

**The Investigation of the Relationship Between Childhood Trauma and Embitterment:
The Role of Belief in a Just World and COVID-19 Related Negative Life Events**

By

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The Role of Belief in a Just World and COVID-19 Related Negative Life Events**

Koc University

Graduate School of Social Sciences and Humanities

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and have found that it is complete and satisfactory in all respects,
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Statement of Authorship

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Abstract

Embitterment is a negative reaction to perceived injustice, insult and breach of trust. The present study investigated the association of childhood trauma with embitterment, whether Belief in a Just World (BJW) mediates this association. Additionally, COVID-19 related negative life events' moderator role in the direct and indirect associations between childhood trauma and embitterment was also investigated. The sample included 343 individuals from adult community sample, ages between 19 to 79. Data were collected from December 2021 to March 2022 through Qualtrics and analyzed using regression analysis. Results suggested that there was positive association between childhood trauma and embitterment, when BJW was controlled. Moreover, according to the results of the mediation analysis, BJW partially mediated the relationship between childhood trauma and embitterment. There was a significant negative association of childhood trauma with BJW; and a significant negative association of BJW with embitterment. However, experiencing COVID-19 related negative life events did not moderate the direct or indirect associations between childhood trauma and embitterment. Additionally, post-hoc analysis revealed that while the personal BJW played a mediating role between childhood trauma and embitterment; general BJW did not. These findings indicated that the traumatic events experienced in childhood have a crucial role on experiencing embitterment in adulthood. Moreover, BJW mediated the association between childhood trauma and embitterment.

Keywords: embitterment, childhood trauma, belief in a just world, COVID-19, pandemic

Özet

Hayata küsme, algılanan adaletsizliğe, aşağılanmaya ve güvenin ihlal edilmesine karşı verilen olumsuz bir tepkidir. Bu çalışma, çocukluk çağı travması ve hayata küsme kavramı arasındaki ilişkiyi, ve Adil Dünya İnancı'nın (ADİ) bu ilişkideki aracı değişken rolünü araştırdı. Buna ek olarak, COVID-19 pandemisi ile ilgili olumsuz yaşam deneyimlerinin çocukluk çağı travması ve hayata küsme arasındaki direkt ve indirekt ilişkilerde düzenleyici değişken rolü araştırıldı. Bu çalışmanın örneklemini toplum içerisinde, yaşları 19 ve 79 arasında değişen 343 kişiydi. Veri 2021 yılının Kasım ayı ile 2022 yılının Mart ayı arasında, çevrimiçi olarak Qualtrics üzerinden toplandı ve regresyon analiziyle analiz edildi. Sonuçlar, ADİ kontrol edildiğinde, çocukluk çağı travması ve hayata küsme arasında anlamlı bir ilişki ortaya çıkardı. Buna ek olarak, aracı değişken analiziyle ADİ'nin çocukluk çağı travması ve hayata küsme arasındaki ilişkide kısmi aracı değişken rolü olduğu bulundu. Sonuçlara göre, çocukluk çağı travması ve ADİ arasında anlamlı ve olumsuz bir ilişki, ve ADİ ile hayata küsme arasında da yine anlamlı ve olumsuz bir ilişki bulunmaktaydı. Fakat, COVID-19 pandemisi ile ilgili olumsuz yaşam olayları deneyimlemenin çocukluk çağı travması ve hayata küsme kavramı arasındaki direkt veya indirekt ilişkilerde düzenleyici değişken rolü bulunmadı. Ek olarak, çoklu karşılaştırma testi sonuçlarına göre, kişisel ADİ çocukluk çağı travması ve hayata küsme arasındaki ilişkide aracı değişken rolündeyken, genel ADİ değildi. Bu çalışmanın sonuçları çocukluk çağında yaşanan travmatik deneyimlerin yetişkinlikte hayata küsme üzerinde oldukça önemli bir rolü olduğunu, ayrıca ADİ'nin çocukluk çağı travması ve hayata küsme arasındaki bu ilişkide aracı rolü oynadığını göstermektedir.

Anahtar kelimeler: Hayata küsme, çocukluk çağı travması, adil dünya inancı, COVID-19, pandemi

Dedication

This thesis is dedicated to my grandmother whom I always feel her presence with me.



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Table of Contents

Abstract.....	iv
Özet.....	v
Dedication.....	vi
Acknowledgements.....	vii
List of Tables.....	x
List of Figures.....	xi
CHAPTER 1.....	1
INTRODUCTION.....	1
1.1. Embitterment.....	1
1.2. Childhood Trauma.....	6
1.3. Childhood Trauma and Embitterment.....	10
1.4. Belief in a Just World (BJW).....	11
1.4.1. Belief in a Just World as Mediator.....	12
1.5. COVID-19 Related Negative Life Events.....	15
1.5.1. COVID-19 Related Negative Life Events as Moderator.....	17
1.6. The Current Study.....	19
CHAPTER 2.....	22
METHOD.....	22
2.1. Participants.....	22
2.2. Procedure.....	25
2.3. Measures.....	25
2.3.1. Demographic Information.....	25
2.3.2. Traumatic Experiences in Childhood.....	26
2.3.3. Embitterment.....	26
2.3.4. Belief in a Just World (BJW).....	27
2.3.5. COVID-19 Related Negative Life Events.....	28

