Association of Childhood Emotional Maltreatment with Depression and Anxiety: Serial Mediating Roles of Distress Intolerance and Repetitive Negative Thinking

by

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ABSTRACT

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Childhood emotional maltreatment (CEM) is characterized by recurring destructive interactions (i.e., emotional abuse and emotional neglect) between a child and their caregiver(s), which become habitual and ingrained within the relational context. CEM had been consistently demonstrated to be strongly linked to the development of depressive and anxiety disorders. On the other hand, distress tolerance is defined as one's capacity to endure and tolerate negative experiential and emotional states, and it is conceptualized as one's propensity for aversive reactivity. Lack of distress tolerance, or distress intolerance, is associated with maladaptive emotion regulation and coping strategies, such as repetitive negative thinking (RNT). RNT is characterized by a cognitive tendency to recurrently engage in negative thinking. This style is distinguished by its repetitive, intrusive nature, and difficulty in disengagement. While RNT may create a false sense of control over distressing emotions and situations, it ultimately sustains a cycle of negative affect and maladaptive coping. Although several studies have shown that CEM is associated with distress intolerance, there is a need in the literature for a transdiagnostic investigation of whether CEM is associated with depression and anxiety through distress intolerance and RNT, respectively. Therefore, the current study aims to investigate a multiple serial mediation model by proposing that the relationship between CEM and both depression and anxiety is serially mediated by distress intolerance and RNT. A further objective of the current study is to explore an alternative multiple serial mediation model, wherein the relationship between CEM and empathy is serially mediated by distress intolerance, RNT, and both depression and anxiety. Within this exploratory framework, it was hypothesized, based on existing literature, that only distress intolerance serves as a mediator between CEM and empathy. A total of 548 participants (86.9% women), aged 18 to 66 (M = 32.8, SD = 9.1), completed scales measuring CEM, distress intolerance, RNT, empathy, depression, and anxiety. The findings revealed that distress intolerance and RNT serially and significantly mediated the relationship between CEM and both depression and anxiety. Furthermore, although distress intolerance functioned as a mediator in the association between CEM and empathy, the exploratory analysis showed that distress intolerance, RNT, and depression or anxiety did not serially mediate this association. Importantly, the results have implications for transdiagnostic models and treatments of emotional disorders emphasizing aversive reactivity to negative emotions and maladaptive emotion regulation and avoidant coping strategies.

ÖZETÇE

Çocukluk Çağı Duygusal Kötü Muamelesinin Depresyon ve Kaygı ile İlişkisi: Sıkıntıya Toleranssızlık ve Tekrarlayan Olumsuz Düşünmenin Seri Aracılık Rolleri

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Çocukluk dönemindeki duygusal kötü muamele (ÇDDKM), çocuk ile bakıcısı ya da bakıcıları arasındaki tekrarlayan yıkıcı etkileşimler (duygusal istismar ve duygusal ihmal) ile karakterize edilir ve bu etkileşimler alışılmış hale gelir ve ilişkisel bağlamda kökleşir. ÇDDKM'nin depresif ve kaygı bozukluklarının oluşumuyla güçlü bir şekilde bağlantılı olduğu tutarlı bir şekilde ortaya konmuştur. Öte yandan, sıkıntıya tolerans, kişinin olumsuz deneyimsel ve duygusal durumlara dayanma ve tahammül etme kapasitesi olarak tanımlanır ve kişinin olumsuz reaktiviteye olan bir eğilimi olarak kavramsallaştırılmaktadır. Sıkıntıya tolerans eksikliği veya sıkıntıya toleranssızlık, tekrarlayıcı olumsuz düşünme (TOD) gibi uyumsuz duygu düzenleme ve başa çıkma stratejileri ile ilişkilidir. TOD, tekrarlayan bir şekilde olumsuz düşünmeye yönelik bilişsel bir eğilim ile karakterize edilmektedir. Bu düşünme tarzı, tekrarlayıcı, müdahaleci ve engellenmesi zor olmasıyla öne çıkar. TOD sıkıntı verici duygular ve durumlar üzerinde sahte bir kontrol hissi yaratabilirken, sonuçta olumsuz duygulanım ve uyumsuz başa çıkma döngüsünü sürdürür. Çeşitli çalışmalar ÇDDKM'nin sıkıntıya toleranssızlık ile ilişkili olduğunu göstermiş olsa da, literatürde ÇDDKM'nin sıkıntıya toleranssızlık ve TOD yoluyla depresyon ve kaygı ile ilişkili olup olmadığına dair tanılar üstü bir araştırmaya ihtiyaç vardır. Bu nedenle, mevcut çalışma, ÇDDKM ile hem depresyon hem de kaygı arasındaki ilişkiye, sıkıntıya toleranssızlık ve TOD'un seri olarak aracılık ettiğini öne sürerek çoklu seri aracılık modelini araştırmayı amaçlamaktadır. Mevcut çalışmanın bir diğer amacı da, ÇDDKM ile empati arasındaki ilişkiye sıkıntıya toleranssızlık, TOD ve hem depresyon hem de kaygının seri olarak aracılık ettiği alternatif bir çoklu seri aracılık modelini keşfetmektir. Bu keşifsel çerçevede, mevcut literatüre dayanarak, sadece sıkıntıya toleranssızlığın ÇDDKM ve empati arasında bir aracı olarak hizmet ettiği hipotez olarak öne sürülmüştür. Yaşları 18 ila 66 arasında değişen toplam 548 katılımcı (%86.9 kadın) ÇDDKM, sıkıntıya toleranssızlık, TOD, empati, depresyon ve kaygıyı ölçen ölçekleri doldurmuştur. Bulgular, sıkıntıya toleranssızlık ve TOD'un ÇDDKM ile hem depresyon hem de kaygı arasındaki ilişkiye seri ve anlamlı bir şekilde aracılık ettiğini ortaya koymuştur. Ayrıca, sıkıntıya toleranssızlık ÇDDKM ve empati arasındaki ilişkide bir aracı olarak işlev görürken, keşif analizi sıkıntıya toleranssızlık, TOD ve depresyon veya kaygının bu ilişkiye seri olarak aracılık etmediğini göstermiştir. Önemli olarak, sonuçlarımız çocuklukta duygusal olarak kötü muamele gören bireylerin yetişkinlikte sıkıntıya karşı tahammülsüzlük geliştirebileceğini ve daha sonra yüksek depresyon ve kaygı düzeyleriyle ilişkili olan tekrarlayıcı ve müdahaleci olumsuz düşüncelere girebileceğini göstermiştir. Önemli olarak, sonuçlarımız olumsuz duygulara karşı olumsuz reaktiviteyi ve uyumsuz duygu düzenleme ve kaçınmacı başa çıkma stratejilerini hedef alan duygusal bozuklukların tanılar üstü modelleri ve tedavileri için anlam taşımaktadır.

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ABBREVIATIONS

CEM	Childhood Emotional Maltreatment
RNT	Repetitive Negative Thinking
MDD	Major Depressive Disorder
GAD	Generalized Anxiety Disorder
PTSD	Post-Traumatic Stress Disorder
CBASP	Cognitive Behavioral Analysis System of Psychotherapy
UP	Unified Protocol

Chapter 1:

INTRODUCTION

1.1 Vulnerability for Emotional Disorders

Anxiety and depressive disorders are included in the emotional disorders cluster, which is marked by the frequent occurrence of intense emotions, aversive reactions to these emotions, and a tendency to avoid emotional experiences through maladaptive emotion regulation and coping strategies (Barlow et al., 2016; Barlow, & Farchione, 2017). Also, depression and anxiety are reported to be highly prevalent mental illnesses worldwide (James et al., 2018; Kessler et al., 2007), and different studies provide evidence supporting comorbidity, and common factors in the etiology of anxiety and mood disorders (e.g., Brown et al., 2001; Lamers et al., 2011). These reports related to comorbidity from different studies show that the current comorbidity rate between anxiety and depressive disorders to vary between 46% and 67% and reported lifetime comorbidity percentages from different studies change between 75% and 81% (Brown et al., 2001; Lamers et al., 2011; Kessler et al., 2015; Allen et al., 2010). In this regard, the transdiagnostic approach provides a comprehensive understanding of the shared etiological factors contributing to emotional disorders, particularly anxiety and depression. This approach highlights the significant overlap between depression and anxiety, as evidenced by high comorbidity rates, similar responses to psychotherapeutic and pharmacological interventions, common underlying risk factors, and comparable neurobiological underpinnings (Barlow & Farchione, 2017).

Accordingly, certain common traits and tendencies act as transdiagnostic risk factors to a broad array of psychological problems, and these factors are central to the etiology, onset, and persistence of emotional disorders (Barlow, & Farchione, 2017). In other words, certain maladaptive tendencies and difficulties in regulating emotions are not specific to a single disorder but rather contribute to a variety of mental health conditions (Altan-Atalay et al., 2023). For instance, neuroticism had been documented to be associated with various emotional disorders and accounts for the comorbidity of depression and anxiety (Brown et al., 1998; Griffith et al., 2015; Barlow et al., 2016). The "triple vulnerabilities" theory suggests that both

generalized biological vulnerabilities and generalized psychological vulnerabilities are associated with neuroticism, or the tendency to experience strong and frequent negative emotions, which is one of the proximal risk factors that has a crucial role in the etiology of various psychological disorders (Barlow et al., 2016; 2022). More comprehensively, while a generalized biological vulnerability refers to the common genetic factors that are important in the development of negative emotionality, a generalized psychological vulnerability encompasses early life conditions that produce a sense of unpredictability or uncontrollability, especially against negative events or negative affective states, which configures a diathesis for emotional disorders (Barlow et al., 2021). Then, according to the latest version of the triple vulnerabilities theory, risk factors for affective disorders can develop because of both of these generalized vulnerabilities. Accordingly, provided that these generalized vulnerabilities are heightened, or exacerbated by life stressors, they often lead to two strongly interrelated disorders of GAD and depression (Barlow et al., 2016; Barlow et al., 2021).

Traumatic life events that date back to the early years of life had been identified as quite robust predictors of mental health problems (McKay et al., 2021; Carr et al., 2013), and among various subtypes of childhood traumas, emotional abuse and emotional neglect distinguished as most robustly and consistently linked to the persistence of depression and anxiety and their comorbidity (Kuzminskaite et al., 2021). Furthermore, these sub-types are associated with an increased probability of a chronic course in these disorders (Kuzminskaite et al., 2021). Accordingly, Hovens et al. (2015) revealed that childhood experiences involving emotional neglect and emotional abuse are predictive factors for the persistence of depression and anxiety and the higher comorbidity of these disorders. This relationship will be further discussed in the following sections, and it seems that emotional abuse and neglect may be the transdiagnostic risk factors for the development of both depression and anxiety by constituting a diathesis for these disorders. Adopting a transdiagnostic approach, the present study aims to investigate whether the association between childhood emotional maltreatment (i.e., emotional abuse and emotional neglect) and both depression and anxiety is serially mediated by distress intolerance and repetitive negative thinking. Furthermore, another objective of the current study will be to explore whether the relationship between childhood emotional maltreatment and empathy is mediated by distress intolerance.

1.2 Childhood Emotional Maltreatment in Relation to Depression and Anxiety

Childhood emotional maltreatment (CEM) refers to the consistent and recurrent patterns of destructive interactions between the child and one or multiple caregivers that develop as a routine in the relationship (Kairys, & Johnson, 2002), and it can be classified into two broad categories as emotional neglect and emotional abuse (Egeland, 2009). While emotional abuse can be conceptualized as an act of commission, characterized by verbal abuse, teasing, humiliation, and antipathy; emotional neglect represents an act of omission, wherein the emotional needs of the child remain unfulfilled. Emotional neglect is characterized by parents being emotionally inaccessible and disconnected, exhibiting avoidance, and not positioning themselves in a responsive way toward the child (Egeland, 2009). On the other hand, in a longitudinal cohort research investigating adults with depressive and/or anxiety disorders (Kuzminskaite et al., 2021), among all types of childhood trauma, emotional abuse and emotional neglect are the most correlated dual with each other ($r = .61$, $p < .001$), additionally they are the most frequently experienced trauma types by adults with depression and/or anxiety (e.g., 39% for emotional abuse, and 25% for emotional neglect). Furthermore, as reported by Kuzminskaite et al. (2021), provided that emotional neglect or emotional abuse was reported, over 80% of individuals indicated that these experiences occurred with frequencies categorized as "regularly," "often," or "very often", while emotional neglect and emotional abuse were predominantly attributed to family members as wrongdoers. This shows the cumulative and perpetual burden of CEM as it is continually perpetrated by significant others.

