequences of chronic EI exposure to the extent of a full-blown psychological disorder, at a subclinical level, or simply enough to affect their overall emotional intelligence, these adverse effects reveal that chronic EI can impact multiple components of an individual's emotional expression capabilities.

As alluded to above, chronic EI can lead to adverse outcomes, such as psychological symptoms, sub-clinical levels of distress, or even diagnosable psychological disorders. Therefore, enduring chronic EI is essentially a type of psychological abuse (Elzy & Karver, 2017; Witkowski, 2017; Zielinski & Veilleux, 2018). Psychological abuse is the exposure to adverse stimuli that may lead to psychological trauma. Many may make the connection that emotional abuse leads to adverse psychological outcomes. By applying this concept to chronic EI, this reveals that it limits or restricts the expression of emotions overtime and therefore, can be categorized as psychological abuse.

Research related to EI in particular is important in that it has been both hypothesized and supported that there is a causal relationship with the development of psychopathology as a result of chronic EI (Crowell et al., 2009; Linehan, 1993; Sells, Black, Davidson, & Rowe, 2008). Within the literature, there is a strong connection between BPD and EI (DeShong, Grant, & Mullin-Sweatt, 2019). BPD and anxiety disorders are frequently comorbid and the general pathology of each disorder is similar (APA, 2013). Additionally, when treating BPD in therapy, one of the treatment goals is usually related to managing anxiety symptoms (Clarkin, Levy, Lenzenweger, & Kernberg, 2007). Moreover, individuals with BPD, individuals with anxiety, and individuals with both of these disorders, are likely to experience the following challenges: problems with establishing their own identity, difficulty with expressing the appropriate affect, poor relationships, impaired perception of situations, and possibly self-harm (Distel, Smit,

Spinhoven, Penninx, 2016). Given this overlap, it is plausible to suggest that there is the potential for there to be an important relationship between EI and anxiety.

Verbal EI/EV behaviors. As briefly discussed above, both EI and EV can be expressed in a verbalized manner. More specifically, it may be the context or even the tone of voice of the verbalized comment that may be perceived as validating or invalidating. Specific to EV, the following are types of comments that would be inherently validating: comment of understanding, comment about the importance of the other person's response, encouragement to share feelings, and a general normalizing comment (Elzy, Johnson, Waters, Gordon, & Ard, 2018). Normalizing a person's emotions, encouraging them to share their emotions, emphasizing the importance of their emotions, and attempting to understand their perspective are all instances in which one individual validates the emotions of another individual. Previous research describes EV as an "accurate reflection" of another individual's emotions, which further highlights the component of perception (Benitez, Southward, Altenburger, Howard, & Cheavens, 2019). Depending on the circumstances and conversations, an individual can be verbally validated multiple times in multiple ways given that there are a multitude of validating remarks that may be made (in addition to those mentioned previously).

On the other hand, an individual can be verbally invalidated multiple times in multiple ways given the variety of comments that may be made. A few examples of these are as follows: comment implying overreaction, comment about being incorrect, suggesting one should feel differently, and a comment of abnormality (Elzy et al., 2018). Moreover, if an individual were to imply that another individual's emotions were synonymous with an overreaction, abnormal and incorrect for a particular setting, and/or attempt to tell the individual that they should feel differently, then invalidation would be occurring, potentially to the chronic degree.

Nonverbal EI/EV behaviors. While there are multiple verbal remarks that an individual can make following another individual's emotional response or expression, there are also a multitude of nonverbal behaviors that can accompany these comments that may be inherently validating or invalidating. For instance, maintaining an active listening posture by maintaining eye contact and angling oneself towards the individual would be examples of validating nonverbal behaviors. Additionally, an attentive gesture, such as a smile or a nod during the time the other individual is expressing their emotions, would also be validating. In contrast, a dismissive posture, such as being turned away from the individual while they are expressing their emotions would be invalidating. Perhaps a more obvious invalidating nonverbal behavior would be an eye roll, in which would be off-putting to the individual on the receiving end. Additionally, another major nonverbal EI behavior would be if the individual is not receiving full, undivided attention (Elzy et al., 2018). In today's day and age, a common example that is often misconstrued is being distracted by one's cell phone rather than giving full and undivided attention to the individual who is expressing their emotional concern. All in all, both verbally and nonverbally ignoring an individual's emotions is one of the clearest forms of EI.

Perception of EI. While there are behaviors and comments that are inherently validating or invalidating, what makes them affect psychopathology, according to Linehan (1993), is the perception. The perception of emotion can be defined as one's ability to interpret the emotion-ridden comments and behaviors as validating or invalidating. It is worth noting that this interpretation may or may not occur consciously in that the individual may not consciously process that they are enduring EI or EV from the other individual (Elzy & Karver, 2017). One's ability to correctly interpret emotions leads to the discussion of the emotional intelligence continuum. While the perception of EI and EV is rather important, an individual can endure

chronic EI consistently and frequently without the knowledge of the fact that it is invalidating. Rather, being told to ignore their emotions, that they are abnormal, and having their emotions overtly minimized consistently overtime leads to adverse outcomes, as described above. Similarly, having one's emotions validated by normalizing an emotional response and/or commenting on the necessity of expressing emotions may limit the probability of adverse outcomes. In other words, chronic EV would likely not negatively contribute to the etiology of a psychological disorder in the same nature as chronic EI would.

Emotional Intelligence and Awareness

In order to be aware and perceive emotions, particularly in the context of EI and EV, one needs emotional intelligence. Emotional intelligence, as defined by Mayer and Salovey (1997), involves the ability to perceive, use, understand, and regulate emotions. Most researchers agree that there are two types of emotional intelligence: ability and trait (Zysberg, 2018; Barlow, Qualter, & Stylianou, 2009). Ability emotional intelligence is representative of an individual's overall emotion-related abilities (identifying emotions and regulating emotions). This ability emotional intelligence is most significantly impacted by chronic EI exposure during childhood, as described above in the context of adverse outcomes. Trait emotional intelligence, on the other hand, is context-specific in that the individual must be able to understand how to emotionally respond in a prosocial manner in a variety of contexts (Barlow et al., 2009). Trait emotional intelligence would also be impacted by chronic EI exposure during childhood, but allows for the possibility that an individual's emotional intelligence fluctuates in various contexts and may be related to the context in which they experienced chronic EI initially.

Emotional intelligence plays a key role in communication. Moreover, emotions serve as a way for individuals to communicate with other individuals. If an individual possesses emotional

intelligence and thereby understands which emotions to express in which contexts, then this opens the door for other individuals to validate or invalidate their emotional response, which may lead to a conversation. When an individual experiences a deficit in emotional intelligence, they may still attempt to validate or invalidate another individual, but not in a socially acceptable manner; and therefore, cannot adequately contribute to the emotional conversation. In order to further explain this from a developmental perspective, a parent's response to a child's emotions aids in the development of a child's emotional intelligence through imitation or modeling and then eventually through identity development. Potential moderators for this scenario may be if the child is enduring chronic EI or EV in that the environmental context in which chronic EI would hinder the development of age-appropriate emotional intelligence (Stoica & Roco, 2013).

Within the first six months of life, infants gain the ability to recognize and discriminate emotions. Heck, Chroust, White, Jubran, and Bhatt (2018) found that children as young as five-months old possess the ability to recognize nonverbal emotional behavior. This reveals that the legitimacy and development of emotional intelligence begins very early on in life and highlights the developmental school of thought that accompanies the concept of emotions. Researchers have found that the presence of emotional intelligence partially mediated the relationship between age and satisfaction with well-being (Chen, Peng, & Fang, 2016). Chen et al. (2016) also found that greater affective well-being and age was fully mediated by emotional intelligence. Therefore, as emotional intelligence develops along with the natural development of an individual, satisfaction with one's own well-being also increases. These findings suggest that the knowledge and understanding of, accompanied by healthy expressions of, emotions correlate with life satisfaction.

Emotional development. The bulk of emotional development takes place between birth and five years of age, but emotional development can continue to occur across the lifespan (Halle & Darling-Churchill, 2016). Emotional development centers on developing the ability to regulate, experience, and express emotions, which is similar to that of emotional intelligence, as discussed previously. In order to develop emotionally, in the early stages, parents need to meet their infant's needs, which provides the infant with the opportunity to express and regulate their emotions, and ultimately develop secure attachments. Between zero and one years old, infants begin to acknowledge that they are separate individuals from their parents and thereby learn that parents can soothe them, but also that they can and need to self-soothe. Toddlers, between the ages of one and two, gain the ability to verbally and nonverbally express a range of emotions and recognize when other children change emotional states. By the age of three, children possess the capabilities to develop emotional relationships, such as friendships, and manage their own strong emotions (such as frustration related to turn-taking and sharing toys) in an appropriate manner (Halle & Darling-Churchill, 2016). These stages of emotional development provide a foundation for emotional intelligence, or emotional competence, and potentially the ability to perceive EV and EI (Halle & Darling-Churchill, 2016).