2.3.6. Previous Potentially Traumatic Life Events	28
2.4. Statistical Analyses	29
CHAPTER 3	30
RESULTS	30
3.1. Data Cleaning and Preparation.....	30
3.2. Descriptive Statistics	30
3.3. Bivariate Correlations Among Study Variables.....	31
3.4. ANOVA Test for Group Comparisons.....	33
3.5. Testing the Main Hypotheses	33
3.5.1. Mediation Analysis.....	34
3.5.2. Mediated Moderation Analysis	36
3.6. Post-Hoc Analysis	38
CHAPTER 4	40
DISCUSSION	40
4.1. Limitations and Strengths	47
4.2. Implications for Future Research	48
4.3. Clinical Implications and Conclusion	50
REFERENCES	53
APPENDIX A: Demographics Form.....	68
APPENDIX B: Childhood Trauma Questionnaire	70
APPENDIX C: Post Traumatic Embitterment Disorder Self Rating Scale	73
APPENDIX D: General and Personal Belief in a Just World Scale.....	75
APPENDIX E: Negative Life Events Experienced during COVID-19 Pandemic	76
APPENDIX F: Life Events Checklist for DSM-5	77

List of Tables

Table 1	23
Demographic Characteristics of Sample	23
Table 2	32
Means, Standard Deviations, Internal Consistencies, Correlations for the study variables and Minimum and Maximum Scores gathered from each scale	32



List of Figures

Figure 1	21
Conceptual Model	21
Figure 2	35
The mediation model: Belief in a just world is a mediator between childhood trauma and embitterment.....	35
Figure 3	37
The moderated mediation model: Belief in a just world as mediator between childhood trauma and embitterment, and COVID-19 related NLE as a moderator in this model.....	37
Figure 4	39
Post-hoc Analysis, Parallel Mediation Model: Personal Belief in a Just World and General Belief in a Just World are Mediators.....	39

CHAPTER 1

INTRODUCTION

1.1. Embitterment

Embitterment is defined as “*a response to injustice, humiliation, and breach of trust*” and a persistent desire to “*undo what happened, reinstate justice, get even, and take revenge*” (Linden & Arnold, 2021, p.74). Linden (2003) defines embitterment as an emotion surrounding with feelings of being disappointed, humiliated or “*loser*” as well as being vindictive but desperate. Linden and Maercker (2011) stated that, numerous individuals might have already experienced embitterment due to life events, thus many individuals from the society are familiar with this emotional state.

According to Linden and Rotter (2018), embitterment is a multifaceted emotion including numerous feelings, cognitions and action tendencies simultaneously. The feelings like revenge, hate or hopelessness; cognitions such as “*nobody can be trusted*” or “*the world is against me*”, and action tendencies such as being socially withdrawn and appealing to court can be observed in embittered individuals (Linden & Rotter, 2018).

Embitterment involves a mixture of emotions such as “*acrimony, anger, animosity, ire, rancor, spite, resentment, and the urge of revenge*” (Linden & Noack, 2018, p.245). Linden and Maercker (2011) argued that embitterment is constant, it is “nagging” and “self-reinforcing”. Individuals who are embittered tend to reminiscence the degrading event repeatedly which is similar to the intrusive thoughts observed in post-traumatic stress disorder (Linden & Maercker, 2011). Moreover, it was argued that embitterment is painful and rewarding at the same time in a way that, individuals who are afflicted have a tendency to generate and maintain a strong attachment with the trigger event, hereby the memories of wrongfulness that has been inflicted become even addictive (Linden & Rotter, 2018).

Anger seems to be an important component of embitterment. According to Linden and Noack (2018), similar to depression and hopelessness being the indicators of suicidal behavior, embitterment is an applicant for the early recognition and prognosis of aggressive behavior. Anger is defined as *“an emotion characterized by tension and hostility arising from frustration, real or imagined injury by another, or perceived injustice”* (APA Dictionary of Psychology, n.d.). Linden and Noack (2018) have found a clear association between the severity of the embitterment and the degree of aggressive ideation such as inflicting serious life events, destruction to property, non-life-threatening or life-threatening personal injury and harming some other individual.

According to Muschalla and von Kenne (2020), embitterment is a specific form of mental health issue and it can transpire as posttraumatic embitterment disorder (PTED; Linden et al., 2011), or it can manifest differently such as an additional syndrome to a mental health issue.

Based on the number of experienced events, embitterment is divided into two types as reactive embitterment and chronic embitterment. In reactive embitterment, there is one single exceptional life event that triggers the onset of the syndrome (Linden, 2003). However, in the case of chronic embitterment the individual goes through a series of adverse life events which share a similar nature and impose a cumulative effect on the individuals (Sensky, 2010). In addition to reactive and chronic embitterment, Linden and Arnold (2021) suggest the presence of another subtype called complex embitterment, which requires further investigation. Complex embitterment is defined as *“not caused by a single but rather a sequence of humiliating events or the same situation persisting”* (Linden & Arnold, 2021, p. 75). In complex embitterment, there are series of events which provokes anxiety (Linden & Rotter, 2018). The definition of chronic embitterment (Sensky, 2010) and complex embitterment (Linden & Arnold, 2021) seem to resemble one another, yet the difference

between them is not have been cleared. It is important to acknowledge that this study focuses on the reactive embitterment, which can be assessed with the Post-Traumatic Embitterment Disorder Self-Rating Scale (PTED scale) (Linden et al., 2011).

Linden (2003) proposed the term post traumatic embitterment disorder (PTED), and according to Linden and Arnold (2021), the core criteria for PTED are as follows: First, the individual experiences a negative life event which they perceive as unjust, humiliating and trust- breaching; and they react this event with embitterment. Second, they experience recurring intrusive thoughts related with the event, and when they remember what has happened, they react with significant emotional arousal (Linden & Arnold, 2021). Individuals perceive themselves as victim, finding themselves not being able to cope with the event and its consequences (Linden & Arnold, 2021). They might blame themselves, because they could not prevent the event or because they are unable to handle it (Linden & Arnold, 2021). In addition to this, individuals display phobic avoidance from the people or places connected with the event (Linden & Arnold, 2021). Also, they have repetitive thoughts of vengeance, fantasize about aggressiveness or prolonged suicide (Linden & Arnold, 2021). Additional symptoms consisting of; suffering from long-lasting dysphoric-aggressive-depressive mood, having thoughts of vengeance, feeling helpless, having thoughts of suicide, having reduced or blocked drive, experiencing sleep disorders, appetite loss, fatigue and tension (Linden & Arnold, 2021). On the other hand, their emotional modulation seems to be unimpaired in embittered individuals, they are able to display normal affect when they are distracted. Additionally, individuals seem to be indifferent about what will happen to them and they are unsure if they want their wounds to be healed (Linden & Arnold, 2021).