Attachment theory, as proposed by Bowlby (1969, 1973), posits that humans are inherently driven to seek closeness to significant others, namely to attachment figures, during periods of distress or need. Moreover, early interactions with attachment figures significantly influence the development of internal working models of self and others. Early life experiences with sensitive and responsive caregivers are more likely to result in positive mental representations of self-worth, and the belief that proximity-seeking behavior will be met (Mikulincer and Shaver, 2012; Shaver et al., 2017). However, inconsistent support from attachment figures and failures to feel comfort when needed are more likely to lead to foster negative internal working models by undermining feelings of security (Shaver et al., 2017). Unsurprisingly, CEM is associated with insecure attachment styles in adults and children (Pearce

et al., 2017; Cohen et al., 2017; Baer, & Martinez, 2006). Insecure attachment may develop as a result of CEM (Mikulincer et al., 2003), leaving the developing child in a state of fear or stress with an absence of solution alternative, where the caregiver or significant other should act as the primary source of comfort, but instead acts in a way that poses a threat to the child's safety through positioning as unavailable and unpredictable and abusive behavior (Main & Hesse, 1990; van Ijzendoorn et al., 1999). Hence, neglectful and abusive parenting will eventually lead the child to develop maladaptive thoughts and beliefs against negative emotions, because insecure attachment is also associated with decreased sensitivity to rewards and increased sensitivity to punishments and potential threats (Jiang, & Tiliopoulos, 2014; Mikulincer, & Shaver, 2010; Meyer et al., 2005). In such an invalidating environment, devaluation of the child's emotions may lead to negative internal working models that preclude distress tolerance. Accordingly, while the ability to understand own and others' emotions are related to secure attachment (Cooke et al., 2016), negative beliefs about emotions (Manser et al., 2012) and intolerance of distress (Norberg et al., 2018; Kisley et al., 2019) are found to be associated with insecure attachment.

On the other hand, Mikulincer and Shaver (2016) suggests that internal working models have a significant relationship with emotion regulation (see also Calkins, & Leerkes, 2011) and psychopathology in a sense that the attachment system assumes a regulatory function to alleviate distress by fostering feeling security, which is a crucial foundation for resiliency. Accordingly, after established in childhood, insecure attachment tends to persist into adulthood, demonstrating a considerable degree of stability over time (Stronach et al., 2011; Weinfeld et al., 2000). Also, conceptualized by Block and Block (1980) as ego-resiliency (as cited in Zimmermann, 1999), internal working models nurtured by secure attachment figures indicate better emotion and behavior regulation that allows for a more flexible and appropriate appraisals of a given possible aversive situation. Furthermore, early attachment security is associated with social competence (Groh et al., 2014) and adaptive personality traits (Young et al., 2019). Consequently, negative internal working models stemming from CEM by significant others may reduce resiliency, lead to less adaptive personality traits, distress intolerance, and worse emotion and behavior regulation strategies (e.g., repetitive negative thinking), constituting a diathesis or a generalized psychological vulnerability for emotional disorders.

Importantly, while all types of childhood trauma increase the chances of developing comorbid anxiety and depression (Wiersma et al., 2009; Hovens et al., 2010; van Harmelen et al., 2010), it is put forward by Kuzminskaite et al. (2021) that among all forms of childhood trauma, emotional abuse and emotional neglect are the sub-types that are most strongly and consistently associated with persistence of comorbid depression and anxiety, and with higher likelihood of chronic course to occur in these disorders. Seemingly, emotional abuse and emotional neglect were a constant presence in the lives of those who later developed comorbid and chronic courses of depression and anxiety by increasing the burden of these disorders. Moreover, Humphreys et al. (2020) reported that although every subtype of child maltreatment showed a positive correlation with depression diagnosis and symptom severity, emotional abuse and emotional neglect had the most robust associations in terms of effect sizes, and the same pattern was also observed in other meta-analytic studies as well (Mandelli et al., 2015; Infurna et al., 2016; Nelson et al., 2017; Gardner et al., 2019). As for anxiety disorders, the meta-analysis conducted by Norman et al. (2012) shows that among all forms of childhood maltreatment, emotional abuse had the highest odds ratio in association with the elevated risk of developing anxiety disorders and was secondly followed by emotional neglect. Accordingly, Fernandes and Osório (2015) indicate that those who experienced early emotional trauma demonstrated a significant 1.9- to 3.6-fold increased likelihood of developing anxiety disorders in comparison to a control group of healthy individuals. Besides, Salokangas et al. (2020) suggest that emotional neglect and emotional abuse are significantly associated with both depressive and anxiety disorders, and a similar finding was also put forth by Wright et al. (2009). Also, a previous meta-analysis partially confirmed their results by finding that those who experience childhood emotional neglect are significantly 1.74 times more likely to develop depression and/or anxiety disorders (Li, D'Arcy, & Meng, 2016). Therefore, we can claim that across all types of childhood adversities, CEM, namely emotional abuse and neglect, distinctively functions as an etiological factor in both depressive and anxiety disorders.

1.3 Distress Intolerance as a Mediator

Distress tolerance as a transdiagnostic risk factor appears to be a plausible candidate to understand the mechanisms by which CEM leads to depression and anxiety in a transdiagnostic framework (Lass & Winer, 2020). Distress tolerance refers to one’s perceived or actual capacity

to endure, and tolerate negative experiential and emotional states (Lass, & Winer, 2020; Leyro et al., 2010; Simons, & Gaher, 2005). To note, although "distress tolerance" and "distress intolerance" are distinct terminologies, they describe the same underlying phenomenon, with the difference being purely semantic (Lass, & Winer, 2020). Because heightened negative affect is a defining characteristic of depression and anxiety, the capacity to endure negative or uncomfortable emotional states is likely a related factor. Individuals with higher distress intolerance are likely to engage in avoidance strategies in the face of negative emotions and associated aversive situations, and they are inclined to seek opportunities for negative reinforcement (Leyro et al., 2010), such as repetitive negative thinking, and to use maladaptive behavior and emotion regulation strategies (Simons & Gaher, 2005). Accordingly, Bernstein et al. (2011) investigated its transdiagnostic relations, and evidenced that poorer levels of distress tolerance are found to be associated with diagnoses of mood and anxiety disorders, higher levels of comorbidity, and diminished levels of quality of life. While Macatee et al. (2016) and Brandt et al. (2013) indicated that distress tolerance is significantly associated with depression and anxiety, Ranney and colleagues (2022) with a longitudinal design showed that higher distress intolerance significantly predicted elevations in depression and anxiety in participants with past interpersonal trauma (Ranney et al., 2022).

An examination of the previous studies indicate that distress intolerance has remained relatively unexplored in terms of its underlying mechanisms, and how it relates to depression and anxiety in a comprehensive transdiagnostic context. Regarding the underlying mechanisms of distress intolerance, several studies support the existence of a relationship between CEM and distress intolerance (Russo et al., 2023; Erol, & Inozu, 2023; Williams, 2022; Bartlett et al., 2021; Lombardo, 2020; Vujanovic et al., 2011; Banducci et al., 2017). To our knowledge, there is only one study that yields conflicting findings with our proposed model, which suggested that higher emotional neglect has a significant relationship with higher distress tolerance (Berenz et al., 2018). However, Berenz and colleagues (2018) also indicated that higher levels of emotional abuse have a significant relationship with lower levels of distress tolerance. Furthermore, several studies have also examined the mediator role of distress tolerance in the relationship between adverse childhood experiences and psychological distress. More specifically, Robinson et al. (2021) indicated that distress tolerance mediates the relationship between childhood maltreatment (including but not limited to CEM), and depression and anxiety. In addition,

intolerance of distress was found to be a significant mediator between emotional abuse and internalizing symptoms (Yang et al., 2022). In sum, while distress intolerance has significant relationships with both depression and anxiety and CEM, there are studies suggesting that it may function as a mediator between adversity experienced in early childhood and emotional disorders.

1.4 Repetitive Negative Thinking as a Mediator

Repetitive negative thinking (RNT) refers to a cognitive style characterized by a persistent focus on one's problems or negative experiences—whether current, past, or anticipated, and this thinking style is characterized by repetitiveness, intrusiveness, and difficulty in disengagement (Ehring et al., 2011). According to Ehring and Watkins (2008), RNT has disorder-specific manifestations (Topper et al., 2010), for instance, while rumination plays a crucial role in the development and maintenance of depression (Nolen-Hoeksema et al., 2008; Watkins, 2008), higher levels of worry are mostly associated with GAD (Dugas et al., 1998) and are the cardinal feature of GAD (Ehring, & Watkins, 2008), even though worry also correlates with depression (McLaughlin et al., 2007). However, Ehring and Watkins (2008) suggest that shared common features of rumination and worry outweigh differences, and they differ only in terms of temporal orientation of the thought content—past for rumination and future for worry. Also, according to Spinhoven et al. (2018), the disorder-independent common features of different repetitive negative thinking (RNT) measurement scales, including those for RNT, worry, and rumination, is significantly associated with the co-occurrence of both anxiety and depressive disorders and the severity, chronicity, and relapse rates of these disorders.

Accordingly, existing literature reveals that RNT is significantly related to both depression and anxiety (Hughes, & Cogswell, 2008; Sorg et al., 2012; Kertz et al., 2017; Gustavson et al., 2018; Spinhoven et al., 2015; Trick et al., 2016), just as Ruscio and colleagues (2011) demonstrated in their experimental design specifically for both MDD and GAD. Furthermore, Taylor and Snyder (2021) utilizing a longitudinal design found RNT (at the beginning of the academic semester) a significant factor in predicting symptoms of anhedonic depression and anxious arousal (at the end of the academic semester). Besides, Drost et al. (2014) revealed that RNT predicted both baseline chronic depression, MDD, GAD, and changes

in these disorders in the follow-up assessments. Also, it is possible that RNT explains the relation between anxiety and depression, because Spinhoven, Hemert, and Penninx (2019) showed the mediator role of RNT in association between depression and anxiety. Lastly, studies evidenced the contribution of RNT to treatment outcomes, and its associations with changes in depression and anxiety (Hijne et al., 2020; Kertz et al., 2015), an indication of how strongly it is related to emotional disorders.

As for the relationship of RNT with distress intolerance, it seems that aversive reactions to negative experiential states and the inability to tolerate uncomfortable feelings do not lead to the disappearance of these feelings, and do not bring relief in the long term. For instance, a recent study by Russo et al. (2023) found that distress tolerance has a negative association with emotion regulation difficulties, which is another transdiagnostic construct related to emotional disorders. More specifically, studies demonstrated that distress tolerance has a negative relationship with rumination (Erwin et al., 2018; Erwin et al., 2018) and worry (Macatee et al., 2015), which are different forms of RNT. To illustrate, a person who has limited confidence in his/her capacity for dealing with difficult emotions and distress may resort to certain maladaptive emotion regulation and coping strategies that appear as a solution in the short run. Thus, these emotion regulation and coping strategies (e.g., RNT as a form of avoidance) may be used frequently by people who have low levels of distress tolerance. RNT is also perceived as a maladaptive emotion regulation strategy since it gives the individual the illusion of control. While entertaining repetitive thoughts about a specific negative situation or the problematic situations, the individual may have the feeling that they are doing something that is effective in the solution of these problems or in coping with the negative emotions. Accordingly, while McDermott et al. (2019) indicated that RNT significantly mediates the relationship between distress tolerance and depressive symptoms, worry and fear of negative evaluation (i.e., separately every three dual relationships), Jaso et al. (2020) emphasized the mediator role of RNT in the link between distress intolerance and depression. From a similar vein, Magidson and colleagues (2013) suggested that brooding, a form of RNT characterized by excessive focus on distressing symptoms, functioned as a mediating variable between distress tolerance and depression. Accordingly, RNT was found to be a significant mediator between distress intolerance and depressive symptoms even after accounting for baseline depressive symptom scores, and this mediation effect was replicated after one-month and three-month assessments

(Barni, 2023). Based on the existing literature, it will be reasonable to integrate RNT as a mediator variable into the main hypothesized model to be studied in this research.

Regarding the relationship between RNT and CEM, as conceptualized by the triple vulnerabilities theory as a generalized psychological vulnerability (Barlow et al., 2016; Barlow, 2021), and as indicated by abovementioned studies as the one of the most significant contributors to the emotional disorders (e.g., Mandelli, Petrelli, & Serretti, 2015; Kuzminskaite et al., 2021; Humphreys et al., 2020), CEM predisposes individuals to experience intense negative emotions throughout their lives and to develop depression and anxiety. To feel control and regulate their aversive states, or as an attempt to eliminate negative emotions, individuals with depression and anxiety may use maladaptive emotion-regulation strategies, such as RNT. Yedidağ and Altan-Atalay (2019) found childhood trauma to be significantly related to RNT. More specifically, recent studies indicate significant association of rumination (i.e., a form of RNT) with CEM (Lin et al., 2024; Cao, 2022; Watts et al., 2021; Wang et al., 2023; Gu et al., 2020), and Wu and colleagues (2023) showed that emotional maltreatment experienced in childhood have the strongest association with rumination among all types of childhood maltreatment. Furthermore, while Domke et al. (2023) showed that rumination functioned as a mediator in the relationship between CEM and cognitive symptoms of depression, Yu and colleagues (2024) and Ji (2024) demonstrated the mediator role of ruminative thinking in the relationship between childhood emotional abuse and depression in general. To our knowledge, studies directly investigating the relationship of RNT and worry with CEM is scarce, just as studies for the mediator role of RNT or worry in the relationship between CEM and anxiety are limited in number. Therefore, this study will contribute to the literature by investigating the mediating role of the RNT, a transdiagnostic construct, in the relationship between CEM and both depression and anxiety. We expect that RNT mediates the association between CEM and both depression and anxiety.