Affective perspective taking. Within the construct of emotional intelligence is the concept of affective perspective taking. Affective perspective taking can be defined as the ability to identify and differentiate another individual's affect (Anastassiou-Hadjicharalambous & Warden, 2008). The ability to engage in affective perspective taking has been seen in children as young as the age of four and in general, improves with age and experience (Hahn & Garrett, 2017). The ability to take the perspective of another individual is crucial within the context of EI and EV because it contributes to their emotional response as well as the development of

emotional intelligence. For instance, in order to invalidate, or more importantly, validate an individual, an individual needs to possess the capability to take the perspective of the individual who is producing the emotional response. A comment of understanding, agreement, or rationalization are all emotionally validating; however, they require the ability to take another individual's perspective. This is because it is not readily possible to validate emotions of another person accurately if one cannot understand and correctly perceive the emotions of another individual. In order to correctly perceive emotions, one must possess emotional intelligence. As with intellectual intelligence, this type of intelligence improves across development due to experience and practice. Another important component of perception is that the individual who may be encountering the EI or EV must possess the ability to perceive emotional responses and thereby may internalize those responses as either EI or EV. The ability to accurately take the perspective of another individual is enhanced through experience and repeated emotional and social interactions, which contributes to the development of the sense of self and other (Luoma, Hayes, & Walser, 2007). Affective perspective taking is critical in multiple ways when assessing the impact of EI.

Behavioral Inhibition

While there are multiple predictors and risk factors that attribute to the symptomology of anxiety disorders, a predictor and risk factor of particular focus in the current study was behavioral inhibition (BI). BI can be explained as an individual's tendency to respond to novel stimuli with avoidant behaviors. Given that BI emerges early in life and individuals are born with this risk factor or tendency towards BI, BI has been observed in toddlers as young as one year old. Moreover, BI tends to persist into adolescence and even throughout adulthood (Claus &

Blackford, 2012). Therefore, it is evident that BI can be measured across the lifespan in correlation with one's anxiety symptomology and tendencies.

Characteristics of BI can be discussed in the context of neurological differences, physiological responses, temperament, and personality characteristics. Neurologically, researchers have found that the fear response in the amygdala in the brain is more hyperactive for individuals who exercise BI tendencies when compared to the control group. Additionally, there are also structural differences in the ventrolateral prefrontal cortex of the brain (Fox & Pine, 2012). This insinuates that an individual may in fact be born with BI tendencies, which influences the etiology of anxiety disorders and symptomology. The hyperactivity in the amygdala relates to the physiological fear response. The autonomic nervous system, which is comprised of the sympathetic and parasympathetic nervous system, generates the "fight, flight, or freeze response" that individuals implement when confronted with novel stimuli. A hyperactive amygdala in conjunction with BI tendencies produces a physiological response of an increase in cortisol, pupil dilation, and an increase in heart rate—all of which have been observed in individuals with an anxiety disorder and symptoms. Even when individuals are not presented with novel stimuli and are attempting to maintain homeostasis, individuals who are more inclined to exhibit BI have a faster resting heart rate, which links back to the higher arousal state at the neurological level (Blackford, Avery, Cowan, Shelton, & Zald, 2011; Clauss & Blackford, 2012).

Temperament and personality characteristics are often discussed as being synonymous, but in actuality, they influence each other. Children presenting with BI symptoms tend to possess an inhibited temperament (Blackford et al., 2011; Clauss & Blackford, 2012; Fox & Pine, 2012). However, this is not to say that children with other temperaments will not experience BI or other

anxiety characteristics. Nonetheless, these children often exercise avoidant coping styles to accompany their avoidant interactions (Fox & Pine, 2012). Personality characteristics that are generally associated with this inhibited temperament are shyness, utilizing caution in novel situations, and increased levels of fear or hyperarousal even at rest. These personality characteristics produce inhibited behaviors in both novel and frequently encountered situations, which aligns with the general concept of BI. These indivduals who have similar temperament and personality characteristics are considered to possess trait BI. In other words, this is a more stable trait and potentially chronic emotion across domains in which individuals experience anxiety. Related to this is state BI, which is an acute emotion that is situation-specific (Liu & Li, 2019). For the current study, examining BI characteristics across domains was more relevant given the design of the study; therefore, trait BI was the specific variable of interest as related to anxiety.

Anxiety Disorders

In order to better understand how anxiety disorders may correlate with the perception of emotional invalidation, it is important to understand the clinical definition of anxiety as well as the diagnostic criteria for an anxiety disorder. According to the DSM-5, anxiety can be best described as excessive fear or worry that occurs outside of the developmentally normative period (APA, 2013). While there are many specific anxiety disorders, Generalized Anxiety Disorder (GAD) is the most relevant for the current study since BI can occur in many situations, such as social interactions, performances, separation from loved ones, or other day-to-day experiences. The diagnostic criteria for GAD are not necessarily exclusive to only this specific anxiety disorder and therefore are worth mentioning. The first criterion is that the excessive worry occurs in multiple situations, for the majority of the time, for at least six months. Related to the second

criterion, the individual would need to find it challenging to control their worrying tendencies. The third criterion asserts that the pattern of worry is attributed to at least three of the following symptoms: (1) restlessness, (2) fatigue, (3) difficulty concentrating, (4) increase in irritability, (5) muscle tension, and / or (6) insomnia, hypersomnia, or some other sleep pattern disruption. The fourth criterion is crucial in that the worry patterns that the individual is describing must be at the clinically significant level and are essentially non-normative in that they cause significant distress or impairment in various functioning domains (including, but not limited to, social, occupational, etc.) (APA, 2013).

GAD and BPD both share symptoms of emotion dysregulation, which may be a result of chronic EI (Kring & Werner, 2004). Examples of emotional dysregulation include, but are not limited to: difficulty recognizing or describing emotions and emotional avoidance. These variations of emotional dysregulation are often seen in individuals with anxiety and/or other mood disorders. This emotional dysfunction is thought to result from the combination of a predisposed emotional vulnerability and an emotionally invalidating environment (Barlow, 2014; Linehan, 1993).

Anxious perceptions. In the case for individuals with anxious tendencies, perception of an event or stimulus often triggers the excessive worrying and other symptoms described above. From a neurological perspective, perception of stimuli goes to the thalamus, then to the cortex (which is where the conscious processing takes place), then to the amygdala and thereby triggers the physiological responses (Pessoa & Adolphs, 2010). The hypervigilance of individuals with anxious tendencies leads them to constantly observe and interpret stimuli (Newman & Llera, 2011). Individuals with GAD perceive fear-inducing stimuli, or threat cues, more frequently than individuals without GAD (Llera & Newman, 2014; Newman & Llera, 2011). Not only do these

individuals perceive fear-inducing stimuli more often, but they also perceive stimuli in a fearful, negative light regardless of its level of ambiguity (Coles, Turk, & Heimberg, 2007; Diwadkar et al., 2017; Goodwin et al., 2017; Newman & Llera, 2011). Crouch, Lewis, Erickson, and Newman (2017) conducted their study on a sub-clinical sample, which was relevant for the current study did not assess for the presence of a full-blown anxiety disorder in each of the participants nor required them to disclose this information. These researchers found that the greater the GAD-related symptom severity, the more likely negative weekly events were considered to be, or perceived as, stressful and recalled at a later time (Crouch et al., 2017).

Anxiety and EI. There is a significant lacking in the literature related to the connection between EI and anxiety disorders. Even more so, there is a significant lacking in the literature related to the correlation between EI and symptoms of anxiety despite these being related to the overall symptomology of BPD, where there is a dearth of literature. This lacking in the literature needs to be explored further given that many individuals may experience anxiety symptoms at the sub-clinical level or simply at a level that they find distressing. In one of the few studies that assess the relevant correlation, Hong and Lishner (2016) found that self-reported perceptions of EI experiences in childhood predicted anxiety characteristics in adolescence. Additionally, this study also found that perceptions of EI in childhood predicted psychopathological characteristics of depression, post-traumatic stress disorder (PTSD), and BPD—all of which are typically accompanied by anxiety symptoms. Similarly, Krause, Mendelson, and Lynch (2003) found that experiencing chronic EI as a child significantly predicted emotional inhibition, anxiety symptoms, and related psychological distress as an adult. Emotional inhibition as a result of EI is not surprising in that inhibiting the expression of emotions is invalidating in itself and can be seen as a product of Linehan's (1993) concept of self-invalidation. Therefore, chronic EI

establishes a learned response of inhibiting the expression of emotions. Additionally, another learned or conditioned response may be anxiety related to expressing and experiencing emotions.