According to Linden and Arnold (2021), PTED causes significant stress and impairment in individuals' daily lives. And to be able to name this clinical picture as PTED, the aforementioned problem should last longer than 6 months (Linden & Arnold, 2021).

Kühn et al. (2018) suggested that embitterment is negatively correlated with well-being and life satisfaction; and positively correlated with perceived stress. In line with this, Linden et al. (2008), conducted a study with embittered individuals and control group consisting of those who are not embittered, but treated due to other mental health disorders. He reported higher prevalence rates of other conditions such as depression and anxiety among the embittered population when compared to individuals in control group (Linden et al., 2008).

Despite the knowledge on embitterment presented above, scientific research and clinical recognition of embitterment are rare (Spaaij et al., 2021). The term or emotion “embitterment” or “posttraumatic embitterment disorder” are not mentioned neither in ICD-11 (International Classification of Diseases, 11th revision) nor in DSM-5-TR (Diagnostic and Statistical Manual of Mental Disorders, 5th edition Text Revision).

Differentiating PTED from other mood states and mental health disorders is an important topic worth to discuss. First, there are some similarities and differences between PTED and posttraumatic stress disorder (PTSD). To elaborate, while anxiety predominates in PTSD, the main theme that governs the daily life of individuals in PTED is embitterment (Linden, 2011). A critical event that is exceptional, life-threatening, and—most importantly—consistently causing acute panic and extreme anxiety is required for PTSD (Linden, 2011). On the other hand, in PTED there is an acute event that may be identified as “normal”, since numerous individuals can experience them in course of lifetime (Linden, 2011). The similar symptoms to PTSD are intrusive thoughts, repetitive memories of the event and prompting concurring negative emotions (Linden, 2003). Secondly, as compared to depression, the affect modulation is not impaired in PTED (Linden, 2011). In other words, individuals with PTED are able to show normal affect when they are distracted. Additionally, depressed mood is a feeling that involves melancholia and anhedonia, along with decreased

emotional modulation, emotional numbness and nonreactivity; conversely, embitterment is a feeling that is *full* and *explosive* (Linden & Arnold, 2021). Lastly, the differential symptoms of PTED from adjustment disorders is; while adjustment disorders exhibit the propensity of spontaneous remission, PTED does not (Linden, 2011).

Embitterment is a mood state which can be separated from other negative emotions such as, anxiety, hopelessness, and anger; even though the combination of such emotions can be observed in embitterment as well (Linden & Maercker, 2011). How embitterment can be distinguished from anger is that embitterment has the quality of self-blame and feeling of injustice in addition (Linden & Maercker, 2011). Hopelessness is observed in embittered individuals, however can also happen in the absence of an aggressive undertone (Linden & Arnold, 2021). Depending on the presence of injustice or humiliation feelings, anger or blame can happen with or without embitterment (Linden & Arnold, 2021). Similar to anxiety, severe embitterment can be experienced as a crippling condition that impairs self-control, causes long-term misery to both the embittered person and those around them, and may progress to the point of illness that requires treatment (Linden & Maercker, 2011).

In the literature, embitterment found to be elevated among refugee sample (Spaaij et al., 2021), war veterans (Sabic et al., 2018), bereaved families (Yun et al, 2018) and unemployed individuals (Linden & Rotter, 2018). Financial problems, family problems, being excluded by friends are found to be contributing to embitterment and higher amount of exposure to negative life events is associated with more drastic symptoms of embitterment (Lee & Kim, 2019). Also, events such as workplace conflicts, unemployment, death of relative, divorce, severe illness, experiencing loss or separation (Linden et al., 2008), bereavement, job loss (Linden et al., 2011) found to be triggering embitterment. Although this valuable research exists on the literature, to author's knowledge, the association between childhood trauma and embitterment has not been studied previously.

1.2. Childhood Trauma

Traumatic event experienced during childhood is defined a terrifying, hazardous or violent incidence that jeopardizes child's life or bodily integrity. These events include *“physical, sexual, or psychological abuse and neglect, including trafficking; natural and technological disasters or terrorism; family or community violence; sudden or violent loss of a loved one; personal or familial substance use disorder; refugee and war experiences, including torture; serious accidents or life-threatening illness and military family-related stressors such as deployment, parental loss or injury”* (Peterson, 2018b). Interpersonal or intentional trauma, which include childhood abuse and neglect, are the types of traumas that tend to have the most unfavorable psychological consequences (ISTSS, n.d.).

Traumatic events take place during childhood, are named as “abuse”, when the individuals who are in charge of children's care or who have power or authority over them threaten or harm the children (ISTSS, n.d.). There are various forms of childhood abuse which include physical abuse, sexual abuse, psychological abuse (ISTSS, n.d.).

Physical abuse is defined as intentionally displaying aggressive behavior towards the child which causes injury or creates a risk for injury, such as beating or hitting the child or treating in a rough manner to the child that can lead child to be physically injured or harmed (ISTSS, n.d.).