1.5 Empathy and Childhood Emotional Maltreatment

As a multidimensional construct, empathy involves both cognitive and affective processes, which contribute to understanding the emotional states of others and producing appropriate emotional expressions and behaviors (Batson, 2009; Davis, 1983). In other words, empathy is composed of affective and cognitive sub-components, and while affective one

corresponds to sharing emotional experiences of others, cognitive empathy refers to perspective taking or understanding another's psychological point of view (Batson et al., 1991; Decety & Jackson, 2004). Empathy skills are negatively associated with CEM (Zhang et al., 2024), depression (Wilbertz et al., 2010; Schreiter et al. 2019), and inversely predicted by avoidant attachment (Wie et al., 2011) and depressive symptoms (Stanley et al., 2020).

Considering the heavy burden of CEM, The Cognitive Behavioral Analysis System of Psychotherapy (CBASP) model proposes that people with chronic depression, which is highly comorbid with anxiety, develop a pervasive fearful-avoidant interpersonal style, which is characterized by the lack of empathy and elevated levels of egocentrism (McCullough, & Clark, 2017). Due to early maltreatment, especially emotional abuse and neglect by significant others, individuals with chronic depression have cognitive processes unaffected by the reasoning and logic of others (e.g., inadequate empathy and theory of mind); and are prevalently egocentric in their perceptions of self and others; show communication patterns in the monologue form egocentrically; lack the ability to express internalized interpersonal empathy; and exhibit poor emotional regulation skills under stressful conditions (McCullough et al., 2014). In other words, the fearful-avoidant interpersonal style stems from early emotional maltreatment and leads to "perceptual disconnection from the interpersonal environment, lack of feedback from others (McCullough, & Clark, 2017, p. 155)", and results in a closed system in which one lives through "a perpetual circle of sameness (McCullough et al., 2014, p. 22)". This cognitive and emotional disconnection from other people and from their point of views and corrective feedback may be the factor that keeps the individual in a vicious cycle where the person is resistant to change, and psychopathology is maintained.

Research related to relationship between empathy and CEM is relatively limited in number. For instance, partially supporting the suggestion of CBASP model, Wei et al. (2011) indicated that deficits in emotional empathy served as a mediator in the relationship between avoidant attachment and subjective well-being, revealing the role of empathy in association with early life experiences. Another study found a significant negative relationship between empathic concern and emotional neglect (Fonseca et al., 2021). Also, Parlar and colleagues (2014) investigated empathy in women with post-traumatic disorder (PTSD) stemming from childhood maltreatment, and demonstrated that compared to controls, participants with PTSD had

significantly lower perspective-taking and empathic concern scores. Accordingly, a recent meta-analysis found overall childhood maltreatment significantly associated with reduced empathy, and revealed that when ordered by effect sizes, emotional neglect and emotional abuse as well as physical neglect were the three subtypes of childhood maltreatment most strongly associated with impaired empathy (Zhang et al., 2024). Then, it can be stated that early life adversities are related to an individual's interpersonal skills, and emotional neglect and emotional abuse may be important factors for the deficits in empathy.

1.5 Empathy and the Other Mediators

1.5.1 Deficiencies in Empathy in Relation to Depression and Anxiety

The research on the relationship between empathy and psychological distress is limited and the available models are based on clinical conditions. Notably, CBASP model suggests that individuals with chronic depression may function in a similar way to children in the Piagetian pre-operational period in the interpersonal context (McCullough, & Clark, 2017). Their reasoning and communication can be characterized by precausal thinking, which refers to explaining causal relationships in egocentric ways that is usually typical of preoperational (2-6 years of age) children (Piaget, 1926; 1930). For instance, they are inclined to jump to conclusions from their assumptions without logical reasoning between the two, or they may rely on only their existing ideas, perspectives, and beliefs to interpret causal interactions. Relatedly, this pre-operational functioning may also be characterized by pervasive egocentrism (e.g., lack of perspective-taking) and marked deficiency in empathic concern, which defines an interpersonal style in which they engage in monological communication and show a lack of responsiveness to feedback or reactions from others (McCullough, & Clark, 2017). Focusing on preoperational characteristics of patients with chronic depression, Wilbertz and colleagues (2010) showed that compared to healthy controls, depressed individuals had significantly lower scores in two self-report empathy scales. Another study investigating individuals with chronic depression found significant deterioration in theory of mind in terms of both affective and perspective-taking skills compared to healthy controls (Mattern et al., 2015). Therefore, as suggested by the CBASP model, chronic depression, the type of depressive disorder most

commonly comorbid with anxiety, is shown to be associated with the lack of empathy and deficits in understanding the mental states of others.

Similar patterns had been observed in other individuals who have been diagnosed with different subtypes of depression. Beyond chronic depression, it seems that inadequacies in empathy skills are evident in depressed mood in general (e.g., Nestor et al., 2022; Schreiter et al., 2019). Importantly, Nestor et al. (2022) found that individuals with depression have significant deficits in the ability to understand the beliefs, motivations and intentions of others. Besides, Schreiter et al. (2019) revealed that depression is significantly related to empathic stress, lower levels of perspective-taking, theory of mind, and empathic accuracy. One meta-analysis by Bora and Berk (2016) indicated that patients with MDD showed significant impairments in understanding others' mental states compared to healthy controls. Inoue et al. (2006) shows that disturbances in theory of mind constitute a significant risk factor for relapse of MDD. Lastly, Erle, Barth, and Topolinski (2018) assessed egocentrism in relation to depression with a visuospatial task and found that individuals exhibited greater impairment on the task assessing perspective-taking as their depressive symptoms increased.

When it comes to anxiety disorders and, more specifically to GAD, the picture becomes a bit more complex and ambiguous (Baez et al., 2023). The first reason for that, there are limited number of studies investigating the relationship between empathy or other interpersonal skills and GAD. Nevertheless, Santarelli et al. (2022) found that patients with anxiety disorders have lower scores than healthy controls in empathy and theory of mind. While Razmjooei et al (2024) reported impairments in making inferences about the mental states of others and difficulties in emotion recognition and social cognitive skills to be associated with GAD symptoms in a group of adolescents, Todd et al. (2015) put forward that anxiety-induced participants showed higher levels of egocentric perspective in their judgments about mental states. On the other hand, Gambin and Sharp (2018) revealed that affective empathy has a positive relationship with all anxiety dimensions, and cognitive empathy is negatively correlated with the dimensions of separation and panic anxiety, and social anxiety in a group of inpatient adolescents. Knight et al. (2019) also reported contrasting results with other studies by finding a positive correlation between worry and empathy. Finally, Nair et al. (2023) indicated that anxiety has a significant positive relationship with general empathy, however, this correlation is small (r = .08), whereas

the relationship with cognitive empathy is significantly negative but very small (r = -.03), and the one with affective empathy is significantly positive despite again small (r = 0.16). They also reported a lack of significant difference between different types of anxiety in relation to empathy, however, it should be noted that according to our literature search, the number of studies investigating GAD and empathy is scarce, and studies mostly look for the relationship with social anxiety disorder, also highlighted by Baez et al. (2023). In summary, some investigations suggest that deficits in empathy and interpersonal skills can be associated with anxiety disorders, whereas others find higher levels of empathy in association with anxiety disorders.

1.5.2 Exploring the Relationship of RNT and Distress Intolerance with Empathy

While, distress tolerance is defined as an individual's ability to withstand and endure negative experiential and emotional states (Lass, & Winer, 2020; Leyro et al., 2010; Simons, & Gaher, 2005), in the interpersonal context, personal distress refers to an egocentric, negative emotional response triggered by perceiving another person's negative emotion, and it is characterized by a motivation to reduce one's own discomfort, such as feelings of sadness or anxiety, rather than attending and satisfying the needs of the other (Batson, 1991). What determines the outcome of empathic attention and perspective taking seems to be the degree of the empathic arousal, because according to Eisenberg and Fabes (1992), empathic overarousal when witnessing another individual's aversive emotions leads to self-focus characterized by personal distress and the intention to alleviate one's own negative feelings, rather than those of the other person. Alternatively, Batson (1991) and Eisenberg et al. (2006) suggests that optimal empathic arousal levels encourage a focus on others, thereby positively associating with empathy and sympathy and facilitating prosocial behaviors.

On the other hand, even in cases that the tendency to experience intense emotions is not present, Batson et al. (1997) and Lamm et al. (2007) showed that while directing attention towards another's emotions and emotional expressions by imagining how the other feels can elicit heightened empathic concern, explicitly envisioning oneself in the situation of the target, or imagining the self in that situation, tends to evoke personal distress. Namely, solely putting oneself into another person’s shoes is enough to produce personal distress. Therefore, it can be

expected that people with high levels of distress intolerance who resort to avoidance strategies in the face of distress and negative emotions (Leyro et al., 2010) and use maladaptive behavior and emotion regulation strategies (Simons & Gaher, 2005) may be prone to empathic hyperarousal, which increases personal distress and has a debilitating effect on producing empathic response. Accordingly, Eisenberg and Eggum (2009) suggest that the experience of personal distress may potentially drive an egoistic motivation to alleviate it by avoiding the source of stress, which in most cases is a conversation partner, which in turn may reduce the likelihood of engaging in prosocial behaviors later, such as empathy.

To our knowledge, only one study exists specifically investigating the link between distress tolerance and empathy. This study suggests that higher levels of distress tolerance are associated with higher levels of empathy (Sajid, & Zubair, 2020). Additionally, despite not directly addressing empathy, Farahani and colleagues (2023) found distress tolerance as a predictor variable of higher social-emotional competence which includes important factors for healthy relationships and interactions such as self-awareness, social awareness, self-management, and relationship management. Considering CEM is a significant contributor to increasing levels of the tendency to experience intense negative emotions (Barlow, 2021), it is likely that those with higher levels of distress intolerance will have lower levels of empathy because they will experience elevated levels of personal distress due to empathic overarousal.

There are no studies directly probing into the relationship between RNT and empathy, however, there are studies looking into the association between empathy and rumination that is a form of RNT (Ehring et al., 2011). And regarding this relationship, the number of studies is limited, and findings are mixed. To exemplify, Joireman and Hammersla (2002) found that self-rumination shows a negative correlation with perspective-taking and a positive correlation with personal distress, while self-reflection demonstrated a positive correlation with both perspective-taking and empathic concern. However, in their exploratory analyses, the other two studies found non-significant negative correlations between rumination and empathy (Liu et al., 2022; Chung, 2014). On the other hand, Boyraz and Waits (2015), contrary to their hypothesis, indicated that rumination and empathy have a significant positive correlation, and Kokinnos and Voulgaridou (2019) also found this significant positive relationship in their exploratory analysis.

1.6 Current Study

Drawing from the theory, research, and arguments presented above, it can be posited that particularly CEM (i.e., emotional abuse and emotional neglect) is strongly linked to the development of depression and anxiety disorders (Humphreys et al., 2020; Norman et al., 2012). Among all types of adverse childhood experiences, CEM has the strongest associations with anxiety and depressive disorders in terms of effect sizes (Norman et al., 2012; Mandelliet al., 2015, Infurna et al., 2016; Nelson et al., 2017; Gardner et al., 2019; Humphreys et al., 2020), as corresponded to the generalized psychological vulnerability in the triple vulnerabilities theory, and to the most distinct etiological factor in CBASP model. Also, individuals who experience emotional maltreatment during their childhood are most likely to experience anxiety and depressive disorders as comorbid conditions (Kuzminskaite et al., 2021). For this reason, CEM may serve as a contributory factor that extend beyond and above well-established transdiagnostic risk factors in explaining the lifetime and current comorbidity between anxiety and depression. Thus, we propose that CEM is likely to be a factor significantly associated with both depression and anxiety.

Adopting a transdiagnostic perspective, our first research question aims to investigate whether distress intolerance and RNT mediate the relationship between CEM (comprising total of emotional abuse and emotional neglect scores) and symptoms of depression and anxiety in adults. The inability to tolerate distress is associated with the higher likelihood to engage in aversive reactions (Barlow, & Farchione, 2017) and avoidance strategies (Leyro et al., 2010) when confronted with negative emotions and stressful situations. This avoidance often manifests as maladaptive behavior and emotion regulation strategies (Simons & Gaher, 2005), such as RNT, which provides an illusion of managing negative emotion and aversive situation but ultimately reinforces a cycle of negative affect and maladaptive behavior. This can be understood as a lack of confidence in the ability to manage emotional distress, leading to reliance on coping mechanisms that ultimately perpetuate the cycle of suffering. In other words, these individuals may lack confidence in their capacity to effectively manage difficult emotions, leading them to rely on maladaptive solutions (i.e., RNT) that ultimately hinder their ability to develop more adaptive emotional regulation skills.