Current Study

Overall Question

The current study sought to add to the literature by examining a potential connection between EI and BI as a primary symptom of anxiety. As discussed above, there is a significant lacking in the literature in that no prior studies directly assess a potential correlation between EI and BI. Therefore, the overarching question for the current study was: are individuals high in trait BI symptoms more likely to perceive emotional invalidation in the presence and/or absence of emotionally invalidating behaviors?

While examining various characteristics of anxiety disorders may be relatively straightforward, given the current study's sample of college students, all of the participants fall below the median age of onset for GAD and other anxiety disorders. According to the *Diagnostic and Statistical Manual of Mental Disorders–Fifth Edition* (*DSM-5*), the median age of onset for GAD is 30 years (APA, 2013). Authors of the DSM-5 also assert that onset of the full-blown anxiety disorder rarely occurs prior to adolescence (APA, 2013). This is not to say that subjective distress from symptoms of the disorder or sub-clinical levels of the disorder may not be experienced because the development of an anxiety disorder often begins in childhood (APA, 2013). Since the current study's sample is under the age of 30, the average age of onset for BI tendencies, which is early childhood, will likely have already occurred. BI was the anxiety symptom of interest since it is believed to be a relatively stable trait seen in children as young as one year old and persisting through adolescence and adulthood (Claus & Blackford, 2012).

In the current study, participants viewed three different video conditions that represent three emotional responses: EI, neutral emotional response, and EV. These videos were implemented into the study design in order to allow participants to take the perspective of the person in the video and thereby evaluate their perceptions of the person's experience. Participants were able to report what they perceived in each video by responding to a questionnaire after viewing each of the three video conditions. As discussed above, perception is a critical component of EI and EV; therefore, this was the most efficacious way to incorporate this component into the current study's research design. Other relevant variables that were discussed previously, such as perspective taking, trait BI, and perception of childhood EI by each parental figure, were also assessed via questionnaires following the viewing of all three video conditions.

Hypotheses

Hypothesis 1. Trait BI and self-reported childhood EI would predict current perceptions of EI in the invalidation video condition.

The grounds for this hypothesis were rooted in the aforementioned literature that supports that individuals with anxiety disorders or sub-clinical symptoms are more likely to perceive and recall negative situations or stimuli. Therefore, it was hypothesized that individuals who are high in trait BI will be more likely to perceive EI, and this difference would not be due to their perspective taking ability (Coles et al., 2007; Diwadkar et al., 2017; Goodwin et al., 2017; Llera & Newman, 2014; Newman & Llera, 2011).

Hypothesis 2. Trait BI and self-reported childhood EI would predict current perceptions of EI in the neutral emotional response video condition.

This hypothesis suggests that individuals who have high trait BI will be more likely to perceive EI in the neutral condition, while controlling for their perspective taking abilities. The support for this hypothesis was rooted in the tendency of individuals with anxious tendencies to perceive and recall situations as negative even when the situation was inherently neutral (Coles et al., 2007; Diwadkar et al., 2017; Goodwin et al., 2017; Llera & Newman, 2014; Newman & Llera, 2011). Similar to the first hypothesis, the grounds for this hypothesis were rooted in the aforementioned literature's findings that habitual experiences of EI in childhood may influence both the amount of trait BI an individual possesses as well as their current ability to perceive EI in the neutral emotional response video condition (Hong & Lishner, 2016; Luoma et al., 2007; Stoica & Roco, 2013).

Hypothesis 3. Trait BI and self-reported childhood EI would predict current perceptions of EI in the validation video condition.

The majority of the relevant literature examines the effects of chronic EI exposure throughout childhood and how it impacts current perception of EI and its connection to BPD and related symptoms (Hong & Lishner, 2016; Linehan, 1993; Luoma et al., 2007; Stoica & Roco, 2013). This hypothesis is different from the first and second hypothesis since it assessed an individual's ability to perceive the lack of EI in the validation video condition. However, the current literature was still relevant here in that in general, an individual's ability to perceive the presence of EI could also be related to their ability to perceive the lack of EI. The current literature lacks a discussion of an individual with anxious tendencies to perceive and recall positive events. Given that the literature asserts that individuals who are high in anxious tendencies are more likely to perceive and recall negative stimuli or neutral stimuli as negative (Coles et al., 2007; Diwadkar et al., 2017; Goodwin et al., 2017; Llera & Newman, 2014;

Newman & Llera, 2011), the current hypothesis shed light on this tendency, or lack thereof, in the context of vicarious exposure to EV.

Method

Participants

Participants were recruited from the undergraduate psychology participant pool at the University of South Carolina-Aiken (USCA) via the SONA System, which is an online participant recruiting and data collection program. Participants were also recruited through other classes and offered extra credit for their involvement in the study. All of the participants were undergraduate psychology students at the USCA. Participants received one-half of an online SONA credit for participating in the current study or a variant amount of extra credit at the discretion of their professor. Utilizing the program G*Power, it was determined that the current study needed at least 86 participants for a medium to large effect size, which was the target number of participants to be collected.

Ninety-six participants completed the current study. One participant's data was excluded from analyses due to data omissions and obvious carelessness of responding. As such, the total number of participants for the study's analyses was 95. Table 1 includes all of the details of the participants' self-reported demographics (e.g., age, race/ethnicity, gender, and class). The average age of the participants in this study was 19.58, with 19 years old being the most common age, which represented 34.7% of the sample. The age range for the participants was between 18 and 25. The most common race/ethnicity for the participants in the current study was White/Caucasian at 62.1%, with the next most common race/ethnicity being African American at 26.3%.. In regards to gender, 70.5% of the participants for the current study were female, with

the remaining 29.5% identifying as male. The majority of the participants were college freshman at 47.4%.

Materials

EI, neutral emotional response, and EV video conditions. Each participant viewed three videos that were counterbalanced to avoid order effects. These three videos, an EI condition, neutral emotional response condition, and EV condition, showed a brief interaction (approximately two minutes long) between a confederate and mock participant (both of whom were female; one was White/Caucasian and the other was African American). Depending on the condition, the confederate verbally and nonverbally invalidated, validated, or provided a neutral emotional response to the mock participant's emotional statements. These videos allowed the participants for the current study to take the perspective of the mock participant in order to potentially perceive EI, EV, or a neutral response.

In the invalidation condition video, participants watched a scripted interaction between a mock participant and a confederate. In this video, the confederate verbally and nonverbally invalidates the mock participant's emotional experience after they had previously watched a distressing video clip. In the neutral condition video, the same scene was present, but the confederate provides neutral verbal and nonverbal emotional responses to the mock participant's emotional experience after they had previously watched a distressing video clip. Both the EI and neutral video conditions and scripts were validated in a previous study (see Elzy, 2013). In the validation video condition, the same scene was still present, but the confederate verbally and nonverbally validates the mock participant's emotional experiences. Although this video condition and script were not previously used in a research study, the script was written to match length and syntax of the other two validated videos. In addition, the verbal and nonverbal

emotionally validating behaviors exhibited in the video were based off of behaviors identified as emotionally validating by experts in the field (see Elzy & Karver, 2017; Elzy et al., 2018).

Full scripts for each of the three video conditions can be viewed in Appendix B, C, and D. As an example, for each of the video conditions, the confederate in the video asked the mock participant "was your clip of a boxer fighting and then he died?" while checking a box on the form that she was taking notes on. The mock participant then offered their emotional response to their question, which opened the door for the confederate to invalidate, validate, and respond in a neutral manner to what the mock participant just stated. In the invalidation video condition, the confederate did not make eye contact with the mock participant while she was describing her emotional response. Then, the confederate verbally stated "It didn't make me feel that way. I'm not sure how you could feel that way after watching that clip. It doesn't really seem normal to me. Whatever, we'll just move on" and then quickly asked the next question. In the neutral video condition, following the same question described above, the confederate occasionally made eye contact during the mock participant's emotional response, then verbally stated "That was mine, too. I'm not sure why we were watching such an old video clip, but I guess it doesn't really matter" and then quickly asked the next question. In the validation video condition, following the same question, the confederate maintained an active listening posture and sufficient eye contact, then verbally stated "I see what you mean. I felt that way too", and then briefly paused before asking the next question (Elzy, 2013; Elzy & Karver, 2017; Elzy et al., 2018).