Sexual abuse, however, is the involvement of the child in sexual behavior that they do not completely understand, are unable to provide informed consent to, are not developmentally ready for, or else that violates social norms of society or laws (WHO, 2006). Children sexual abuse can occur by not only adults, also by other children who have responsibility, trust or control over the victim due to their age or stage of development (WHO, 2006).

Psychological abuse subsumes a variety of non-accidental actions that evoke horror in the child or aiming to injure the child's dignity and psychological integrity, such as threatening to abandon the child, threatening to harm them or other persons or things the child values and scolding, belittling or scape-goating the child (*ISTSS*, n.d.).

Lastly, neglect is another type of childhood trauma and it posits a threat for child by acts of negligence of care that jeopardizes the child's survival, such as a parent's non-fulfilment to supply the necessary nourishment, clothes and housing, leaving a child unattended for long periods of time and lack of needed medical care provision (*ISTSS*, n.d.).

Children and adolescents all across the world are frequently exposed to trauma (Magruder et al., 2017). Substance Abuse and Mental Health Services Administration (SAMHSA)'s National Child Traumatic Stress Initiative (2022) state that, more than 66% of children report minimum 1 traumatic event until the age of 16. According to WHO (2020a), almost 3 in 4 children between the ages of 2 to 4, consistently suffer from physical punishment and/or psychological violence by their parents and caregivers. One in 5 women and 1 in 13 men report experiencing sexual assault as a child between the ages of 0 and 17 (WHO, 2020). According to UNICEF (2010), the prevalence of psychological abuse reported as 51%, physical abuse was 43% and sexual abuse was 3% among children between the ages of 7 to 18. According to the report prepared by UNICEF (2010), in the past year; 25% of the Turkish children who are aged between 7-18 were subjected to neglect, 45% of them reported being exposed to physical abuse, 1% of them forced to watch sexually explicit movies, forced to look at sexually explicit images in magazines or computer. In addition, 0.5% of the children reported that someone engaged in sexually explicit behavior with them; such as touching children or forcing children to touch (UNICEF, 2010). Moreover, 56% of them witnessed physical abuse, 49% witnessed emotional abuse, and 10% witnessed sexual abuse (UNICEF, 2010).

Scientific evidence indicates that childhood trauma results in brain and body to develop differently, makes the way for a range of physical and social-emotional problems (Cole, 2021). According to Miskolczi (2019), subsequent to birth, mammals' nervous system proceeds through "critical or sensitive periods". The traumatic life events experienced during childhood are extremely important since there are temporary time periods where selective brain networks showing increased plasticity, and going through dynamic alterations in reaction to peripheral effects (Miskolczi, 2019). These alterations are slowly hardwired into the network and when the critical periods have closed, these alterations cannot be easily or fundamentally changed (Hensch, 2004; Knudsen, 2004, as cited in Miskolczi, 2019). In light of this information, it is possible to state that the plasticity of the brain is increased during childhood, therefore the childhood trauma has a significant effect on the developing brain.

In fact, Delima and Vimpani (2011) state that, "*the biological stress response*" can be perceived as a *normal adaptive system* that activates physiological and behavioral alteration in the body in order to enable a survival response to stressors that are mild, brief and controlled. However, maltreatment that takes place as severe, prolonged, and uncontrolled life stressors activate an extended biological stress response (Delima & Vimpani, 2011). The developing brain, especially the prefrontal cortex, hippocampus and corpus callosum regions are susceptible to stress (Delima & Vimpani, 2011). When the biological stress response system remains active for long periods of time, structural and functional brain alterations take place consequently (Delima & Vimpani, 2011). Chronic stress leads to various behaviours such as deficiency in self-regulation, increment in impulsive behaviours, and emotional reactions such as elevated levels of anxiety, aggression, suicidal tendencies, and in some individuals a learned helplessness as a result of the continuous disruptions of self-regulation (De Bellis, 2001). According to Cole (2021), the brain which is subjected to trauma can be

described as emotional brain turn into survival brain and child keeps living on automatic survival responses which are *fight, flight* and *freeze*, and overtake the thinking brain. The alarm system of child's brain becomes so twisted that it senses threat everywhere (Cole, 2021).

Experiencing traumatic events in childhood has unfavorable consequences in mental health into adulthood such as anxiety disorder, major depressive disorder, bipolar disorder and psychotic disorder (McKay et al., 2021), it escalates the risk of developing depression and depressive symptoms (Mandelli et al., 2015), it creates greater risk for experiencing emotion-regulation problems, post-traumatic stress, symptoms of internalizing-disorders, functional impairment and revictimization (Dvir et al., 2014). Childhood trauma also found to be associated with substance use disorder (Zhang et al., 2020), eating disorder psychopathology including dietary restraint, eating concerns, weight concerns and shape concerns (Tasca et al., 2013), borderline personality disorder (Porter et al., 2020), and psychotic experiences (Croft et al., 2018). Childhood trauma exposure was defined as a robust transdiagnostic factor which is associated with increased risk for nearly all prevalent occurring types of psychopathologies (McLaughlin et al., 2020). Moreover, Yehuda and Lehrner (2018) report that it is swiftly identified by scientific research that an environmental exposure may result in a long-lasting change in the function of DNA that can be passed down to future generations, due to epigenetic mechanisms. This can be interpreted as the impact of traumatic events on someone, can be transmitted to offspring.

Considering the fact that childhood trauma, which is highly prevalent and have negative mental health consequences into adulthood, and its negative effects can transmit into next generations (Yehuda & Lehrner, 2018); it can be said that childhood trauma is an important public health topic.