The second research question will drive us to explore whether the association between CEM and deficiency in empathy in adults is serially mediated by distress intolerance, RNT, and symptoms of depression and anxiety. As underscored by the CBASP model, a pervasive and persistent fearful-avoidant interpersonal style, which is proposed to particularly originate from CEM, characterizes the disconnected state of chronic depression that has elevated levels of comorbidity with anxiety disorders. In other words, emotional maltreatment forces individuals to adopt maladaptive coping mechanisms to be able to protect themselves from familial harm leading them to a vicious cycle of further avoidance of distress, and potentially resulting in heightened levels of psychopathology, and a "perceptual disconnection from the interpersonal environment, lack of feedback from others (McCullough, & Clark, 2017, p. 155)". As a result, individuals who have experienced emotional trauma in the past and who are both cognitively and emotionally disconnected from others may be deprived of the external perspectives and feedback necessary to neutralize negative internal working models, as well as for personal growth and psychological well-being. This closed system fosters resistance to change, making it difficult for individuals to break out of maladaptive patterns and maintain psychological well-being.

While the first research question of this study will be the basis for the main hypotheses, the second research question will be the basis for an exploratory analysis. Regarding the main hypotheses, several studies indicate that specifically CEM is a significant factor related to distress intolerance (Rosencrans et al., 2017; Erol, & Inozu, 2023; Banducci et al., 2017; Yang et al., 2022; Williams, 2022), and distress tolerance is associated with both depression and anxiety (Macatee et al., 2016; Brandt et al., 2013). On the other side, while RNT has robust associations with depression and anxiety and comorbidity of these disorders (Spinhoven, Hemert, & Penninx, 2019; Spinhoven et al., 2015; Hijne et al., 2020), it is found by various studies that RNT is significantly related to distress tolerance (Jeffries et al., 2016; Erwin et al., 2018), and it mediates the association between distress tolerance and depression and worry (McDermott, Smith, & Cougle, 2019; Magidson et al., 2013; Barni, 2023). Even though it is revealed that RNT has a positive association with anxiety (Spinhoven, Hemert, & Penninx, 2019; Spinhoven et al., 2015; Hijne et al., 2020), and it mediates the relationship between distress tolerance and worry (Macatee et al., 2015), there's still a need for research investigating its mediating role in the relationship between distress intolerance and anxiety. Furthermore, rumination, a form of RNT,

is associated with CEM (Wu et al., 2023; Watts et al.) and mediates the relationship between CEM and depression (Domke et al., 2023).

As for the exploratory part, namely empathy and its correlates, some research documented that emotional neglect and emotional abuse are the factors that may play significant roles in the presence of empathy deficits (Fonseca et al., 2021; Parlar et al., 2014; Zhang et al. 2024), however existing literature is limited, and results are not convincing in terms of both effect sizes and various measurements utilized. On the other hand, depression is shown to be associated with the lack of empathy, theory of mind, and perspective-taking (Wilbertz et al., 2010; Mattern et al., 2015; Erle, Barth, & Topolinski, 2018; Nestor, Sutherland, & Garber, 2022; Schreiter, Pijnenborg, & aan het Rot, 2019), whereas the literature on generalized anxiety disorder and empathy is sparse, and findings on the relationship between anxiety and empathy are mixed. On the other hand, considering CEM is a significant contributor to increasing levels of the tendency to experience intense negative emotions (Barlow, 2021), we expect that those with higher levels of distress intolerance will have lower levels of empathy because they are inclined to experience elevated levels of personal distress due to empathic overarousal (Eisenberg, & Eggum, 2009).

In sum, even though several studies revealed the role of distress intolerance and repetitive negative thinking in relation to anxiety, depression, and CEM, they do not propose a comprehensive model as hypothesized by this research, and do not integrate any interpersonal construct that will be investigated as empathy in this study. Then, the objective of this study will be to structure a cross-sectional model that explains mechanisms through which CEM leads to depression and anxiety and deficiency in empathy in a transdiagnostic framework. Consequently, the aim of the current study will be to test a multiple serial mediation model by proposing a theoretically based hypothetical causal chain. The proposed model suggests that higher levels of childhood emotional maltreatment is associated with higher levels of distress intolerance, higher levels of distress intolerance is associated with higher levels of repetitive negative thinking, and higher levels of repetitive negative thinking is associated with higher depressive and anxiety scores. Also, we propose that the association between CEM and both depression and anxiety is mediated by distress intolerance and RNT as separate paths, not serially (Figure 1.1). Secondly, as an exploratory analysis, this serial mediation model ends with empathy where the association

between CEM and deficiency in empathy is explained by three mediators, which are distress intolerance, RNT, and depression and anxiety, respectively. In this exploratory model, based on the existing literature, we propose only one hypothesis that the association between CEM and deficiency in empathy is mediated by distress intolerance. In sum, we proposed the following hypotheses for this study, and the latter model will be explored in the results part:

(1) Distress intolerance and repetitive negative thinking respectively function as mediators in the relationship between childhood emotional maltreatment and anxiety. The sequence of the pathway will be "childhood emotional maltreatment→ distress intolerance→ repetitive negative thinking→ anxiety".

(2) Distress intolerance and repetitive negative thinking respectively function as mediators in the relationship between childhood emotional maltreatment and depression. The sequence of the pathway will be "childhood emotional maltreatment→ distress intolerance→ repetitive negative thinking→ depression".

(3) Distress intolerance functions as a mediator in the association between childhood emotional maltreatment and anxiety.

(4) Distress intolerance functions as a mediator in the association between childhood emotional maltreatment and depression.

(5) Repetitive negative thinking functions as a mediator in the relationship between childhood emotional maltreatment and anxiety.

(6) Repetitive negative thinking functions as a mediator in the relationship between childhood emotional maltreatment and depression.

(7) Distress intolerance functions as a mediator in the relationship between childhood emotional maltreatment and deficiency in empathy. This hypothesis will be tested in the exploratory serial mediation model in the results chapter.

The hypothesized model is shown in the figure below:

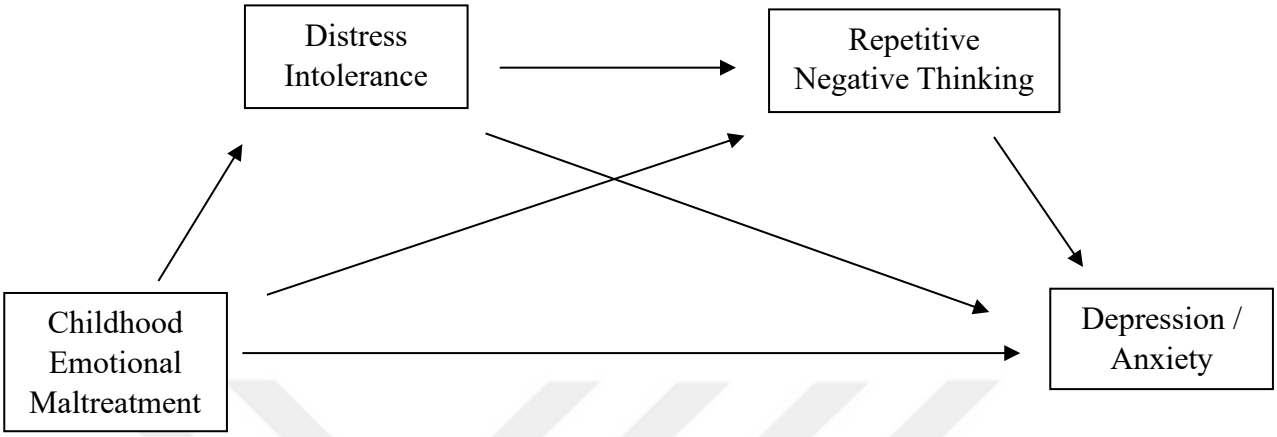

Figure 1.1: Hypothesized Serial Multiple Mediation Model.

Chapter 2:

METHOD

2.1 Participants

Convenience sampling was utilized to recruit participants for the study, with eligibility limited to individuals aged 18 and above. The descriptive characteristics of the sample are detailed in the Table 2.1. The final sample comprised 548 participants, aged between 18 and 66 (M = 32.77, SD = 9.08). Of these, 476 participants (86.9%) identified as female, 70 (12.8%) as male, and 2 (0.4%) as other. Regarding marital status, 48% (N = 265) were single, 41% (N = 227) were married, 9% (N = 47) were divorced, and 1.6% (N = 9) identified as widow. In terms of education, 0.9% (N = 5) had a primary school degree, 0.5% (N = 3) had a middle school diploma, 8.4% (N = 46) had a middle school diploma, 58.2% (N = 319) held undergraduate degrees, 22.6% (N = 124) had graduate degrees, 6.6% (N = 36) had doctoral degrees, and 2.7% (N = 15) identified their education level as other. Financially, 9.7% (N = 53) reported their socio-economic status as low, 23.9% (N = 131) as lower-middle, 44.0% (N = 241) as middle, 20.4% (N = 112) as upper-middle, and 2% (N = 11) as high.

Table 2.1 Demographic Characteristics (N = 548)

Gender	*N*	*%*	*Mean Age*	*SD Age*
Female	476	86.9	32.6	8.4
Male	70	12.8	33.9	13.0
Other	2	0.4	29.0	7.1
Total	548	100	32.8	9.1
Marital Status	*N*	*%*		
Single	265	48.4		
Married	227	41.4		
Divorced	47	8.6		
Widow	9	1.6		
Education Level	*N*	*%*		

Primary School	5	0.9
Middle School	3	0.5
High School	46	8.4
Undergraduate	319	58.2
Graduate	124	22.6
Doctorate	36	6.6
Other	15	2.7
Financial Status	*N*	*%*
Low	53	*9.7*
Lower-Middle	*131*	*23.9*
Middle	*241*	*44.0*
Upper-Middle	*112*	*20.4*
High	*11*	*2.0*

2.2 Measures

2.2.1 Demographic Form

The demographic form collects a range of demographic and background information, such as participants' age, gender, socioeconomic status (SES), education level, occupation, marital status, and family status. Furthermore, it seeks details on any past psychological diagnoses and any medications currently being taken for psychological conditions (see Appendix A).

2.2.2 Childhood Trauma Questionnaire (CTQ)

Childhood maltreatment was evaluated using Childhood Trauma Questionnaire developed by Bernstein (2003). CTQ is a self-report scale that measures five different types of childhood maltreatment: emotional abuse, physical abuse, sexual abuse, physical neglect, and emotional neglect. The response options range from 1 (Never) to 5 (Very Often). The original instrument consists of 28 items, and shows strong psychometric properties for community members sample, and the Cronbach's alpha values for the subscales were .87 for emotional abuse, .83 for physical abuse, .92 for sexual abuse, 0.61 for physical neglect, and .91 for

emotional neglect. The scale was adapted to Turkish by Sar, Oztürk, and Ikikardes (2012), showing a Cronbach-alpha value of .93, indicating a high degree of internal consistency. Additionally, it has demonstrated strong test-retest reliability ($r > .90$, $p < .001$; Sar & Ozturk, 2012). The Cronbach's alpha values for the subscales were 0.87 for emotional abuse, 0.85 for physical abuse, 0.93 for sexual abuse, 0.65 for physical neglect, and 0.90 for emotional neglect. The current study utilized only the following sub-scales: emotional abuse (items 3, 8, 14, 18, 25) and emotional neglect (items 5, 7, 13, 19, 28); the total emotional maltreatment score was obtained by summing the scores of each sub-scale. Higher scores indicate a higher extent of emotional maltreatmentIn this study, Cronbach's alpha value was found to be .87 for the emotional abuse subscale and .88 for the emotional neglect subscale (see Appendix B).

2.2.3 Patient Health Questionnaire-9 (PHQ-9)

Developed by Kroenke et al. (2001), the Patient Health Questionnaire (PHQ-9) is designed to measure the severity of depressive symptoms based on DSM-IV criteria. This questionnaire employs a 4-point Likert scale format (1 = never, 4 = nearly every day) and comprises 9 items. Beyond demonstrating satisfactory construct and criterion validity, the original instrument exhibits strong psychometric properties ($\alpha = .89$). Sarı et al. (2016) adapted the PHQ-9 to Turkish, finding it to be reliable ($\alpha = .84$), and the PHQ-9 demonstrated good criterion validity (Yazıcı-Güleç et al., 2012). In our study, the Cronbach's alpha was .91. You can find the scale in Appendix C.

2.2.4 Generalized Anxiety Disorder-7 (GAD-7)

Developed by Spitzer et al. (2006), the Generalized Anxiety Disorder-7 (GAD-7) scale aims to evaluate anxiety symptoms experienced over the past week according to the diagnostic criteria outlined in the DSM-IV. This instrument comprises 7 items and utilizes a 4-point Likert scale (1 = never, 4 = nearly every day). The original scale demonstrates excellent psychometric properties, with an internal consistency of $\alpha = .92$ and a test-retest reliability of $r = .83$. Konkan et al. (2013) adapted the GAD-7 to Turkish, confirming its high validity within a clinical sample and establishing its reliability ($\alpha = .85$). The Cronbach's alpha for the current study was .90 (see Appendix D).