Modified Perceived Invalidation of Emotion Scale (PIES). The PIES, developed by Zielinski and Veilleux (2018), is a 10-item questionnaire utilized to measure current perceptions of EI in each of the videos, rather than their perception of EI that they experienced in their childhood. This questionnaire is intended for individuals between the ages of 18 and 69. In the

current study, the statements on the PIES were modified to allow participants to respond as if they were the mock participant in the video conditions that they watch. In other words, the participants were asked to take the perspective of the mock participant in the video and assess how they perceived the mock participant to feel after receiving the emotional responses from the confederate using the following scale: 1 = Almost Never/0-10%, 2 = Sometimes/11-35%, 3 = About half the time/36-65%, 4 = Most of the time/66-90%, or 5 = Almost Always/91-100%. An example of a modified item for this measure was: "When the participant was sharing how they were feeling, the researcher wanted them to 'get over it' or 'accept it and move on'" to which the participant for the current study selected a response between 1 and 5 each time after viewing each of the three video conditions (Zielinski & Veilleux, 2018). Therefore, the greater the score, the more EI the participant believed was experienced by the mock participant in the video condition. In addition, low scores on this measure indicate a stronger presence of emotionally validating behaviors. As such, this measure was used to measure the perception of the emotional response in all three study conditions (EI, EV, and neutral emotional response). The PIES has good test-retest reliability of up to approximately one month between each time with a moderately strong correlation at $r = .67$, $p < .01$ with good internal consistency ranging from Cronbach's alpha = .87 to .95 (Zielinski & Veilleux, 2018).

Invalidating Childhood Environment Scale (ICES). The ICES was developed by Mountford, Corstorphine, Tomlinson, and Waller (2007) in order to develop a measure that assesses invalidating childhood environments. This self-report measure allowed the participants to report their perception of their childhood experiences and interactions with their parental figures. Although the ICES is comprised of two sections, only the first section was necessary for the current study. The section of the ICES that was utilized in the current study asked

participants to rate each of the 14 items on a five-point Likert scale (1 = never; 2 = rarely; 3 = some of the time; 4 = most of the time; 5 = all of the time) for both their mother (maternal figure) (referred to as MICES) and father (paternal figure) (referred to as PICES). As an example, the participant rated the following statement for both parental figures using the aforementioned scale: "If I said I couldn't do something, my parents would say things like 'you're being difficult on purpose'" (Mountford et al., 2007). This measure demonstrates good internal consistency for both paternal invalidation (Cronbach's alpha = .796) and maternal invalidation (Cronbach's alpha = .772; Mountford et al., 2007).

Adult Measure of Behavioural Inhibition (AMBI). The AMBI, developed by Gladstone and Parker (2005), is a 16-item self-report questionnaire utilized to measure trait BI in individuals who are 16 years of age and older. Only 15 out of 16 items were included in the analyses in the current study due to researcher error when inputting the questionnaire on the survey engine. It is not likely that this additional item would have significantly impacted the overall results. This questionnaire revealed the BI tendencies that the participant was experiencing in the moment and/or experiences across general contexts and was therefore frequently referred to as trait BI throughout this paper. Participants were asked to indicate either yes/most of the time, some of the time, or no/hardly ever to items such as: "when you enter a new or unfamiliar social situation or whenever you are faced with new and unfamiliar surroundings or people, do you tend to become vigilant and wary of your surroundings?" (Gladstone & Parker, 2005). The greater the score, the greater the degree of trait BI. The AMBI demonstrates good internal consistency at Cronbach's alpha = .87 (Gladstone & Parker, 2005).

Interpersonal Reactivity Index (IRI): Perspective Taking. The participants received the Perspective Taking subscale of the Interpersonal Reactivity Index (IRI). The relationship

among this subscale score and other primary variables utilized in this study was investigated. If needed, this perspective taking score would serve as a control variable in the current study as it is recognized that the ability to take the perspective of another individual is crucial when assessing EI. This IRI subscale, developed by Davis (1980), consists of seven items and serves to provide a measure of the ability to take the perspective of another individual. The items were presented in the form of statements and the participants are asked to mark whether each statement "does not describe me well" or "describes very well", on a Likert scale of 0 to 5, respectively. As an example, a participant rated how well they felt that the following statement described them: "before criticizing somebody, I try to imagine how I would feel if I were in their place" (Davis, 1980). The IRI demonstrates good internal consistency ranging from Cronbach's alpha = .7 to .78 for each of the four subscales of the IRI (Davis, 1980).

Demographics questionnaire. Participants were asked to provide basic demographics such as age, gender, academic class (freshman, sophomore, junior, senior, or dual-enrolled), and race/ethnicity. These questions allowed for potential post-hoc analyses and added information for the current hypotheses.

Procedure

The entire study, including the invitation letter and debriefing form, were presented to the participants via Survey Gizmo, an online software that allows the ability to collect and analyze data. Participants were asked to sign up for the study via the SONA system or a sign-up sheet that was handed out by their professor. Participants were asked to arrive to one of the labs at the USCA to participate in the study on a computer that was in the presence of a researcher. Prior to beginning the study, the participants were presented with the invitation letter that provided them with a brief overview of the study and consented their participation.

The participants received all three video conditions (invalidation, neutral emotional response, and validation) in a randomly assigned order to control for ordering effects. After viewing each condition, the participants received the modified PIES, which assessed the participants' ability to perceive EI or lack thereof. Following this, the participants received the ICES, AMBI, and IRI: Perspective Taking subscale in a randomly generated order. Lastly, the participants were asked to answer a few demographic questions. These questionnaires were administered at the end in order to avoid priming effects likewise as to why the demographics questions were administered as the final questionnaire. Participants then received the debriefing form in which they were thanked for their participation and asked to not disclose any information to any potential future participants. This study took approximately thirty minutes to complete and resulted in each participant being awarded half of one online SONA credit or extra credit at the discretion of their professor.

Statistical Analyses

All analyses utilized IBM Statistical Package for the Social Sciences Version 25 (SPSS-25) software. For each of the three video conditions, a multiple regression was conducted with self-reported childhood EI and trait BI as the predictor variables and current EI perception as the outcome variable. Therefore, three separate multiple regressions were utilized for the current study. For each of the regression analyses, all variables were entered at once. Plans to enter perspective taking as a control variable in each regression analysis changed due to the lack of any meaningful relationship among perspective taking and other variables in the analyses. Demographic responses were also assessed via correlations for both current EI perception and trait BI and did not warrant entrance into the analyses as control variables.

Results

Descriptive Statistics

The means, standard deviations, ranges, and correlations for each measure are presented in Table 2 and Table 3. As noted above, due to the lack of relationship among perspective taking and all other variables examined in this study, there was not a need to enter it as a control variable in the proposed regression analyses. As such, it was eliminated from further analyses. As expected, there was a positive correlation between the MICES (M = 37.84, SD = 5.7) and the PICES (M = 34.52, SD = 8.76), r = .297, p = .004. Despite this correlation, these variables were maintained as separate in the regression analyses in order to maintain the construct validity of these variables.

The positive correlation between trait BI (M = 17.05, SD = 5.54) and current EI perception for the invalidation video condition (r = .183, p = .077) approached significance. In contrast, there was a negative correlation between trait BI and current EI perception for the validation video condition (r = -.189, p = .066) that approached significance. There was not a significant correlation between trait BI and current EI perception for the neutral video condition. However, for the neutral video condition, there was a significant positive correlation between age and current EI perception (r = .221, p = .032).

There was an overall lack of significant correlation between the MICES and PICES with each of the three video conditions (EI, neutral, and EV). The most notable of the potential correlations is the positive correlation between current EI perception for the invalidation video condition (modified PIES) and self-report of perception of childhood invalidation by the participant's mother (MICES) (r = .131, p = .206). For the EI video condition, the participant's self-report of perception of childhood invalidation by their father (PICES) (r = -.072, p = .488) was not statistically significant, but was in the opposite direction of the MICES relationship with

the video condition. Although these are not statistically significant, this information sheds light on why it was important to keep the MICES and PICES scores separate in the analyses in that parental influences affect perception of EI in different directions.

Current EI Perception

A repeated measures analysis of variance was conducted in order to assess for a manipulation check amongst the three video conditions (see Table 4). The mean scores for current EI perception in each of the three video conditions were significantly different ($F(2, 20317.94) = 352.851$, $p < .000$). The statistically significant differences occurred between each of the video conditions: EI and neutral ($MD = 21.347$, $SE = 1.209$, $p < .000$), EI and EV ($MD = 27.989$, $SE = 1.162$, $p < .000$), and neutral and EV ($MD = 6.642$, $SE = .908$, $p < .000$) (see table 5).