1.3. Childhood Trauma and Embitterment

Although the previous research mainly focused on the associations of unemployment, bereavement, exclusion, workplace conflicts, divorce, job loss, experiencing loss or separation with embitterment; to best of author's knowledge, so far there is no study investigating the relationship between childhood trauma and embitterment; although in one study, Lee and Kim (2019) found that individuals with reactive embitterment had significantly higher scores on childhood trauma self-report scale as compared to people who score under the threshold for reactive embitterment criterion.

Considering the unfavorable consequences of childhood trauma on mental health, it is possible to state that having a history of childhood trauma can be perceived as a risk factor (McLaughlin et al., 2020), and feelings of embitterment might be also associated with a history of traumatic experiences during childhood. Additionally, the events triggering embitterment are defined as negative, exceptional life events such as divorce, loss of job, workplace conflicts etc. which can be considered as less traumatic events as compared to childhood trauma. However, as mentioned earlier, embitterment is "*a response to injustice, humiliation, and breach of trust*" (Linden & Arnold, 2021, p.74), individuals feel hopelessness (Linden & Rotter, 2018), despair (Linden, 2003), anger (Linden & Noack, 2018); have cognitions such as "nobody can be trusted" (Linden & Rotter, 2018), and blame themselves (Linden, 2003). Considering the nature of childhood trauma, it is possible to state that these events are negative, unjust and trust-breaching. Individuals might feel hopeless, desperate, angry when faced with traumatic experiences; they might think they cannot trust anyone anymore; they might blame themselves for not preventing this event to happen, or being unable to cope with the consequences of the event. Therefore, in the present study, it was hypothesized that there will be a positive association of childhood trauma with embitterment in adulthood.

1.4. Belief in a Just World (BJW)

Lerner (1980) defines belief in a just world (BJW) as *'a theory of justice that has as its basic premise the notion that people get what they deserve and deserve what they get'* (p.512). According to Barreiro (2013), the theory of Belief in a Just World (BJW) (Lerner, 1980; Lerner & Simmons 1966) states that individuals are in need to believe that the world they live in is a fair place, where the *"good and bad outcomes a person obtains are commensurate with what is deserved"* (Lerner & Clayton 2011, p. 26). According to Lerner (1980), BJW is a *fundamental delusion*: it is fundamental in order to feel secure, and individuals cannot give up on it, although it is empirically wrong. BJW makes it possible to manage one's own social environment and sustain order and stability and when it is threatened, individuals tend to maintain it (Megías et al., 2019).

Believing in a just world helps individuals cope with their social surrounding as it were "stable and orderly", thus serves crucial adaptive functions (Dalbert & Donat, 2015). This leads to the fact that when individuals' belief in a just world is threatened by experienced or observed injustices, they are motivated to defend it (Dalbert & Donat, 2015). Here, there seems to be two different ways. If there is a possibility, justice is reinstated in real life by compensating the loss of the victims (Dalbert & Donat, 2015). However, if it seems like justice is improbable to be reinstated in real life, individuals re-evaluate the situation in accordance with their belief in a just world, thus they reinstate justice cognitively (Dalbert & Donat, 2015). This cognitive process individuals go through is defined as *'the assimilation of injustice'* (Dalbert & Donat, 2015).

The belief in a just world has two types: personal belief in a just world (PBJW) and the general belief in a just world (GBJW) (Lipkusa et al., 1996). While the personal belief in a just world implies to *'the belief that the world is fair to oneself'*; the general belief in a just world implies to *'the belief that the world is fair to other people'* (Wang et al., 2021, p. 1).

Alves and Correia (2010) stated that each type of BJW has been found to be better predictor of distinct phenomena. Personal BJW found to be a better predictor of psychological well-being and life satisfaction (Be`gue & Bastounis, 2003; Sutton & Douglas, 2005). On the other hand, BJW for others predicts victim denigration and harsh attitudes towards deviants (Be`gue & Bastounis, 2003; Sutton & Douglas, 2005). Additionally, according to Dalbert (1999), as compared to general BJW, personal BJW has a more crucial role in explaining self-esteem and well-being. Stronger personal BJW found to be associated with less anxiety and marginally significantly tend to display higher levels of quality of life (Megías et al., 2019), and lower levels of depression, anxiety, and other psychological symptoms such as social insecurity, hostility, and paranoid thinking (Otto et al., 2006). Therefore, it was stated that stronger personal BJW helps preserving mental health (Otto et al., 2006).

However, there is abundant evidence pointing out the positive association between believing in a just world, including both types of BJW, and subjective well-being (Dalbert & Donat, 2015). Higher levels of belief in an unjust world found to be associated with higher levels of anxiety, depressive symptoms, neuroticism, defensive coping and less optimism (Lench & Chang, 2007). Both general and personal belief in a just world were significant predictors of life satisfaction (Tian, 2019). According to Dalbert (2002), people who have higher levels of BJW are expected to cope with injustice, therefore better prepared to preserve their mental health and well-being.

Based on the previous studies conducted on BJW, it is possible BJW could be approached as a personal resource which assist individuals to overcome the incidents of their everyday life difficulties and maintain well-being (Dalbert & Donat, 2015).

1.4.1. Belief in a Just World as Mediator

Janoff – Bulman (1989) suggests that in general, the only most prevalent reaction to negative life events such as crime, illness, or accidents is an intense sense of vulnerability.

According to the reports of victims; they never imagined that these events would occur to them, and they are experiencing feelings of being susceptible, insecure, and undefended (Janoff – Bulman, 1989).

In the ‘Assumptive Model of Negative Effects of Trauma’ (Janoff – Bulman, 1989), the first category is the ‘Perceived Benevolence of the World’ which comprises the extent to which individuals have positive or negative opinions about the world: how often good events happen in the world as compared to bad events. This category contains two basic assumptions which are the benevolence of the impersonal world and the benevolence of people. According to Janoff – Bulman (1989), the higher the belief in the benevolence of the impersonal world, higher the belief that “*the world is a good place*” and misfortune is quite rare. Also, when the belief in the benevolence of people increases, the belief that individuals are fundamentally decent, polite, charitable and compassionate also increases (Janoff – Bulman, 1989).