2.2.5 Distress Intolerance Index (DII)

The Distress Intolerance Index (DII; McHugh and Otto, 2012) is a 10-item self-report instrument designed to evaluate an individual's perceived capacity to endure distressing emotional states (e.g., "I can't handle feeling distressed or upset"). High scores indicate a high level of intolerance to distress. The Cronbach's alpha internal consistency coefficient of the original form was found to be 0.92 (McHugh, & Otto, 2012). Cakir (2016) adapted DII to Turkish, and the reliability of the index was assessed at 0.92, while the test-retest reliability was determined to be 0.86. The Turkish version of Distress Intolerance Index (DII) has also exhibited excellent test-retest reliability and high internal consistency. The Cronbach's alpha for the current study was .93 (see Appendix E).

2.2.6 Perseverative Thinking Questionnaire (PTQ)

The Perseverative Thinking Questionnaire (PTQ) was developed by Ehring et al. (2011) as a content-independent measure of Repetitive Negative Thinking (RNT), hereby supporting research from a transdiagnostic perspective. PTQ measures RNT as a trait and encompasses a single higher-order factor representing RNT and three lower-order factors that capture different aspects of RNT, as identified by Ehring and Watkins (2008). It includes 15 items, each rated on a scale from 0 (never) to 4 (almost always). These items assess the following lower-order factors regarding RNT: core characteristics, unproductiveness, and capturing mental capacity. Both the higher-order and lower-order factors exhibit satisfactory internal consistency and show strong correlations with measures of anxiety and depression (Ehring et al., 2011, 2012). Altan-Atalay and Saritas-Atalar (2018) adapted PTQ to Turkish. For the Turkish version, the statistics for internal consistency ($\alpha = .95$) and split-half reliability ($\alpha = .93$), alongside convergent and concurrent validity, were shown to be satisfactory. In our study, the Cronbach's alpha was .97 (see Appendix F).

2.2.7 Empathy Scale from Scales for Assessing Individual's Competencies in Social Relationships

The 'empathy' scale (German: 'Einfühlungsvermögen') from the Scales for the Assessment of Individual Competence in Relationships (abbreviation in German: SEBE) was employed to be able to focus on individuals' relationship competencies. This scale originally developed by Vierzigmann (1995) in German language for a marriage counseling program, and it evaluates the inclination toward empathic and supportive behavior, which is motivated by social

interest and self-esteem. It consists of 10 items, and participants are asked to rate their perceived empathic ability on a 6-point scale, ranging from 1 (does not apply at all) to 6 (applies fully). Example items are “I find it difficult to understand other people’s feelings” and “When somebody is sad or upset, I find it easy to find the right words”. This scale was translated into Turkish for the current study with the support of Gabriele Vierzigmann, the developer of the scale, and Gregor Wilbertz, a native German researcher and one of the authors who used the Empathy Scale in previous studies (Wilbertz et al., 2010). During the translation process, the original German version was translated into both English and Turkish and the best Turkish translation version was achieved by comparing the three versions. In our study, the Cronbach’s alpha was .785 (see Appendix G).

2.3 Procedure

The study protocol received approval from Koç University’s Institutional Review Board (IRB), under the reference number 2024.256.IRB3.107. All individuals aged 18 and above were eligible to participate in the study. Data were collected using an internet-based tool (Qualtrics), with questionnaires administered at a single point in time. The survey link was disseminated and circulated through Koç University’s subject pool and various social media platforms, including Linkedin, Instagram, Twitter, and Facebook. Initially, participants were presented with an informed consent form (see Appendix A), followed by demographic questions. Subsequently, participants completed the following questionnaires in a counter-balanced order: Childhood Trauma Questionnaire (CTQ), Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), Perseverative Thinking Questionnaire (PTQ), Distress Intolerance Index (DII), and Empathy Scale from SEBE. The entire process took approximately 15 minutes, and participants had the option to exit the study at any point without incurring any penalties. The data collection process lasted two weeks in August, 2024.

2.4 Statistical Analysis

The data were analyzed through SPSS (IBM SPSS Statistics for Microsoft, Version 24.0: IBM Corp, Armonk, NY, USA). Initially, univariate and multivariate outlier analyses were conducted for the purpose of data cleaning. Then, descriptive and correlation analyses between age, gender, education level, financial status, childhood emotional maltreatment, distress

intolerance, repetitive negative thinking, depression, anxiety, and empathy were performed. To analyze serial multiple mediation, PROCESS macro for SPSS (Model 6) with 5000 bootstrap resamples and 95% confidence interval (Model 6; Hayes, 2022) was utilized.

Chapter 3:

RESULTS

3.1 Descriptive Statistics and Zero-Order Correlations

Pearson correlation analyses were performed to investigate the relationships between age, sex, education level, financial status, and the study variables. Among demographic variables, the highest coefficient value come from the negative correlation between age and RNT ($r = -.225$, $p < .01$). As for the variables on which the hypotheses of this study focus, CEM has a positive association with distress intolerance ($r = .262$, $p < .01$), RNT ($r = .334$, $p < .01$), depression ($r = .358$, $p < .01$), anxiety ($r = .332$, $p < .01$), and has a negative correlation with empathy ($r = -101$, $p < .05$). Distress intolerance was found to have a positive relationship with both depression ($r = .553$, $p < .01$) and anxiety ($r = 563$, $p < .01$), as well as with RNT ($r = .662$, $p < .01$). As for RNT, it is positively correlated with depression ($r = .70$, $p < .01$) and anxiety ($r = .70$, $p < .01$) (See Table 2.1).

Table 3.1: Descriptive Statistics and Correlations

Variables	M	SD	α	1	2	3	4	5	6	7	8	9	10
1 Gender	1.88	.34		1									
2 Age	32.6	8.4		-0.052	1								
3 Education	4.32	.91		.151**	-0.065	1							
4 Income	2.81	.94		0.041	.121**	.161**	1						
5 CEM	27.93	9.56	.91	.146**	-0.075	-0.081	-.166**	1					
6 DI	31.69	9.19	.93	.160**	-.145**	-0.046	-0.060	.262**	1				
7 RNT	49.34	14.42	.97	.143**	-.225**	-0.078	-.155**	.334**	.662**	1			
8 Depression	21.73	7.35	.90	.138**	-.177**	-0.053	-.156**	.358**	.553**	.700**	1		
9 Anxiety	16.26	5.63	.90	.138**	-.163**	-0.044	-.101*	.332**	.563**	.700**	.784**	1	
10 Empathy	38.53	5.33	.785	.151**	0.052	0.061	.123**	-.101*	-.189**	-.140**	-.119**	-0.073	1

Note. N = 548, *$p < .05$, **$p < .01$

CEM = Childhood Emotional Maltreatment, DI = Distress Intolerance, RNT = Repetitive Negative Thinking, CTQ = Childhood Trauma Questionnaire, CEA = Childhood Emotional Abuse, CEN = Childhood Emotional Neglect, CPN = Childhood Physical Neglect, CPA = Childhood Physical Abuse, CSA = Childhood Sexual Abuse, M = mean, SD = Standard Deviation, α = alpha

3.2 Mediation Analysis

To investigate the potential mediator role of distress intolerance and repetitive negative thinking (RNT) in the association of childhood emotional maltreatment (CEM) with depression and anxiety, two separate mediation analyses were performed. Additionally, to explore potential mediating role of distress intolerance, RNT, and depression and anxiety in the relationship between childhood emotional maltreatment and empathy, two additional exploratory mediation analyses were performed. In all mediation analyses PROCESS macro (Model 6) was utilized, as it permits the assessment of the significance of multiple serial mediation. Also, age and gender were controlled in all mediation analyses.

Analysis via Process macro tested serial mediating effects of distress intolerance and RNT on the relationship between childhood emotional maltreatment (CEM) and depression and anxiety. The results revealed a significant indirect effect of CEM on depression through distress intolerance and RNT (b = .066, t = 5.230, 95%CI [.042, .091]), which means that distress intolerance and RNT serially mediate the association between CEM and depression (Figure 3.1), supporting the first hypothesized model. Furthermore, direct effect of CEM on depression adjusted for two mediators was also found significant (b = .111, SE = .027, $p < .001$). Because total effect of CEM on depression was also significant (b = .285, SE = .034, $p < .0001$), sequential multiple mediator roles of distress intolerance and RNT in the relationship between CEM and depression is partial.

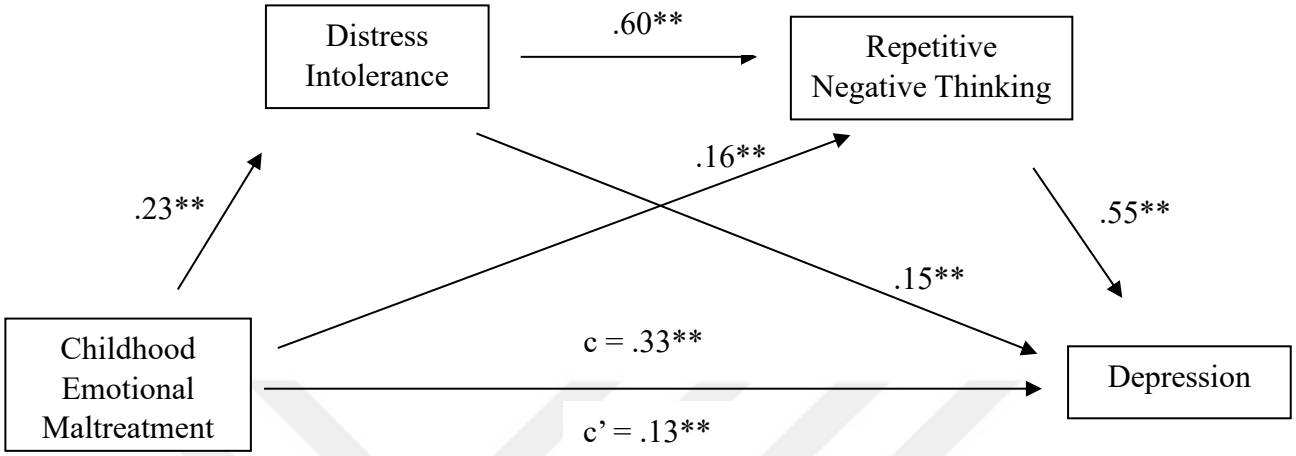

Figure 3.1: Hypothesized Multiple Serial Mediation Model-1: Standardized regression coefficients for the association of CEM with depression mediated by distress intolerance and RNT.

Note. N=548; Covariates: Age and gender. *$p < .05$ **$p < .001$

The same analysis was repeated with anxiety as the outcome variable. The results demonstrated a significant indirect effect of CEM on anxiety through distress intolerance and RNT ($b = .065$, t = 5.208, 95%CI [.042, .091]), which means that distress intolerance and RNT serially mediate the association between CEM and anxiety (Figure 3.2), supporting the second hypothesized model. Also, direct effect of CEM on anxiety controlling for two mediators was also found significant ($b = .085$, SE = .027 $p = .0016$). Since total effect of CEM on anxiety was also significant ($b = .26$, SE = .034 $p < .0001$), serial multiple mediation of distress intolerance and RNT on the relationship between CEM and anxiety is partial.

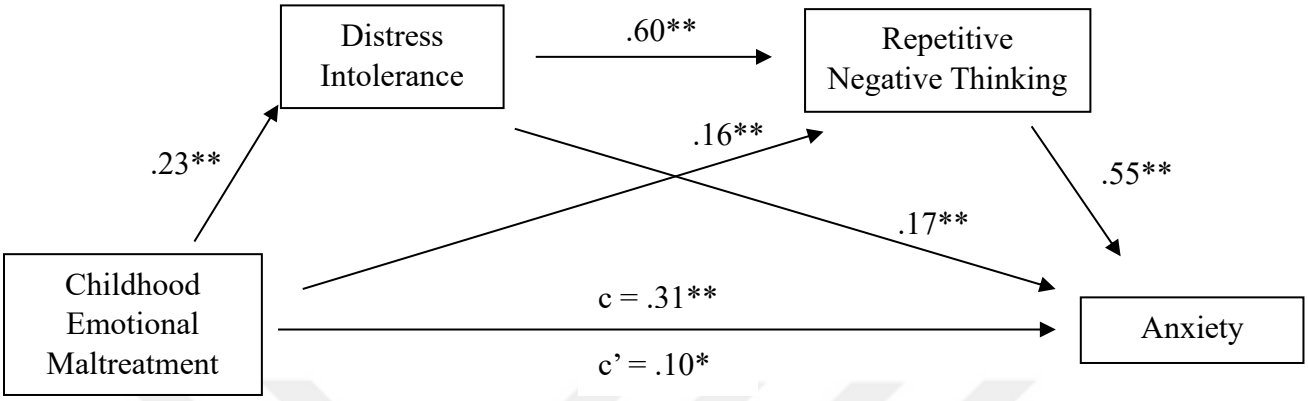

Figure 3.2: Hypothesized Multiple Serial Mediation Model-2: Standardized regression coefficients for the association of CEM with anxiety mediated by distress intolerance and RNT.