A series of three separate multiple linear regression analyses were utilized in order to explore the predictive power of childhood EI and trait BI on current EI perception for each of the three video conditions (invalidation, neutral, and validation). It was expected that participants who experienced more childhood EI and possessed more trait BI characteristics would be more likely to perceive current EI in all three of the video conditions. In other words, these participants were expected to perceive EI even when the video was designed to portray a neutral or validating emotional response. For each multiple linear regression analysis, the predictor variables included trait BI, MICES, PICES.

The first multiple linear regression analysis examined the effects of perceptions of childhood emotional invalidation for each parental figure and trait BI to predict current EI perception for the invalidation video condition (see Table 6). The predictors, trait BI, MICES, and PICES, were manually entered. The results of the regression indicated that the model

explained 5.5% of the variance. The overall model was not a significant predictor of current EI perception ($F(3, 90) = 1.75$, $p = .162$). None of the predictor variables, MICES ($\beta = .15$, $p = .182$), PICES ($\beta = -.1$, $p = .373$), and trait BI ($\beta = .16$, $p = .133$), significantly contributed to the model.

The second multiple linear regression analysis examined the effects of perceptions of childhood emotional invalidation for each parental figure and trait BI to predict current EI perception for the neutral video condition (see Table 7). The predictors, trait BI, MICES, and PICES, were manually entered. The results of the regression indicated that the model explained 1% of the variance. The overall model was not a significant predictor of current EI perception ($F(3, 90) = .318$, $p = .812$). None of the predictor variables, MICES ($\beta = -.06$, $p = .563$), PICES ($\beta = .1$, $p = .373$), and trait BI ($\beta = -.01$, $p = .955$), significantly contribute to the model.

The final multiple linear regression analysis examined the effects of perceptions of childhood emotional invalidation for each parental figure and BI to predict current EI perception for the validation video condition (see Table 8). The predictors, trait BI, MICES, and PICES, were manually entered. The results of the regression indicated that the model explained 3.9% of the variance. The overall model was not a significant predictor of current EI perception ($F(3, 90) = 1.207$, $p = .312$). Two of the predictor variables, MICES ($\beta = .01$, $p = .898$) and PICES ($\beta = -.04$, $p = .71$), did not significantly contribute to the model. For this validation condition, trait BI approaches significance ($\beta = .2$, $p = .061$).

Discussion

The overarching goal of the present study was to add to the literature by examining a potential connection between current perception of EI and self-report of trait BI as a symptom of anxiety. Previous research does not directly address the relevant association between EI and BI.

However, there are related associations described in the literature that support the current study's premise. Individuals who exhibit anxiety symptoms are more likely to perceive both negative and neutral situations as negative and thereby ruminate on the situations up to at least one week later (Crouch et al., 2017). From a retrospective standpoint, individuals who experience chronic EI during their childhood are more likely to exhibit anxiety symptoms in adolescence and adulthood (Krause et al., 2003). The current study also measured the participants' childhood EI experiences based on self-report of their parental figures' EI tendencies. Therefore, it was reasonable to hypothesize that the presence of trait BI may predict current perception of EI, EV, and neutral emotional response.

The present study had three main hypotheses, one for each video condition in that trait BI and childhood EI would predict current perception for EI, EV, and neutral emotional response. First, it was hypothesized that trait BI and childhood EI would predict current EI perception in the EI video condition. The present study did not find evidence in support of this hypothesis. Houle-Johnson, O'Brien, and Ashbaugh (2019) found that individuals in general, regardless of the presence of anxiety or depression, are more likely to recognize negative rather than positive feedback. This could potentially explain the lack of significance for this hypothesis given that the majority of individuals may be more likely to recall negative emotional feedback, or EI.

Second, it was hypothesized that trait BI and childhood EI would predict current EI perception in the neutral emotional response video condition. More specifically, it was hypothesized that participants who were high in trait BI would be more likely to perceive the neutral emotional response as EI and negative in nature. However, the present study did not find evidence to support this hypothesis. As with the first hypothesis, it is possible that a lack of direct impact on the participant due to the format of the current study also plays a role for this

video condition. It is also possible that the participants perceived the responses in this video as inherently neutral, not necessarily as EI or EV.

Third, it was hypothesized that trait BI and childhood EI would predict current EV perception in the validation video condition. For this hypothesis, childhood EI did not significantly predict current EV perception. Trait BI, however, approached significance. These results suggest that as trait BI increases, current perception score for the validation video condition decreases. More specifically, people higher in trait BI, may be less perceptive of neutral and/or invalidating responses. This trend seems to contradict much of the previous literature in that the current study suggests that individuals who are high in trait BI are more likely to take notice of the positive aspects of a situation. Again, the component of rumination and co-rumination could also be impacting these results.

When running the analyses for the measure of childhood EI from the ICES, scores for the maternal figure (MICES) and paternal figure (PICES) were maintained as separate. Although there was a positive correlation between the two, it was decided that they should remain separate as the literature suggests there is a difference in EI behaviors from parents in that maternal invalidation may be a stronger predictor (Lambie, & Lindberg, 2016). Additionally, other studies utilizing this same measure kept these scores as separate in their analyses as well (Sturrock & Mellor, 2014). If the two scores were averaged together, it is possible that differences in parenting would have been lost in that overall value. For instance, if one parental figure was highly invalidating and the other parental figure was highly validating, then when these values are averaged together, it may appear that the participant perceived that they experienced neutral emotional responses from their parental figures.

Although perspective taking was measured using the IRI: PT, this variable was not included in the analyses since it was not significantly related to any of the primary variables being investigated. Participants in the current study were capable of taking the perspective of the mock participant in each of the videos. Therefore, since there was not an issue as to whether or not the participant possessed the ability to take the perspective of another individual, as a function of their emotional intelligence, this did not need to be controlled for in the statistical analyses (Hahn & Garrett, 2017; Luoma, Hayes, & Walser, 2007). Given this lack of relationship between PT and other relevant variables, it is possible that the overall results of the current study would have been different if the participants' abilities to engage in affective perspective taking had varied. The lack of variability may serve to reinforce the literature's discussion about how affective perspective taking is a primary component of emotional intelligence, both of which initially develop early on in life and improve with age and experience (Halle & Darling-Churchill, 2016; Hahn & Garrett, 2017; Heck, Chroust, White, Jubran, & Bhatt 2018; Luoma, Hayes, & Walser, 2007).

The participants' ability to perceive the presence or absence of EI in each of the three video conditions is separate from their perspective taking ability. This perception may have been impacted by the indirect nature of the videos. Moreover, the participants engaged in vicarious exposure of the presence or absence of EI. While the participants were able to take the perspective of the individual in the videos, the vicarious exposure component may have impacted their perception of the chronicity of the EI, or lack thereof, in the videos. Due to this, the videos may not have elicited as strong of a personal emotional response had the participants experienced the emotional responses face-to-face. In other words, while the impact of the videos may not have been overtly personal due to the vicarious nature of the study, the participants were still

able to take the perspective of the individual in the video. In the context of individuals with trait BI, MacLeod and Rutherford (1992) found that the personal relevance of stimuli may affect the automatic processing of the stimulus depending on an individual's level of state or trait anxiety. While personal relevance contributed to the processing of the stimuli, it was not statistically significant (MacLeod & Rutherford, 1992). This similar trend is relevant for the current study in that although vicarious exposure may have impacted the results for some individuals, it likely did not affect it so much that these individuals were not able to take the perspective of the individuals in the videos. The personal relevance trend may also shed light on the encoding and retrieval processes that occur following the perception of novel stimuli, which leads to potential concepts discussed below.

The lack of support for this hypothesis could shed light on the concept of rumination, which follows in line with encoding and retrieval-related processes. Individuals who are high in trait BI are more likely to ruminate, or engage in repetitive negative thinking (RNT), on experiences that they perceived as negative as compared to individuals who are low in trait BI (Hirsch et al., 2018; McEvoy, Thibodeau, & Asmundson, 2014). Therefore, it is possible that when these individuals viewed this video condition, they did not personally experience the distress that would lead to rumination. By being a bystander watching someone else experience the emotional invalidation, the anticipated increase in perception by someone with high BI may have been negated. Another study, whose clinical population were primarily depressed, found that individuals who were more inclined to engage in rumination were also more likely to have a negative bias in their perception of emotional cues, particularly nonverbal facial expressions (Suslow, Wildenauer, & Günther, 2019). Given the common comorbidity between anxiety and depression, it is possible that the results could be applicable to the current study (APA, 2013).

More specifically, Introzzi, Andrés, Canet-Juric, Stelzer, and Richards (2016) found that there is a relationship between rumination and trait BI, which further supports the potential impact on the lack of rumination on the current study.