The second category of this model is “The Meaningfulness of the World” and it refers to individual’s beliefs about the distribution of good and bad outcomes. Firstly, individuals might believe that the outcomes are distributed based on a principle of justice (Rawls, 1971), which suggests that the personal deservingness determines which incidents affect which people (Janoff – Bulman, 1989). Considering the BJW (Lerner, 1980); individuals have the need for believing in a just world, where people get what they deserve and deserve what they get. By believing in the principle of justice, the "goodness" and "decency" of someone's personality become major elements to be considered while making estimations of one's own or others’ susceptibility to negative life events (Janoff – Bulman, 1989). Second distributional principle is about the assumptions regarding to the controllability of outcomes. According to Janoff – Bulman (1989), individuals might consider the dispersion of outcomes with regard to individuals’ actions, instead of their character. From this point of view, the best determinant of what will happen to individuals is the degree to which people engage in appropriate,

prudential behaviors. The assumption proposes that individuals can directly control the world surrounding them through their own actions and can minimize their own susceptibility to bad outcomes by acting in "proper" ways, such as cautious, prudent and farsighted (Janoff – Bulman, 1989). The last assumption of distributional principles is that of chance. Assumption of chance (or randomness), suggests that it is impossible to “make sense” of why certain events happen to certain people; it appears only to be a matter of chance, and meaninglessness seems to surpass (Janoff – Bulman, 1989).

In addition to these categories in the model, Janoff – Bulman (1989) also found that life events that are considered as traumatic tend to have a long-term effect. Even though the basic assumptions of individuals with a trauma history did not reflect tremendously unfavorable views of themselves or very menacing views of the world; it was found that even many years later after a traumatic event has occurred, some basic assumptions of individuals who experienced traumatic events were remarkably more negative than those who do not have a trauma history (Janoff – Bulman, 1989). Moreover, as compared to nonvictims, people exposed to traumatic events were significantly more depressed (Janoff – Bulman, 1989).

Janoff – Bulman (1989) found that individuals who experienced a traumatic event some time ago, tend to have more negative views about perceived self-worth, chance and benevolence of the impersonal world, as compared to people who do not have a traumatic event history. Considering this, it is reasonable to suggest that having a history of childhood trauma might also be associated with holding beliefs about the unjustness of the world. In other words, childhood trauma might be negatively associated with BJW. Additionally, it was found that low numbers of negative life events are associated with higher levels of BJW (You & Ju, 2020). In the present study, experiences of traumatic events in childhood can be considered as a negative life event. Also, it can be argued that basic schemas are formed during childhood period, and BJW also can be regarded as a core belief. Therefore, traumatic

events in childhood may have an influential role in development of BJW. Hereby, in this study it was hypothesized that there is a negative association between childhood trauma and BJW. In other words, experiencing traumatic events in childhood is hypothesized to be associated with lower levels of belief in a just world.

When looked at the relationship between BJW and embitterment, it is known that embitterment occurs as a reaction to perceived injustice (Linden & Arnold, 2021). In their study, You and Ju (2020) found that BJW has a strong influence on embitterment. Also, according to Lench and Chang (2007), believing in an unjust world leads to perceiving any situation as unjust. In light of this information, it is possible state that believing in a just world might have an important role in embitterment.

In this study, lower levels of BJW are expected to be related to increased levels of embitterment among individuals.

1.5.COVID-19 Related Negative Life Events

Coronavirus disease (COVID-19) is an infectious illness attributable to a lately discovered coronavirus (World Health Organization, 2020b). In December 2019, Coronavirus disease (COVID-19) was detected in China for the first time, and it was March 2020 when World Health Organization (WHO) declared it as a pandemic (Habas et al., 2020).

Infectious diseases that are spread from human to human are not unusual and have accompanied mankind for hundreds of years (Heitzman, 2020). The emergence of infectious diseases has triggered certain psychological reactions of entire communities, alter their behavior, habits and bring along several, more or less effective ways to combat the impacts of the plague (Heitzman, 2020).

The COVID-19 pandemic has been significantly affected all aspects of society, mental and physical health included (Holmes et al., 2020). Billions of people around the world have been affected by the repetitive waves of COVID-19 pandemic (Pandey et al., 2021). The

outbreak of COVID-19 pandemic was unforeseen and brought about a “dual pandemic” as psychologists call it (Pandey et al., 2021). That is, COVID-19 pandemic had direct and indirect psychological and social aspects of life which are likely affect mental health in the future as well as in the present day (Holmes et al., 2020). According to a study led by the Mental Health Foundation (2021), social distancing and the economic consequences of COVID-19 outbreak has negatively affected individuals’ mental health in the United Kingdom. Moreover, WHO (2020b) reported that the call for mental health services has grown with the pandemic. In the Global Burden of Disease 2020 Study (Santomauro et al., 2021) it was reported that COVID-19 pandemic has brought about 27.6% increment in cases of major depressive disorder and a 25.6% increment in cases of anxiety disorders. According to WHO (2020b), grief, being isolated, loss of income and fear are triggering factors for new mental health issues or worsening the already existing ones. Additionally, numerous people may engage in excessive alcohol and drug abuse, experience insomnia and anxiety (WHO,2020). Bäuerle et al. (2020) found elevated frequency of generalized anxiety and depression symptoms as well as psychological distress and fear related to COVID-19 pandemic among German public, during the COVID-19 pandemic. Besides the increase in cases of depression and anxiety, increase in COVID-19 related trauma, domestic violence and marital issues have been reported (De Souza & D’Souza, 2020).