Note. N=548; Covariates: Age and gender. *p < .05 **p < .001

Furthermore, the mediation analysis revealed that all indirect effects were significant in the first and second hypothesized models, namely distress intolerance significantly mediates the relationship between CEM and both depression (*b* = .030, t = 3.252, 95%CI [.013, .048) and anxiety (*b* = .033, t = 3.447, 95%CI = [.016, .053]), supporting the third and fourth hypotheses. Also, RNT significantly mediated the association between CEM and both depression (*b* = .078, t = 4.293, 95%CI [.043, .116) and anxiety (*b* = .077, t = 4.485, 95%CI [.044, .112]), supporting the fifth and sixth hypotheses.

For the third hypothesized model, which is exploratory in nature due to limited number of research and mixed results, we tested the serial mediator roles of distress intolerance, repetitive negative thinking (RNT), and depression and anxiety on the relationship between childhood emotional maltreatment (CEM) and empathy. We first tested the model which includes depression as the mediator. The results revealed no significant indirect effect of CEM on empathy through distress intolerance, RNT, and depression (*b* = -.0003, t = -.111, 95%CI [-.006, .005]), which means that distress intolerance, RNT, and depression did not serially mediate the association between CEM and empathy (Figure 3.3). Furthermore, direct effect of CEM on empathy was not found significant (*b* = -.041, SE = .025, *p* = .10). However, when combined

with total indirect of CEM on empathy, which was negative and significant (*b* = -.027, t = -2.66, 95%CI [-.0485, -.0086), total effect of CEM on empathy was found to be significant (*b* = -.068, SE = .024, *p* = .004). This significant total mediated effect with a small size (i.e., *b* = -.027) mostly stems from the only significant path which shows that distress intolerance significantly mediates the association between CEM and empathy (*b* = -0.025, t = -2.94, 95%CI [-.0420, -.0098]). This significant path was the only path we hypothesized based on the existing research.

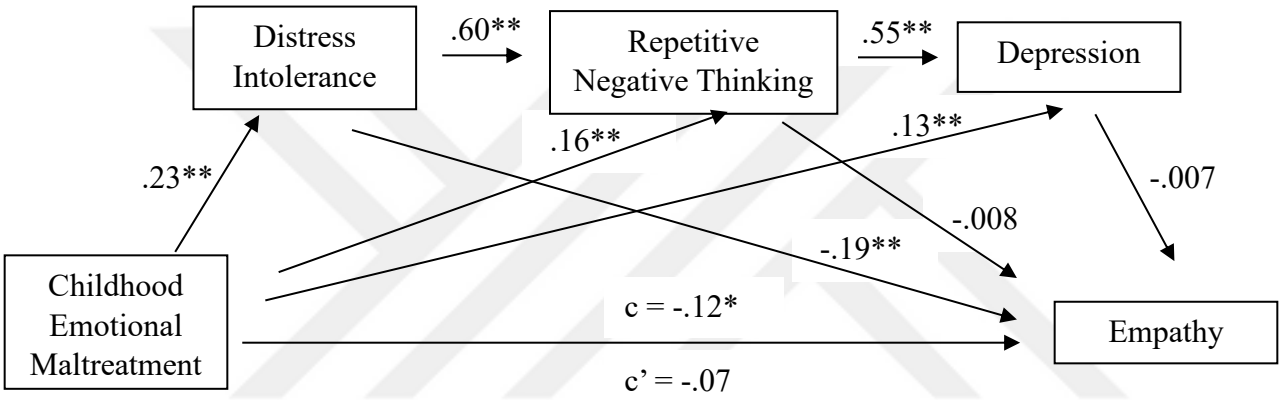

Figure 3.3: Exploratory Multiple Serial Mediation Model-1: Standardized regression coefficients for the association of CEM with empathy mediated by distress intolerance, RNT and depression.

Note. N=548; Covariates: Age and gender. *p < .05 **p < .001

When we tested the model in which anxiety is the mediator, output of the analysis revealed that there was no significant indirect effect of CEM on empathy through distress intolerance, RNT, and anxiety (*b* = .004, t = 1.444, 95%CI [-.001, .010]), which means that distress intolerance, RNT, and anxiety did not serially mediate the association between CEM and empathy (Figure 3.4). Moreover, direct effect of CEM on empathy adjusted for three mediators was not found significant (*b* = -.046, SE = .025, *p* = .06). Nevertheless, when summed with total indirect of CEM on empathy, which was negative and significant (b = -.022, t = -3.19, 95%CI [-.0415, -.0032), total effect of CEM on empathy was found to be significant (b = -.068, SE = .024, p = .004). Again, this significant total indirect effect with a small size is mostly derived from the

only significant hypothesized path which shows that distress intolerance significantly mediates the association between CEM and empathy (*b* = -0.027, t = -3.19, 95%CI [-.0447, -.0117]).

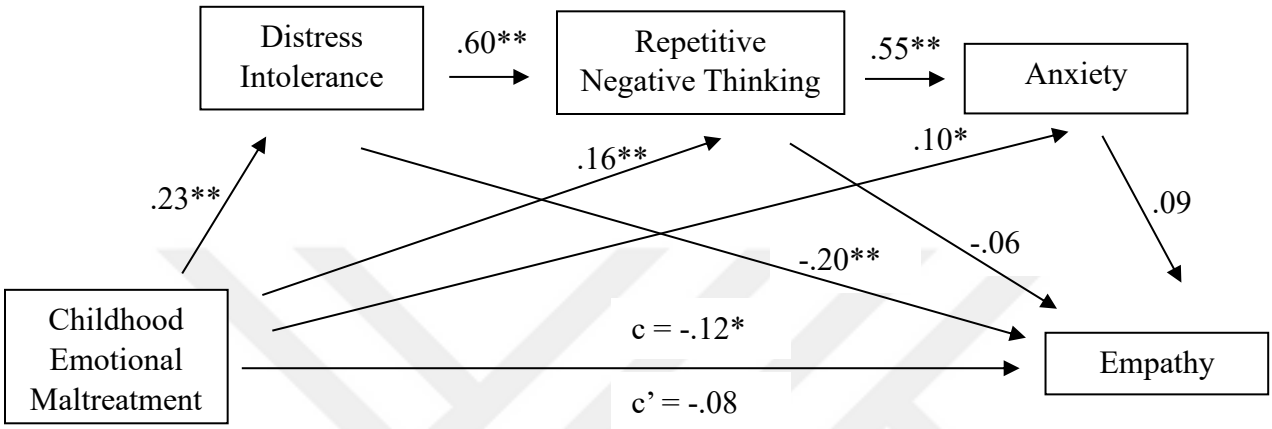

Figure 3.4: Exploratory Multiple Serial Mediation Model-2: Standardized regression coefficients for the association of CEM with empathy mediated by distress intolerance, RNT and anxiety.

Note. N=548; Covariates: Age and gender. *p < .05 **p < .001

In conclusion, distress intolerance and RNT serially mediated the relationship between CEM and both depression and anxiety. Furthermore, as distress intolerance mediated the relationship between CEM and both depression and anxiety, RNT also mediated the relationship between CEM and both depression and anxiety. However, our exploratory analysis revealed that distress intolerance, RNT, and both depression and anxiety did not serially mediate the relationship between CEM and empathy. Nevertheless, as hypothesized, distress intolerance mediated the association between CEM and empathy.

Chapter 4:

DISCUSSION

4.1 The Present Study

The aim of the current study was to test a multiple serial mediation model investigating the mediator roles of distress intolerance and repetitive negative thinking (RNT), respectively, in the relationship of childhood emotional maltreatment (CEM) with both depression and anxiety. Another goal of the present study was to explore another multiple serial mediation model in which the association between the CEM and empathy is serially mediated by distress intolerance, RNT, and both depression and anxiety. In this exploratory mediation model, it was hypothesized that only distress intolerance mediates the relationship between CEM and empathy based on the existing literature. The findings supported the hypotheses related to the first multiple serial mediation model, indicating that distress intolerance and RNT serially and significantly mediated the relationship between CEM and both depression and anxiety. Also, as distress intolerance mediated the relationship between CEM and both depression and anxiety, RNT also mediated the relationship between CEM and both depression and anxiety. In other words, individuals who were emotionally maltreated in childhood are likely to develop intolerance to distress in adulthood and subsequently engage in repetitive and intrusive thinking about their problems or negative experiences, which is associated with elevated levels of depression and anxiety. On the other hand, our results suggested that while distress intolerance functioned as a mediator in the association between CEM and empathy; distress intolerance, RNT, and depression or anxiety did not serially mediate this association. That is, those who experienced emotional maltreatment in childhood tend to have an inadequate capacity to endure and tolerate aversive emotional and experiential states, and this is associated with a lower likelihood of understanding the feelings and perspectives of others.

4.2 The Serial Mediator Roles of Distress Intolerance and RNT

The current results indicated that more intense experiences of emotional maltreatment during childhood are associated with elevated levels of depression, which is in line with the literature, because as the most frequently and regularly experienced childhood trauma type by

adults with depression and/or anxiety, which is 39% for emotional abuse, and 25% for emotional neglect (Kuzminskaite et al., 2021), emotional maltreatment was reported to be the type of trauma most strongly associated with depression (Kuzminskaite et al., 2021; Humphreys et al., 2020; Mandelli et al., 2015; Infurna et al., 2016; Nelson et al., 2017; Gardner et al., 2019). Our results also revealed that the relationship between CEM and anxiety was significant. This finding is also supported by the meta-analyses (Norman et al., 2012; Fernandes, & Osório, 2015; Salokangas et al., 2020), for instance, Norman et al. (2012) found CEM most strongly associated with anxiety among all types of trauma.

As for the mechanisms explaining the relationship between CEM and both depression and anxiety, our mediation analysis revealed that the association between CEM and both depression and anxiety is serially mediated by distress intolerance and RNT, supporting the first and second hypotheses. This means that more adverse experiences of emotional abuse and neglect during childhood might contribute to the development of distress intolerance and repetitive negative thinking patterns, which in turn may increase susceptibility to both depression and anxiety. Our findings are quite congruent with the functional model proposed by Barlow et al. (2021) which suggests that adverse experiences or traumas are conceptualized as factors that can produce a sense of unpredictability or uncontrollability lifelong, especially against negative events or negative affective states, which can lead one to develop additional and more proximal risk factors by creating a diathesis for emotional disorders (Barlow et al., 2016, 2021). Our study addressed the question of the processes through which this diathesis may be related to depression and anxiety. In Barlow et al.'s (2021) functional model, this diathesis for negative emotionality is associated with the tendency to have maladaptive beliefs about one's capacity for tolerating or affecting personally significant experiential states, which in turn leads to aversive reactions to emotional experiences, especially to ones that are negative and distressing. Accordingly, while CEM in our study corresponds to early learning experiences that is conceptualized in the functional model as a significant factor in the development of negative affectivity (e.g., according to both correlational and mediation analyses, CEM is significantly associated with distress intolerance, RNT, depression and anxiety individually), distress intolerance corresponds to aversive reactions which stems from the unhelpful belief that one lacks the capacity to endure and tolerate negative affective states. According to the functional model, aversive reactions, such as distress intolerance, to negative experiential states are likely to result in emotion-driven

cognitive or behavioral avoidant coping strategies, because these maladaptive emotion regulation strategies offer temporary relief from distressing emotions (Barlow et al., 2016) eliciting an illusory feeling of control and certainty. As with RNT, after the short-term illusion of managing the negative emotion and aversive state has vanished, the individuals find themselves more engaged with negative emotions. When an individual engages in repetitive thinking about a particular negative situation or problematic circumstances, they might feel as though they are taking effective action towards solving these issues or managing the accompanying negative emotions. Barlow et al. (2021, 2016) suggests that all these processes and resultant maladaptive emotion regulation and avoidant coping strategies are associated with the increased likelihood of development and maintenance of emotional disorders. Correspondingly, our analysis showed that distress intolerance (i.e., aversive reactivity) that is associated with CEM (i.e., increased negative affectivity due to early adversity) is likely to have an association with RNT (i.e., maladaptive emotion regulation and avoidant coping strategy), which is subsequently linked to elevated levels of both depression and anxiety.