In addition to rumination, co-rumination may also have not had the opportunity to fully occur given the format of the current study. Co-rumination, defined as continuously and extensively discussing and revisiting problems, especially of the negative nature, often occurs in conjunction with rumination. Co-rumination has been found to be significantly related to trait anxiety. Additionally, the maladaptive cognitive schema of impaired autonomy was found to significantly mediate the co-rumination and trait anxiety, suggesting that these individuals frequently feel as if they lack the freedom to express valid emotions, which may impact their perception of emotions (Carlucci, Dambrosio, Innamorati, Saggino, & Balsamo, 2018).

The overall perception score on the EI video condition negatively correlated with the overall perception score on the EV video condition. This is to be expected as perspective taking did not significantly impact the results and thereby suggesting that the participants, in general, did not exhibit difficulties with taking the perspective of the mock participant in each of the three video conditions. Moreover, as overall perception score on the EI video condition increased, the overall perception score on the EV video condition decreased. This suggests that when a participant, more or less, accurately perceived EI behaviors, they also accurately perceived EV behaviors, and vice versa. Similarly, there was a positive relationship between scores on the EV video condition and neutral video condition. As the overall perception score on the EV video condition decreased, the overall perception score on the neutral video condition also decreased, and vice versa. This suggests that when a participant accurately perceived EV behaviors, they

were more likely to perceive the neutral emotional responses as emotionally validating. This also serves to explain why the second hypothesis was not supported.

When looking at correlations between trait BI and each of the three video conditions, two video conditions yield results that approach significance. First, as trait BI increases, a trend exists that the current perception for the EI video condition increases. Although this finding does not reach statistical significance, this relationship is in the same direction with the aforementioned literature (Crouch et al., 2017). Interestingly, the negative correlation that approached significance between trait BI and the current perception of emotional invalidation during the EV video condition may suggest that the more trait BI an individual possesses, the more likely they were to perceive EV. This correlation approaches support of the third hypothesis' results. A potential explanation for these two correlations is that individuals who are high in trait BI may be more conscientious of emotional responses in their environment (Schomberg, Schöne, Gruber, Quirin, 2016). Schomberg et al. (2016) found that characteristics such as negative affect and anxiety symptoms influenced individuals' attentional processes in such a manner that these individuals would be more hypervigilant in their environment. Researchers also found that those individuals were more likely to react to the non-negative, or positive stimuli, and thereby further suggesting hypervigilant tendencies accompany individuals who are high in trait BI (Schomberg et al., 2016). This also serves to explain why the correlation between trait BI and the EV video condition approached significance.

When looking at the context of childhood invalidation levels, it is important to consider the norms from the ICES' initial development (Mountford et al., 2007). Mountford et al. (2007) utilized a sample comprised of both clinical (eating disorders) and non-clinical participants. For their clinical participants, these participants reported both more maternal (M = 31.68, SD = 7.22)

and paternal invalidation (*M* = 34.7, *SD* = 8.88). In contrast, for their nonclinical participants, these participants reported lower values of maternal (*M* = 28.24, *SD* = 4.96) and paternal invalidation (*M* = 27.81, *SD* = 4.31) with less variability than clinical participants' self-report. The means, standard deviations, and ranges for the current study's reports of parental invalidation can be seen in Table 2. Interestingly, the current study's results for the ICES for both parental figures, especially paternal, more closely resemble the measure's norms for the clinical population. This is worth noting since it was assumed that the majority of current study's participants were nonclinical in that clinical diagnoses were not inquired about. It is possible that a portion of the current study's participants perceived that they exhibited more EI from one or both parents as compared to the statistical norm for the nonclinical population. This may have impacted the current study's overall findings in that if participants perceived that they had experienced somewhat chronic levels of EI, then they may have been more apt to accurately perceive the presence or absence of EI.

An interesting correlation that incorporates demographics was that as the participant's age increased, the more likely they were to perceive the neutral emotional responses as invalidating. There are multiple explanations that can apply to this correlation. Emotional constructs such as intelligence, awareness, and expression tend to improve through experience and therefore improve with age (Halle & Darling-Churchill, 2016; Heck, Chroust, White, Jubran, & Bhatt 2018). Within emotional intelligence is the inherent understanding of the concepts of EI and EV in that an individual learns to understand when to express either of these to another individual as well as how to perceive them (Stoica & Roco, 2013). The specific trend of perceiving neutral emotional responses as inherently negative or invalidating as an individual becomes older is consistent with aforementioned literature regardless of the presence of

psychopathology. For example, Kark and Kensinger (2019) discussed that negative memory bias, which is impacted by processes that occur in the amygdala of the brain, becomes more prominent with age. With neutral emotional responses being perceived as more invalidating as an individual becomes older, the individual's negative memory bias becomes for prominent even for individuals without an anxiety related disorder (Houle-Johnson et al., 2019; Kark & Kensinger, 2019).

Strengths and Limitations

The current study possessed multiple strengths, especially at the most basic level of the design of the study. Two of the video conditions of the present study, EI and neutral emotional response, were validated in a previous study (Elzy, 2013). The EV video condition was not validated in a previous study; however, the script was developed based off of a list of EV verbal and nonverbal behaviors from a previous study (Elzy & Karver, 2017). Although this may be a potential limitation, previous research suggests that the scripts aligned with typical EV responses.

Participants in the current study did not directly experience the emotional responses and instead observed these responses occurring to another individual through video format. The indirect nature of the experience may have impacted participants' responses to the videos. This may have been especially true for the participants who were high in trait BI, as the indirect exposure may have limited processes such as rumination that are characteristic of these individuals. This may be viewed as a potential drawback of the current study.
However, the structure of the study design could also be viewed as a strength as it adds to the literature by allowing the participants to vicariously experience EI and EV. The legitimacy of this is supported by the fact that the participants were able to adequately take the perspective of

the mock participant in each of the three video conditions and accurately perceive the emotional responses in the videos. Therefore, vicarious exposure to various emotional responses took place in the current study, but the majority of the participants did not seem impacted by this type of exposure on a personal or internal level.

Additionally, trait BI may not be the most encompassing symptom of anxiety in which to measure anxiety. Perhaps if a measure that assessed levels of overall anxiety was implemented, it would have been more readily obvious the number of participants who exhibit anxiety at the clinical and subclinical level and thereby affect their perception of emotional responses. However, as alluded to above, the concept of rumination may have affected the results, which was not assessed for in the current study.

In order to gather information from each participant, multiple self-report measures were utilized. These measures asked participants to rate their current trait BI symptoms as well as EI tendencies of each of their parental figures over the course of their childhood. A retrospective self-report measure may not be inherently accurate, but it was the best avenue for measuring that desired variable. As with all self-report measures, accuracy may be in question given the subjectivity, but for the current study, self-report was the most efficacious way to measure the desired variables.

Conclusions and Future Directions

The present study examined an individual's ability to perceive EI and EV as well as assessed whether this ability would be affected by their trait BI and perceived childhood EI experiences. While the current study did not yield statistically significant results, future research could investigate the degree of rumination tendencies. Additionally, future research may substitute trait BI with a different anxiety symptom or measure. Another avenue here would be

for future studies to incorporate a physiological measure which would calculate the presence of physiological arousal, or lack thereof, when an individual perceives EI or EV.

As discussed above, there is a significant lacking in the literature for associations between anxiety and EI; therefore, future studies may strive to further explore this relationship, specifically between trait BI and perception of childhood invalidation by each parental figure (MICES and PICES). Given that there is literature to support a connection between EI and BPD, and that anxiety often accompanies BPD, the literature should further investigate these variables. Multiple psychological disorders are accompanied by emotion dysregulation and anxiety symptoms; therefore, it would be interesting to study the connection between the two in the context of subclinical levels of anxiety. Similar to related previous literature, the current study utilized an overtly nonclinical sample of college students in order to measure trait BI. Future studies may strive to use a different sample; one in which severe trait BI tendencies may encompass a larger portion of the sample.

Despite limitations related to heavily relying on self-report measures and general lacking in significant findings, the current study uncovered a correlation between trait BI and overall perception score in the EV condition that approached significance. This finding, in conjunction with the structure of the design of the study (specifically, the indirect exposure to emotional responses) sheds light on the effects of rumination, particularly for individuals who are high in trait BI. Future research may find a stronger correlation between EI and trait BI, or even EV and trait BI, if rumination is controlled for.