Due to COVID-19, many people experienced various unfavorable effects, including “*limitations in social contacts, leisure activities, or restricted mobility*” (Koroma et al., 2022). Governments’ restrictions and the way it changes work and social life may make individuals feel like their basic rights are stolen from them and affect them to process the effect of COVID-19 pandemic in a bitter way (Linden, 2003; Muschalla et al, 2021, as cited in Koroma et al., 2022).

According to the “*circumplex model of embitterment*”, embittered people’s attributions are built on “(a) an external locus of control and (b) hopelessness for change” (Znoj, 2011). The impact of negative life events due to the pandemic may be progressively perceived as being external and uncontrollable (Koroma et al., 2022). Therefore, it is possible to state that COVID-19 pandemic related negative life events may be an important factor considering experiencing embitterment.

1.5.1. COVID-19 Related Negative Life Events as Moderator

Considering that this study was conducted during the COVID-19 pandemic and the mental health consequences of COVID-19 pandemic on individuals, the number of pandemic-related negative life events experienced by people might have a role on the associations this study aimed to investigate.

It is hypothesized that individuals who experienced traumatic events in childhood, who also face with higher number of pandemic-related negative life events might tend to feel embitterment stronger, as compared to individuals who experience less negative life events as consequences of COVID-19. ‘*The Diathesis-Stress Model*’ (Zuckerman, 1999), which is a model of psychopathology proposes that psychological disorders arise from the interaction between one’s own inherited vulnerability for developing the disorder (diathesis) and one’s experience of stressful events (stress) (Broerman, 2020). According to this model, each person has a certain extent of inherent vulnerability, which is diathesis, in order to develop a given disorder (Broerman, 2020). Afterwards, environmental stress can prompt the onset of a disorder; although the quantity or intensity of stress necessitate to set off a disorder depends on the degree to which the person is naturally vulnerable (Broerman, 2020). It is important to note that the diathesis generates a vulnerability to stress, and the diathesis’ biological features do not necessarily have to have a genetic origin, they might be production of biological stressors during the prenatal, perinatal, or postnatal periods (Zuckerman, 1999). To give an

example, if one's vulnerability to a disorder is larger, the amount of stress required in order to prompt the onset of the disorder will be smaller (Broerman, 2020). This interplay between diathesis and stress can be one of the helpful ways explaining the reason behind why some people develop disorders while others do not (Broerman, 2020). In the context of this study, considering The Diathesis-Stress Model (Zuckerman, 1999), while experiencing childhood trauma might play a role as diathesis, facing with COVID-19 related NLE might play a role as stress and these might be associated with stronger feelings of embitterment. In other words, this study hypothesizes that survivors of childhood trauma, who also face with higher number of pandemic-related negative life events might tend to feel embitterment stronger, as compared to individuals who experience less negative life events as consequences of COVID-19. Therefore, it was anticipated that the association between childhood traumatic events and embitterment will be stronger for individuals who have experienced higher number of negative life events related to COVID-19 pandemic.

Additionally, compared to people who have experienced less amount of pandemic related negative life events, for the individuals who have experienced many negative life events during the pandemic, beliefs about the justness of the world might have a more important role. Hereby, in this study, it is expected that for the individuals who faced with higher number of COVID-19 related negative life events, the association between BJW and embitterment to get stronger. According to Barreiro (2013), unjust situations posit as a threat for people. For this reason, individuals need to believe that what they have is an outcome of what they deserve, so that they feel they are in charge of their surroundings (Barreiro, 2013). Therefore, it is possible to propose that individuals who experienced traumatic life events during childhood and experience many negative incidents due to pandemic may perceive those as unjust situations. Because of the need to believe what they have is an outcome of what they deserve, the mediating role of BJW might be stronger for those individuals.

Therefore, this study hypothesizes that, for the people who have experienced greater number of COVID-19 related negative life events, the association between BJW and embitterment is expected to be stronger as compared to individuals who have experienced less amount of negative life events related to COVID-19.

1.6.The Current Study

The current study aims to investigate this association between childhood trauma and embitterment, and the mediating role of belief in a just world in this relationship. Moreover, COVID-19 related negative life events will be investigated as potential moderator in this association.