More specifically, distress intolerance significantly mediates the relationship between CEM and both depression and anxiety. Since emotional abuse and emotional neglect experienced in childhood can be factors that increase the likelihood of experiencing emotions more intensely or that weaken resilience to stressful situations, aversive reactions such as distress intolerance and subsequent depression and anxiety seem difficult to manage and likely to develop in the face of these overwhelming emotions. Furthermore, existing literature supports the transdiagnostic role of CEM and distress intolerance. For instance, we have already mentioned robust transdiagnostic relationships of CEM with depression and anxiety, and CEM is reported as a significant risk factor associated with distress intolerance (Rosencrans et al., 2017; Erol, & Inozu, 2023; Banducci et al., 2017; Yang et al., 2022; Williams, 2022), and distress intolerance is associated with both depression and anxiety (Macatee et al., 2016; Brandt et al., 2013).

Next, the findings put forward that RNT significantly mediates the association between CEM and both depression and anxiety. When individuals are exposed to emotional maltreatment during their childhood, it seems likely that they can develop a propensity for RNT as a maladaptive emotion regulation and coping strategy to feel more in control and to prepare for stressful situations arising from feeling inadequate, worthless or insignificant linked to traumatic

emotional experiences with their parents. Again, this finding is in line with the literature and supports the transdiagnostic role of CEM and RNT. For instance, RNT has robust associations with depression and anxiety and comorbidity of these disorders (Spinhoven, Hemert, & Penninx, 2019; Spinhoven et al., 2015; Hijne et al., 2020). However, studies investigating the relationship of RNT with CEM, or mediator role of RNT in association with CEM are limited in number, even though there are studies suggesting that rumination, a form of RNT, is associated with CEM (Wu et al., 2023; Watts et al.) and mediates the relationship between CEM and depression (Domke et al., 2023). The current study contributed to the literature in this respect with completely transdiagnostic constructs.

4.3 Mediator Role of Distress Intolerance in the Relationship Between CEM and Empathy

The present study indicated that distress intolerance, RNT, and depression or anxiety did not serially mediate the relationship between CEM and empathy. However, as hypothesized, distress intolerance was a significant mediator in the association of CEM with empathy. This suggests that more severe emotional abuse and neglect during childhood is associated with lower levels of capacity to endure and tolerate negative emotions, which in turn is linked to deficits in empathy. Given that CEM is a significant contributor to an increased tendency to experience intense negative emotions (Barlow, 2021) and is associated with an increased likelihood of distress intolerance, this process may be associated with lower levels of empathy, because those who lack the ability to endure and tolerate negative experiential and emotional states may be more likely to experience personal distress, which has a debilitating effect on empathic response (Eisenberg, & Eggum, 2009).

More specifically, within an interpersonal context, personal distress may appear as an egocentric, negative emotional reaction that emerge in response to another person's negative emotions. This reaction is characterized by a drive to alleviate one's own discomfort first, rather than focusing on and addressing the needs of the other person (Batson, 1991; Eisenberg, & Eggum, 2009). Eisenberg and Eggum (2009) suggest that empathic responses, such as empathic concern and perspective-taking, depends on the degree of empathic arousal. Also, since simply envisioning oneself in the other person’s situation is sufficient to evoke personal distress independent of any psychological condition or pathology (Batson et al., 1997; Lamm et al., 2007), an individual who has higher levels of distress intolerance may be more likely to

experience empathic overarousal that is fueled by personal distress evoked by a perspective-taking or empathic concern attempt, which in turn may manifest itself as egocentric self-focus characterized by the motivation to reduce one's own distress rather the distress of the other. Consequently, if the individual fails to reduce the distress evoked by the situation (e.g. by changing the subject by giving banal advice that resembles a maladaptive coping strategy), and the situation persists, personal distress and empathic overarousal can reach even higher levels as a result of the whole process, creating a vicious cycle, and inhibiting the ability to generate empathic responses.

4.4 Limitations and Future Studies

The current study is the first to evidence the mediator role of distress intolerance and RNT in the relationship between CEM and both depression and anxiety. Additionally, it expanded the current knowledge about the relationship between distress intolerance that is a relatively novel construct and RNT by revealing the robust association between the two. Another contribution of the present study to the literature is to show that distress intolerance mediated the association between CEM and empathy. In addition to its contributions, the present study also has some limitations. Firstly, the cross-sectional nature of the study precluded the ability to draw causal inferences between the variables. Therefore, the findings of the study should be interpreted considering this drawback. Secondly, with almost 87% of the participants being female, the sample exhibited a marked gender imbalance which limited its representativeness of the general population. Thirdly, the dataset was prone to biases inherent in self-reporting, such as motivational, or social desirability biases. As Neumann et al. (2015) and Lovett and Sheffield (2007) indicated, for instance self-report instruments utilized to measure empathy may lack reliability due to controversial psychometric qualities and response biases arising from social desirability for being an understanding person and the perception that empathy is positively related to moral values. Lastly, the study was limited to individuals who had internet access as data collection relied on an online system utilizing self-report measures.

To overcome the limitation of the cross-sectional design, future studies could employ a longitudinal design that allows for the assessment of changes over time and potentially draw causal inferences between the variables. Since the majority of the participants of the current study were women, future studies should aim for a more balanced gender representation, through

techniques such as stratified sampling. To minimize the motivational, or social desirability biases, measurement of empathy through performance-based tasks could yield more accurate and reliable scores regarding participants' actual abilities. Because self-report measures only assess participants' perceptions of how successful or accurate they are at empathy, whereas performance-based empathic accuracy tasks aim to measure how successful or accurate they actually are at understanding others' feelings and thoughts, by measuring it as an ability (Ickes, 2009).

Relationships that might be examined in future studies to gain a deeper understanding could be the relationships between CEM and distress intolerance and CEM and RNT. Insecure attachment styles formed as a result of CEM possibly play an important role in shaping internal working models. Negative internal working models associated with attachment figures may provide insufficient resources to build resilience and hinder the individual from developing better emotion and behavior regulation skills. Considering that distress intolerance is also an aversive reaction (Barlow et al., 2021), it may stem from being filled up with negativity due to internal working models leading to the tendency to feel strong negative emotions. Hence, investigating the mediating role of attachment styles in the relationship between CEM and distress intolerance may expand the current knowledge on this point. In a similar vein, taking into account that RNT is a maladaptive emotion regulation and an avoidant coping strategy (Ehring et al., 2011), the relationship between CEM and RNT can be investigated in finer detail through the mediating role of attachment styles.

4.5 Conclusion and Clinical Implications

This study revealed that experiencing emotional abuse and emotional neglect during childhood is associated with developing distress intolerance in adulthood as an aversive reactivity to negative experiential states and emotions, which in turn is linked to engaging in repetitive negative thinking patterns as a maladaptive emotion regulation and an avoidant coping strategy, which in turn is associated with having high depression and anxiety scores. Embracing the transdiagnostic approach, this multiple serial mediation model investigating the association between CEM and both depression and anxiety is quite coherent with the functional model mentioned above (Barlow et al., 2021). Based on this functional model, Barlow and colleagues (2017) developed the Unified Protocol (UP) for Transdiagnostic Treatment of Emotional Disorders consisting of a

set of transdiagnostic treatment modules designed to modify the functional link between neuroticism and psychopathology. UP treatment addresses both the aversive reactivity to negative emotions and the maladaptive emotion regulation and avoidant coping strategies driven by emotions, ultimately aiming to strengthen the tendency to tolerate emotional experiences and accepting them as more normal experiences (Barlow et al., 2021, 2017). Thus, given the associations in our multiple serial mediation models, it can be argued that the functional model underpinning transdiagnostic UP psychotherapy is supported, and that UP can serve as an evidence-based intervention to alter these associations and consequently alleviate both depression and anxiety.

Another contribution of the current study is the finding that distress intolerance mediates the relationship between CEM and empathy. At this point, we propose that integrating interpersonal components from Cognitive Behavioral Analysis System of Psychotherapy (CBASP) to the UP psychotherapy may offer promising results. More specifically, according to Barlow et al. (2017), since aversive reactivity or intolerance to emotions and the maladaptive or avoidant coping strategies can often occur in interpersonal situations, the interpersonal basis and roles of emotion-related concepts, alongside intrapersonal functioning, deserve more attention. Barlow et al. (2017) also add that UP is a transtheoretical and transdiagnostic psychotherapy, even if it is mainly CBT-based, and therefore UP could be an opportunity to integrate interpersonal components into a CBT-based psychotherapy that focuses mostly on the intrapersonal functions of emotions.

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APPENDIX A: Informed Consent

Bilgilendirilmiş Gönüllü Onam Formu

Değerli Katılımcı,

Bu araştırma Koç Üniversitesi bünyesinde bir tez araştırması olarak, Kadir Has Üniversitesi Sosyal Bilimler Enstitüsü öğretim üyesi Dr. Ayşe Altan Atalay tarafından yürütülmektedir. Koç Üniversitesi Etik Kurullarının [Etik Kurul onay numarası] sayılı onayı ile izin verilen bu araştırmaya tamamen kendi iradenizle, herhangi bir zorlama veya mecburiyet olmadan gönüllü olarak katılımınız esastır. Lütfen aşağıdaki bilgileri okuyunuz ve katılmaya karar vermeden önce anlamadığınız herhangi bir husus varsa çekinmeden sorunuz.

Çalışmanın amacı çocukluk çağındaki duygusal ihmal, sıkıntıya tolerans gösterememe, sürekli olumsuz düşünme, kaygı ve depresyon gibi faktörlerin empati üzerindeki etkilerinin araştırılmasıdır. Bu nedenle bu konulardaki eğiliminizi ölçmeye yönelik sorulardan oluşan anket formlarını doldurmanız istenmektedir. Ankette, sizden kimlik belirleyici hiçbir bilgi istenmemektedir. Cevaplarınız tamamıyla gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecek ve elde edilecek bilgiler bilimsel yayınlarda kullanılacaktır. Araştırmanın sonuçları açısından sağlıklı bilgiler edinilmesi için yönergelerin dikkatlice okunması, verilen cevaplarda samimi olunması ve cevaplandırılmamış soru bırakılmaması son derece önemlidir.

Sorulara verdiğiniz cevapların herhangi bir olumsuz duruma neden olması beklenmemektedir. Çocukluk çağında tecrübe edilmiş olma ihtimali olan duygusal ihmale yönelik sorulara yanıt verirken kendinizi rahatsız hissetme olasılığınız vardır. Böyle bir durumda, isterseniz soruyu atlayabilirsiniz veya anketi sonlandırabilirsiniz. Bunun haricinde araştırma boyunca günlük hayatta karşılaşılan risklerden daha büyük ölçüde herhangi bir risk ön görülmemektedir

Bu araştırmaya katılarak psikoloji bilimine, çocukluk çağındaki duygusal ihmal, sıkıntıya tolerans gösterememe, sürekli olumsuz düşünme, kaygı ve depresyon gibi faktörlerin empati üzerindeki etkilerinin daha iyi anlaşılmasına ve toplum sağlığına faydalı içgörüler sağlanmasına katkı sağlamış olacaksınız.

Katılım sırasında diğer sorulardan ya da herhangi bir başka nedenden ötürü kendinizi rahatsız hissederseniz cevaplama işini herhangi bir yaptırımla karşılaşmadan yarıda bırakmakta

serbestsiniz. Çalışmanın yaklaşık 20 dakika sürmesi beklenmektedir. Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz. Bu araştırma ile ilgili soru veya endişeleriniz varsa lütfen araştırmacıyla iletişime geçiniz.

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Klinik Psikoloji Yüksek Lisans Öğrencisi

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman yarıda kesip bırakabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı olarak kullanılmasını kabul ediyorum.

☐ Evet ☐ Hayır

Appendix B: Demographic Form

1. Yaşınız:
2. Cinsiyetiniz:
3. Medeni durumunuz:

□ Bekar □ Evli □ Boşanmış Diğer:

4. Eğitim Durumunuz:

□ İlkokul □ Lisans Diğer:

□ Ortaokul □ Yüksek Lisans

□ Lise □ Doktora

5. Mesleğiniz:

6. Hangi alanda eğitim aldınız veya almaktasınız?

7. Şu anda kiminle yaşıyorsunuz?

□ Anne ve babanızla □ Evde tek başına

□ Annenizle □ Evde arkadaşlarla

□ Babanızla □ Yurtta

□ Akrabaların yanında □ Diğer (lütfen açıklayın)

8. Ailenizin kaçıncı çocuğusunuz?

9. Varsa kız kardeşlerinizin sayısı:

10. Varsa erkek kardeşlerinizin sayısı:

11. Kardeşleriniz arasında kendiniz de dahil olmak üzere üveylik var mı?

□ Evet □ Hayır

12. Aylık gelir seviyenizi nasıl değerlendirirsiniz?

□ Alt □ Alt-Orta □ Orta □ Üst-Orta □ Üst

13. Şu an yaşadığınız yeri nasıl tanımlarsınız?

□ Şehir merkezi □ İlçe merkezi □ Köy veya kırsal alan

14. Şimdiye kadar hiç psikolojik bir rahatsızlık geçirdiniz mi ya da bir psikolojik rahatsızlık tanısı aldınız mı?