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Tables

Table 1

Participant Demographics

Variables	*N*	Percent of Sample
Age		
18	25	26.3
19	33	34.7
20	16	16.8
21	12	12.6
22	4	4.2
24	2	2.1
25	3	3.2
Race/Ethnicity		
African American	25	26.3
Hispanic	4	4.2
White/Caucasian	59	62.1
Multiracial	6	6.3
Prefer not to answer	1	1.1
Gender		
Female	67	70.5
Male	28	29.5
Class Standing		
Freshman	45	47.4
Sophomore	20	21.1
Junior	16	16.8
Senior	9	9.5
Dual-Enrolled	5	5.3

Table 2

Descriptive Statistics of Measures Included in Analyses

Measures	Mean	Std. Deviation	Minimum	Maximum
Total IV	41.41	8.52	10	50
Total N	20.06	8.25	10	50
Total V	13.42	13.42	9	38
Total PT	23.23	5.53	7	29
Total BI	17.05	5.54	2	34
Total MICES	37.84	5.7	22	54
Total PICES	34.52	8.76	4	49

Note. Total IV = Total score on the modified Perceived Emotional Invalidation Scale (PIES) for the invalidation video condition. Total N = Total score on the modified PIES for the neutral video condition. Total V = Total score on the modified PIES for the validation video condition. Total PT = Total perspective taking score on the Interpersonal Reactivity Index (IRI): Perspective Taking. Total BI = Total score on the Adult Measure of Behavioral Inhibition. Total MICES = Total score on the Maternal Figure portion of the Invalidated Childhood Environments Scale (ICES). Total PICES = Total score on the Paternal Figure portion of the Invalidated Childhood Environments Scale (ICES).

Table 3

Correlations Matrix

	Total IV	Total N	Total V	Total PT	Total BI	Total MICES	Total PICES
Total IV	----						
Total N	.012	----					
Total V	-.259*	.227*	----				
Total PT	-.039	-.060	-.032	----			
Total BI	.183	-.018	-.189	.027	----		
Total MICES	.131	-.040	-.019	.052	.086	----	
Total PICES	-.072	.081	-.013	-.002	-.072	.297**	----

Note. *=p<.05, **=p<.01.

Note. Total IV = Total score on the modified Perceived Emotional Invalidation Scale (PIES) for the invalidation video condition. Total N = Total score on the modified PIES for the neutral video condition. Total V = Total score on the modified PIES for the validation video condition. Total PT = Total perspective taking score on the Interpersonal Reactivity Index (IRI): Perspective Taking. Total BI = Total score on the Adult Measure of Behavioral Inhibition. Total MICES = Total score on the Maternal Figure portion of the Invalidated Childhood Environments Scale (ICES). Total PICES = Total score on the Paternal Figure portion of the Invalidated Childhood Environments Scale (ICES).

Table 4

Repeated Measures Analysis of Variance Effect of Video Condition on Perceptions of EI

Effect	Sum of Squares	df	Mean Square	*F*	*p*
Video	40635.881	2	20317.94	352.851	.000
Error	10825.453	188	57.582		.000

Table 5

Pairwise Comparisons for Repeated Measures ANOVA

Variable	M	*SD*	*Mean Difference 1*	*Mean Difference 2*	*p*
1. EI	41.41	8.52			.000
2. Neutral	20.06	8.25	21.35		.000
3. EV	13.42	5.58	27.99	6.642	.000

Note. EI = current perception of EI in the invalidation video condition. Neutral = current perception of EI in the neutral video condition. EV = current perception of EI in the validation video condition

Table 6

Summary of Regression Analyses for Invalidation Video Condition

Variable	*B*	*SE B*	*β*
Total MICES	.22	.16	.15
Total PICES	-.1	.11	-.1
Total BI	.24	.16	.16
R^2		.06	
F for change in R^2		1.75	

Table 7

Summary of Regression Analyses for Neutral Video Condition

Variable	*B*	*SE B*	*β*
Total MICES	-.1	.16	-.06
Total PICES	.09	.11	.1
Total BI	-.01	.16	-.01
R^2		.01	
F for change in R^2		.32	

Table 8

Summary of Regression Analyses for Validation Video Condition

Variable	*B*	*SE B*	*β*
Total MICES	.01	.11	.01
Total PICES	-.03	.07	-.04
Total BI	-.2	.11	.2
R^2		.04	
F for change in R^2		1.21	

Appendices

Appendix A

Invitation Letter

Dear Participant,

My name is Haley Nicole Waters. I am a graduate student in the Psychology Department at the University of South Carolina-Aiken. I am conducting a research study as part of the requirements of my degree in Applied Clinical Psychology, and I would like to invite you to participate.

I am studying the relationship between emotional invalidation and anxiety. If you decide to participate, you will be asked to watch three brief video clips of an interaction between a research confederate and a mock participant, and complete some surveys about what you saw in the videos, your childhood experiences, your current behaviors, and a few demographics questions.

In particular, you will be asked questions about emotions, parental figures, and feelings in social situations. You may feel uncomfortable answering some of the questions. You do not have to answer any questions that you do not wish to answer. The meeting will take place at a mutually agreed upon time and place, and should last about 30 minutes.

Although we have described the general nature of the tasks that you will be asked to perform during this study, the full intent and purpose of the study cannot be explained because doing so would bias the study results.

Participation is confidential. Study information will be kept in a secure location at the University of South Carolina-Aiken. The results of the study may be published or presented at professional meetings, but your identity will not be revealed. Participation is anonymous, which means that no one (not even the research team) will know what your answers are. So, please do not write your name or other identifying information on any of the study materials.

You will receive 0.5 research credits on the SONA system for participating in the study OR extra credit at the discretion of your professor.

Participation, non-participation or withdrawal will not affect your grades in any way. If you begin the study and later decide to withdraw, there are other research credit opportunities available to satisfy your research requirement.

We will be happy to answer any questions you have about the study. You may contact me at ((706)-840-4032 or hnclark@usca.edu) or my faculty advisor, (Dr. Meredith Elzy at (803)-641-3241 or MeredithE@usca.edu).

Thank you for your consideration. If you would like to participate, please begin the first video.

When you are done, please notify the researcher.

With kind regards,
Haley Nicole Waters
706-840-4032
hnclark@usca.edu

Appendix B

Emotional Invalidation Video Script

PARADIGM BEGINS – (INVALIDATION CONDITION)

Confederate: "So, the first question is, 'What was your primary emotional reaction to this video clip?' Which box did you check?"

Participant responds.

Confederate: *While checking the box on the form:* "Was your clip of a boxer fighting and then he died?"

Participant responds.

"It didn't make me feel that way. I'm not sure how you could feel that way after watching that clip. It doesn't really seem normal to me. Whatever, we'll just move on." *Quickly ask the next question.* "Number 2: What other feelings did you have while watching this movie clip?"

Participant responds.

Confederate: *While writing:* **"**I don't really get having that reaction either. It's hard to believe we were watching the same clip." "Number 3: 'Do you think most other women would share your emotional reaction to this video clip?'"

Participant responds.

Confederate: *While checking the box*: "We'll I sure didn't." "Number 4: 'How strongly did you feel the primary reaction you checked above? Very strongly, somewhat strongly, or slightly?'"

Participant responds.

Confederate: *Checks the box and rolls her eyes.* "I don't think you should be feeling that way at all. I really didn't think it was that big of a deal. You must not watch many boxing movies. You kinda just need to get over it and move on." "'Do you enjoy watching movies that make you feel this way? Yes, No, Sometimes?'"

Participant responds.

Confederate: "Alright. I guess we're through. I hope you didn't take offense to my comments. It's not like your feelings about this really matter anyway. I'll go tell the lady we're through."

Confederate gets up and calls the experimenter in from the hall.

Appendix C

Neutral Emotional Response Video Script

PARADIGM BEGINS – (NEUTRAL CONDITION)

Confederate: "So, the first question is, 'What was your primary emotional reaction to this video clip?' Which box did you check?"

Participant responds.

Confederate: *While checking the box on the form:* "Was your clip of a boxer fighting and then he died?"

Participant responds.

"That's what mine was, too. I'm not sure why we were watching such an old video clip, but I guess it doesn't really matter." *Quickly ask the next question.* "Number 2: What other feelings did you have while watching this movie clip?"

Participant responds.

Confederate: *While writing:* **"**Okay. Hold on while I get those down. I'm not very fast at writing when I'm talking to someone." "Number 3: 'Do you think most other women would share your emotional reaction to this video clip?'"

Participant responds.

Confederate: *While checking the box*: "Okay. Next question." "Number 4: 'How strongly did you feel the primary reaction you checked above? Very strongly, somewhat strongly, or slightly?'"

Participant responds.

Confederate: *Checks the box and says:* "This feels like another interview. They just have me asking you different types of questions. It's kind of strange; I wonder what this experiment is really about. Anyway, let's move on I guess." 'Do you enjoy watching movies that make you feel this way? Yes, No, Sometimes?'"

Participant responds.

Confederate: "Alright. I guess we're through. I hope you didn't mind answering those questions. I guess that's what we do with these experiments. I'll go tell the lady we're through."