□ Evet □ Hayır

15. Eğer 14. Soruyu "Evet" olarak yanıtladıysanız lütfen tanınızı aşağıdaki boşluğa yazınız:

16. Şu anda herhangi bir psikolojik rahatsızlıktan dolayı ilaç kullanıyor musunuz?

□ Evet □ Hayır

17. Eğer 16. Soruyu, "Evet" olarak yanıtladıysanız lütfen ilacın ismini aşağıdaki boşluğa yazınız:

Appendix C: Childhood Trauma Questionnaire (CTQ)

Bu sorular çocukluğunuzda ve ilk gençliğinizde (20 yaşından önce) başınıza gelmiş olabilecek bazı olaylar hakkındadır. Her bir soru için sizin durumunuza uyan rakamı daire içerisine alarak işaretleyiniz. Soruların bazıları özel yaşamınızla ilgilidir; lütfen elinizden geldiğince gerçeğe uygun yanıt veriniz. Yanıtlarınız gizli tutulacaktır.

Her bir madde için aşağıdaki seçeneklerden birini işaretleyiniz:

1. Hiçbir zaman
2. Nadiren
3. Kimi zaman
4. Sık olarak
5. Çok sık

	Çocukluğumda ya da ergenliğimde...	Hiçbir Zaman 1	Nadiren 2	Kimi zaman 3	Sıklıkla Olarak 4	Çok sık 5
1	Yeterli yemeğim olurdu.	1	2	3	4	5
2	Gündelik bakım ve güvenliğim sağlanıyordu.	1	2	3	4	5
3	Anne ya da babam kendilerine layık olmadığımı ifade ederlerdi.	1	2	3	4	5
4	Fiziksel ihtiyaçlarım tam olarak karşılanırdı.	1	2	3	4	5
5	Ailemde sorunlarımı paylaşabileceğim biri vardı.	1	2	3	4	5
6	Üst baş açısından bakımsızdım.	1	2	3	4	5
7	Sevildiğimi hissediyordum.	1	2	3	4	5

8	Anne ya da babam kendimden utanmama neden olurdu.	1	2	3	4	5
9	Ailemden birisi bana öyle kötü vurmuştu ki doktora ya da hastaneye gitmem gerekmişti.	1	2	3	4	5
10	Ailemde değiştirmek istediğim şeyler vardı.	1	2	3	4	5
11	Ailemdekiler bana o kadar şiddetle vuruyorlardı ki vücudumda morartı ya da sıyrıklar oluyordu.	1	2	3	4	5
12	Kayış, sopa, kordon ya da başka sert bir cisimle vurularak cezalandırılıyordum.	1	2	3	4	5
13	Anne ya da babam fikirlerimi önemserdi.	1	2	3	4	5
14	Ailemdekiler bana kırıcı ya da saldırganca sözler söylerlerdi.	1	2	3	4	5
15	Fiziksel bakımdan hırpalanmış olduğuma inanıyorum.	1	2	3	4	5
16	Çocukluğum mükemmeldi.	1	2	3	4	5
17	Bana o kadar kötü vuruluyor ya da dövülüyordum ki öğretmen, komşu ya da bir doktorun bunu fark ettiği oluyordu.	1	2	3	4	5
18	Ailemde birisi benden nefret ederdi.	1	2	3	4	5
19	Ailemdekiler kendilerini birbirlerine yakın hissederlerdi.	1	2	3	4	5
20	Biri bana cinsel amaçla dokunmaya ya da kendisine dokundurtmaya çalıştı.	1	2	3	4	5

21	Kendisi ile cinsel ilişki kurmadığım takdirde bana zarar vermekle tehdit eden biri vardı.	1	2	3	4	5
22	Benim ailem dünyanın en iyisiydi.	1	2	3	4	5
23	Birisi beni cinsel şeyler yapmaya ya da cinsel şeylere bakmaya zorladı.	1	2	3	4	5
24	Birisi bana cinsel tacizde bulundu.	1	2	3	4	5
25	Ailemdekiler bana karşı suçlayıcıydı.	1	2	3	4	5
26	İhtiyacım olduğunda beni doktora götürecek birisi vardı.	1	2	3	4	5
27	Cinsel istismara uğradığım kanısındayım.	1	2	3	4	5
28	Ailem benim için bir güç ve destek kaynağı idi.	1	2	3	4	5
29	Ailemdekiler yaşıtlarımla ve arkadaşlarımla görüşmemi kısıtlardı.	1	2	3	4	5
30	Ailemdekiler her şeyime karışırdı.	1	2	3	4	5
31	Anne ve babam bir işi kendi başıma yapmama fırsat verirlerdi.	1	2	3	4	5
32	Ailemdekiler rahat vermeyecek derecede peşimdeydiler.	1	2	3	4	5
33	Anne ya da babam beni kontrol etmek için kişisel eşyalarımı benden habersiz karıştırırdı.	1	2	3	4	5

Appendix D: Patient Health Questionnaire (PHQ)

Son bir hafta içinde aşağıdaki problemler size ne sıklıkla rahatsız etti?

Her bir madde için aşağıdaki seçeneklerden birini işaretleyiniz:

1. Hiç, 2. Birkaç Gün, 3. Günlerin yarısından fazlasında, 4. Hemen hemen her gün

	Son bir hafta içinde aşağıdaki problemler size ne sıklıkla rahatsız etti?	Hiç	Birkaç gün	Günlerin yarısından fazlasında	Hemen hemen her gün
1	Bir şey yapmak konusunda ilgisizlik veya zevk almamak	1	2	3	4
2	Üzgün, depresif veya umutsuz hissetmek	1	2	3	4
3	Uykuya dalmada veya uyumaya devam etmekte zorluk veya çok fazla uyumak	1	2	3	4
4	Yorgun hissetmek veya enerjinizin az olması	1	2	3	4
5	İştahsızlık veya çok fazla yemek	1	2	3	4
6	Kendinizi kötü hissetmeniz veya kendinizi başarısız ya da kendinizi veya ailenizi hayal kırıklığına uğrattığınızı düşünmeniz	1	2	3	4
7	Gazete okumak veya televizyon seyretmek gibi faaliyetlerde dikkatinizi toparlamakta güçlük çekmeniz	1	2	3	4
8	Başkalarının fark edeceği kadar yavaş hareket etmeniz veya konuşmanız. Veya tam aksine normalden çok daha fazla	1	2	3	4

	hareket edecek kadar kıpır kıpır ve huzursuz olmanız.				
9	Ölmüş olsanız daha iyi olacağınız veya bir şekilde kendinize zarar verme düşünceleri	1	2	3	4

Appendix E: Generalized Anxiety Disorder-7 (GAD-7)

Her bir madde için aşağıdaki seçeneklerden birini işaretleyiniz:

1. Hiç, 2. Birkaç Gün, 3. Günlerin yarısından fazlasında, 4. Hemen hemen her gün

		Hiç	Birkaç gün	Günlerin yarısından fazlasında	Hemen hemen her gün
1	Kendini sinirli, kaygılı veya çok gergin hissetme	1	2	3	4
2	Kaygılarını durduramama veya kontrol edememe	1	2	3	4
3	Farklı şeylerden çok fazla endişelenme	1	2	3	4
4	Sakince oturamayacak kadar kendini huzursuz hşssetme	1	2	3	4
5	İştahsızlık veya çok fazla yemek	1	2	3	4
6	Kolayca kızma ve asabileşme	1	2	3	4
7	Sanki çok kötü bir şey olacakmış gibi bir korku duyma	1	2	3	4

Appendix F: Distress Intolerance Index (DII)

Sıkıntıya tolerans durumunuz ile ilgili aşağıda verilen ifadeleri dikkatle okuyarak kendinize en uygun gördüğünüz sadece bir seçeneği işaretleyiniz.

Her bir madde için aşağıdaki seçeneklerden birini işaretleyiniz:

1. Kesinlikle katılmıyorum, 2. Katılmıyorum, 3. Kararsızım, 4. Katılıyorum, 5. Kesinlikle Katılmıyorum

		Kesinlikle katılmıyorum 1	Katılmıyorum 2	Kararsızım 3	Katılıyorum 4	Kesinlikle Katılıyorum 5
1	Sıkıntılı veya üzüntülü hissetmekle başa çıkamam.	1	2	3	4	5
2	Diğer insanlar sıkıntı veya üzüntü duygularına benden daha iyi dayanabiliyor.	1	2	3	4	5
3	Sıkıntılı veya üzgün olmak benim için daima büyük bir çiledir.	1	2	3	4	5
4	Sıkıntılı veya üzgün olma hislerim beni korkutur.	1	2	3	4	5
5	Sıkıntılı veya üzgün hissetmemek için her şeyi yapabilirim.	1	2	3	4	5
6	Sıkıntılı veya üzgün hissettiğimde, sıkıntının gerçekten ne kadar kötü hissettirdiğine odaklanmaktan kendimi alamam	1	2	3	4	5
7	Rahatsızlık veren duygulardan çok çabuk kurtulmalıyım, başka türlü bu duygulara dayanamam.	1	2	3	4	5

8	Üzgün hissedebileceğim durumlara tahammül edemem.	1	2	3	4	5
9	Rahatsızlık verici duygulara dayanamam.	1	2	3	4	5
10	Gergin olmak beni korkutur	1	2	3	4	5

Appendix G: Perseverative Thinking Questionnaire (PTQ)

Bu ölçekte sizden olumsuz deneyimlerle ya da sorunlarla ilgili genel olarak nasıl düşündüğünüzü açıklamanız istenecektir. Lütfen aşağıdaki ifadeleri okuyun ve genel olarak olumsuz deneyimlerle ya da sorunlarla ilgili düşündüğünüz durumlara ne kadar uygun olduğuna göre değerlendirin.

Bu ölçekte, sizden...

		Hiçbir zaman	Nadiren	Bazen	Sıklıkla	Neredeyse Her
1	Aynı düşünceler aklımdan tekrar tekrar geçmeye devam ediyor	0	1	2	3	4
2	Düşünceler zihnime zorla girer	0	1	2	3	4
3	Onları düşünmeyi durduramıyorum	0	1	2	3	4
4	Hiçbirini çözmeden birçok sorunla ilgili düşünüyorum	0	1	2	3	4
5	Sorunlarımla ilgili düşünürken başka hiçbir şey yapamıyorum	0	1	2	3	4
6	Düşüncelerim kendini tekrarlıyor	0	1	2	3	4
7	Düşünceler aklıma istemim dışında gelmeye devam ediyor	0	1	2	3	4
8	Bir takım meselelere takılır ve ilerleyemem	0	1	2	3	4
9	Bir cevap bulamadan kendime sorular sormaya devam ediyorum	0	1	2	3	4
10	Düşüncelerim beni diğer şeylere odaklanmaktan alıkoyuyor	0	1	2	3	4
11	Her zaman aynı meseleyle ilgili düşünüp dururum	0	1	2	3	4
12	Düşünceler zihnimde öylece beliriyor.	0	1	2	3	4

13	Aynı mesele üzerinde düşünmeye devam etme dürtüsü hissediyorum	0	1	2	3	4
14	Düşüncelerimin bana pek faydası olmuyor	0	1	2	3	4
15	Düşüncelerim tüm dikkatimi alıyor	0	1	2	3	4

Appendix H: Empathy Scale from Scales for Assessing Individual's Competencies in Social Relationships

Bu ölçekte sizden kendinizle ilgili aşağıdaki ifadelere ne ölçüde katıldığınızı açıklamanız istenecektir. Lütfen aşağıdaki ifadeleri okuyun ve genel olarak sizin için ne kadar uygun olduğunu aşağıdaki ölçeğe göre değerlendirin:

1-Benim için hiç geçerli değil

2-Benim için geçerli değil

3-Kararsızım

4-Benim için geçerli

5-Benim için oldukça geçerli

		Benim için hiç geçerli değil 1	Benim için geçerli değil 2	Kararsızım 3	Benim için geçerli 4	Benim için oldukça geçerli 5
1	Diğer insanlarla ilgilenen birisiyimdir	1	2	3	4	5
2	Genelde kendini iyi hissetmeyen birisine yardım etme konusunda oldukça iyiyimdir	1	2	3	4	5
3	Rahatlatmama ve yardımcı olmama ihtiyaç duyan birini desteklemem gerektiğinde kendimi bunalmış hissedebiliyorum	1	2	3	4	5
4	Birisi üzgün ya da sıkıntılı olduğunda doğru kelimeleri bulmak benim için kolaydır	1	2	3	4	5
5	Diğer insanların duygularını anlamakta zorlanıyorum.	1	2	3	4	5

6	Genel olarak başkalarının nasıl hissettiğini anlama konusunda iyiyimdir	1	2	3	4	5
7	Kendimi başkalarının yerine koyabiliyorum	1	2	3	4	5
8	İçlerinde olup bitenleri anlama açısından diğer insanlar benim için kapalı birer kutudurlar	1	2	3	4	5
9	Diğer insanlar gerçekten umrumda değil	1	2	3	4	5
10	Diğer insanları tanımayı ilginç buluyorum	1	2	3	4	5