Confederate gets up and calls the experimenter in from the hall.

Appendix D

Emotional Validation Video Script

PARADIGM BEGINS – (VALIDATION CONDITION)

Confederate: "So, the first question is, 'What was your primary emotional reaction to this video clip?' Which box did you check?"

Participant responds.

Confederate: *While checking the box on the form:* "Was your clip of a boxer fighting and then he died?"

Participant responds.

"I see what you mean. I felt that way too." *Briefly pause before asking the next question.* "Number 2: What other feelings did you have while watching this movie clip?"

Participant responds.

Confederate: "That's interesting. Can you tell me more about why you felt that way?" *Briefly pause before asking the next question.* "Number 3: 'Do you think most other women would share your emotional reaction to this video clip?'"

Participant responds.

Confederate: *"*Yeah, I could see other people thinking that as well." *Briefly pause before asking the next question*. "Number 4: 'How strongly did you feel the primary reaction you checked above? Very strongly, somewhat strongly, or slightly?'"

Participant responds.

Confederate: *Checks the box.* "I could see why you feel that way. I felt similarly too." Briefly *pause before asking the next question.* 'Do you enjoy watching movies that make you feel this way? Yes, No, Sometimes?'"

Participant responds.

Confederate: "Same here. Alright, we're all done now. Thank you for your time and opinions. You made a lot of good points. I'll go tell the lady we're through."

Confederate gets up and calls the experimenter in from the hall.

Appendix E

Modified Perceived Emotional Invalidation Scale (PIES)

Instructions: Please indicate how you think the participant in the video clip felt during the interaction with the researcher using the following scale:

1	2	3	4	5
Almost Never (0-10%)	Sometimes (11-35%)	About half the time (36-65%)	Most of the time (66-90%)	Almost Always (91-100%)

_____ 1. When the participant was sharing how they were feeling, the researcher didn't seem to mirror to understand their emotions. For example, the researcher didn't share sadness with the participant when they were sad or happiness with them when they were happy.

_____2. When the participant was sharing how they were feeling, the researcher wanted them to "get over it" or accept it and move on."

____3. When the participant was sharing how they were feeling, the researcher seemed like they didn't want to hear what they had to say.

_____4. When the participant was sharing how they were feeling, the researcher looked down on them or judged them.

_____5. When the participant was sharing how they were feeling, the researcher didn't take them seriously.

_____6. When the participant was trying to share how they were feeling, the researcher told them or implied what they should actually feel.

_____7. The researcher got mad or upset at the participant when they were expressing their feelings.

_____8. The researcher didn't take the participant's side or agree with how they were feeling.

_____9. The researcher made the participant feel like it's not okay for them to feel the way that they did.

_____10. The other person made the mock participant feel that their emotions are unimportant.

Appendix F

Invalidated Childhood Environments Scale (ICES)

Instructions: The following questions address your experiences of how your parents responded to your emotions when you were young. For each item, please choose the rating from 1 to 5 that most closely reflects your experience up to the age of 18 years.
1 – Never
2 – Rarely
3 – Some of the time
4 – Most of the time
5 – All of the time
Because your parents may have been very different, please rate them separately. The left hand column is to rate your mother, and the right hand column is to rate your father.

Mother (Maternal Figure)	During my childhood…	Father (Paternal Figure)
	My parents would become angry if I disagreed with them.	
	When I was anxious, my parents ignored this.	
	If I was happy, my parents would be sarcastic and say things like "What are you smiling at?"	
	If I was upset, my parents said things like: "I'll give you something to really cry about!"	
	My parents made me feel OK if I told them I didn't understand something difficult the first time.	
	If I was pleased because I had done well at school, my parents would say things like: "Don't get too confident."	
	If I said I couldn't do something, my parents would say things like: "You're being difficult on purpose."	
	My parents would understand and help me if I couldn't do something straight away.	
	My parents used to say things like: "Talking about worries just makes them worse".	
	If I couldn't do something however hard I tried, my parents told me I was lazy.	
	My parents would explode with anger if I made decisions without asking them first.	
	When I was miserable, my parents asked me what was upsetting me, so that they could help me.	
	If I couldn't solve a problem, my parents would say things like: "Don't be so stupid—even an idiot could do that!"	
	When I talked about my plans for the future, my parents listening to me and encouraged me.	

Appendix G

Adult Measure of Behavioural Inhibition (AMBI)

Tick (√) the one most relevant option

When you enter a new or unfamiliar social situation or whenever you are faced with new and unfamiliar surroundings or people:	Yes / most of the time	Some of the time	No / hardly ever
1. Do you tend to become vigilant and wary of your surroundings?	☐	☐	☐
2. Do you feel awkward when you are approached by someone new?	☐	☐	☐
3. Do you tend to become quiet?	☐	☐	☐
4. Do you tend to approach people whom you don't know and talk to them?	☐	☐	☐
5. Do you tend to spend time observing stranger from a distance first, before being able to mix in?	☐	☐	☐
6. Do you tend to be chatty in conversation when you are speaking to someone new?	☐	☐	☐
7. Are you likely to spend most of you time next to a person whom you know well?	☐	☐	☐
8. Do you tend to feel physically anxious (e.g. racing pulse, sweaty, butterflies)?	☐	☐	☐
9. Do you tend to introduce yourself to new people?	☐	☐	☐
10. Do you tend to keep a fair distance away from strangers?	☐	☐	☐
11. Do you tend to withdraw and retreat from those around you?	☐	☐	☐
Generally, not just in new or unfamiliar situations:	Yes / most of the time	Some of the time	No / hardly ever
12. Do you prefer your own company over the company of others?	☐	☐	☐

13. Would you tend to choose solitary leisure activities over spending time with close friends?	☐	☐	☐
14. Do you prefer to be surrounded by lively activity rather than a quiet gathering?	☐	☐	☐
15. If physically able, would you enjoy adventure holidays with some element of risk?	☐	☐	☐

Appendix H

Interpersonal Reactivity Index (IRI): Perspective Taking

Instructions: Read each of the following statements and rate how well each of them describes you. Please check the box that corresponds to the number which applies to you for each item.

0 = does not describe me well; 1; 2; 3; 4; 5 = describes very well

1. Before criticizing somebody, I try to imagine how I would feel if I were in their place. (PT)
2. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (PT)
3. I sometimes try to understand my friends better by imagining how things look from their perspective. (PT)
4. I believe that there are two sides to every question and try to look at them both. (PT)
5. * I sometimes find it difficult to see things from the "other guy's" point of view. (PT) *
6. I try to look at everybody's side of a disagreement before I make a decision. (PT)
7. When I'm upset at someone, I usually try to "put myself in his shoes" for a while. (PT)

Note: PT = perspective-taking scale; * = reverse scored

Appendix I

Demographics Questionnaire

1. What is your age? _____
2. Please specify your race/ethnicity:
    a. African American
    b. Asian
    c. Hispanic
    d. White / Caucasian
    e. Other – Write In: _____
    f. Prefer not to answer
3. What is your gender?
    a. Male
    b. Female
    c. Other – Write In: _____
    d. Prefer not to answer
4. What is your class standing?
    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior
    e. Dual-enrolled
    f. Other – Write In: _____

Appendix J

Debriefing Form

Thank you for participating in this research study. There was some information about the study that we were not able to discuss with you prior to the study because doing so would have influenced your actions and thus biased the study results. This is a full explanation of the study's purpose.

In this study, we were interested in understanding whether individuals who are high in anxiety characteristics (specifically, behavioral inhibition) are more likely to perceive emotional invalidation in the invalidating video condition as well as in the neutral video condition.

During this study, information about each video was withheld so that it was not clear what each scenario was intended to represent and how it relates to the survey questions.

We hope this clarifies the purpose of the research, and the reason why we could not tell you all of the details about the study prior to your participation.

It is important that you do not discuss this study with anyone else until the study has been completed. Our efforts will be greatly compromised if participants come into this study knowing what it is about and how the ideas are being tested.

If you have any questions or concerns about the research study, contact me at (706)-840-4032 or email me at hnclark@usca.edu.

If you experienced any emotional or psychological discomfort during or after participating in the study, contact the University of South Carolina-Aiken Psychology Clinic at (803)-641-3775 or the University of South Carolina-Aiken Counseling Center at (803)-641-3609.

Questions about your rights as a research subject are to be directed to, Lisa Marie JOHNSON, IRB Manager, Office of Research Compliance, University of South Carolina, 1600 Hampton Street, Suite 414D, Columbia, SC 29208, phone: (803) 777-7095 or
email: LisaJ@mailbox.sc.edu.

Thank you again for your participation!