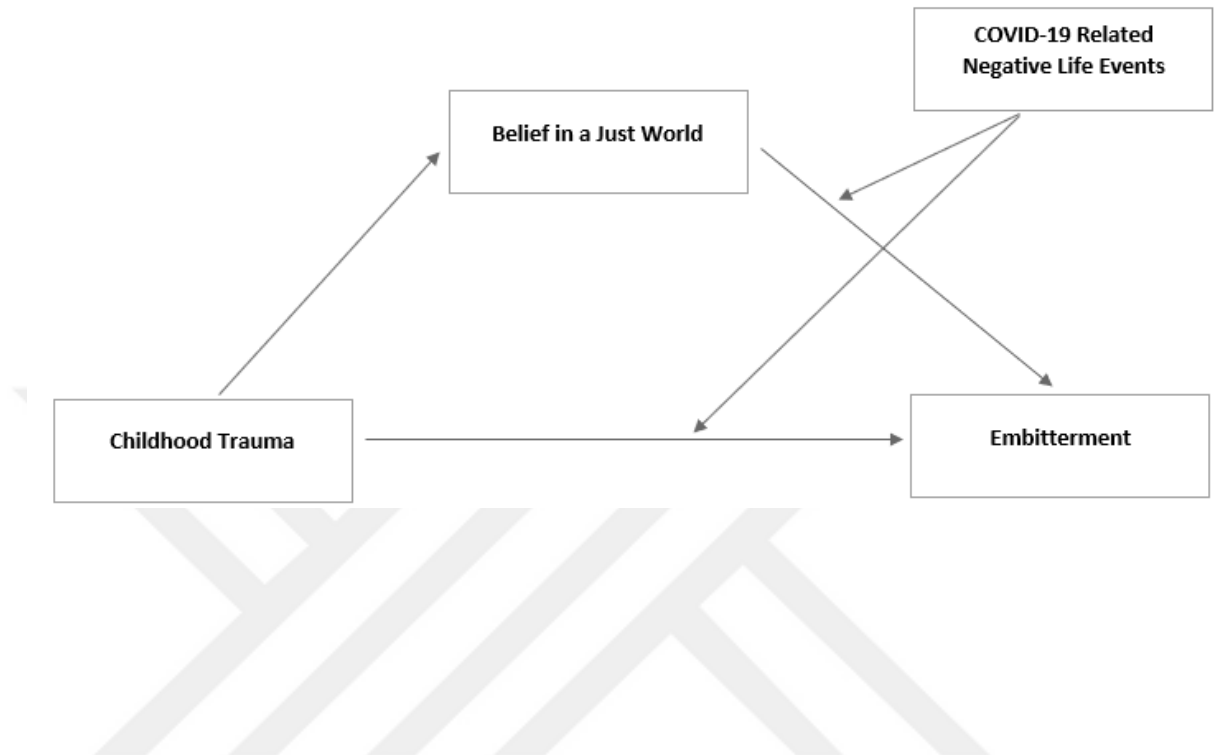
Since childhood trauma defined as a transdiagnostic risk factor, and traumatic childhood experiences are negative, unjust, and trust-breaching; this study hypothesized that there might be also a positive association between childhood trauma and embitterment. Additionally, since it was found that low numbers of negative life events are associated with higher level of BJW (You & Ju, 2020), it was hypothesized that experiencing traumatic events in childhood might be associated with lower levels of belief in a just world. Also, since BJW was defined as personal resource (Dalbert & Donat, 2015), and embitterment is a reaction to perceived unjustness (Linden & Arnold 2021), higher levels of BJW are hypothesized to be associated with lower levels of embitterment as well. Additionally, due to the need to believe “what people have is an outcome of what they deserve”, the mediating role of BJW is hypothesized to be stronger for people who experience high level of COVID-19 related NLE. Also, considering the Diathesis-Stress Model (Zuckerman, 1999), childhood trauma can act as diathesis and high levels of COVID-19 related NLE as stress. And eventually, the association between childhood trauma and embitterment is hypothesized to be stronger for individuals experience many COVID-19 related NLE.

Therefore, the hypotheses of this study are as follows:

Hypothesis 1: Being exposed to childhood trauma will be positively associated with embitterment.

Hypothesis 2: Belief in a just world will mediate the relationship between the childhood trauma and embitterment in a way that; experiencing childhood trauma will be associated with lower levels of belief in a just world (BJW) and result in feeling more embitterment.

Hypothesis 3: COVID-19 related NLE will moderate the direct and indirect relationships between childhood trauma and embitterment via BJW. Specifically, experiencing COVID-19 related negative life events will moderate the direct effect of childhood trauma on embitterment (*Hypothesis 3a*); the association between childhood trauma and embitterment is expected to be stronger for individuals who have experienced a greater number of COVID-19 related NLE. Also, experiencing COVID-19 related NLE will moderate the mediating influence of BJW on the effect of childhood trauma on embitterment (*Hypothesis 3b*); the association between BJW and embitterment is expected to be stronger for individuals who have experienced a greater number of COVID-19 related NLE. It is also expected these associations to exist independent from the level of non-COVID-19 related NLE.

Figure 1*Conceptual Model*

CHAPTER 2

METHOD

2.1. Participants

The sample size was determined with Monte Carlo simulation for power analysis (Mooney, 1997) in order to guarantee the enough statistical power. This method is utilized in order to simulate population parameters by using a large number of, generally more than 1000 samples. For each sample, average model values are estimated. The population parameters were estimated based on the previous studies and educated guess of the researchers. Small-to-moderate effect size of 0.2 was estimated for each path. The results yielded a sample size of at least 300 participants with 80% power at an alpha level of .05 ($\chi^2(9) = 21.024$, CFI = .987, RMSEA = .019, SRMR = .026). Therefore, the aim was to reach out more than 300 participants.

A total number of 657 individuals have responded to the advertisements of this study, among them, 434 participants have completed the study. After the data cleaning procedure, data from 343 participants were utilized for the analysis. Descriptive statistics revealed that the distribution of gender of the data was predominantly female (231 female, 108 male, 2 non-binary, 2 does not want to specify). Mean of age of the participants was 35.7 ($SD = 13.9$); 19 being the minimum and 79 being the maximum age. The majority was married (44.6 %), followed by single (28.6 %), not married but in a relationship (22.2 %), divorced (3.8 %) and (0.9%) does not want to specify. It is possible to state that the education level of the participants was high. Participants were mainly university graduates (43.1 %), followed by currently studying in a graduate program (27.1 %), graduated from a graduate program (12.2 %), university students (12 %), high school graduates (5.2 %) and primary school graduates (0.3 %). Almost the half of participants were employed in different professions (46.4 %), followed by students who are not employed (21 %), retired (14 %), unemployed

(9.6 %) and students who are also employed (9 %). The vast majority of individuals who participated to this study were residing in Turkey (93.6 %), in different cities. Only 4.9 % of the participants were residing in different countries.

Table 1

Demographic Characteristics of Sample

	Participants ($n = 343$) (%)
Age	
19-29	53.2 ($n = 164$)
30-39	23 ($n = 79$)
40-49	9.6 ($n = 32$)
50-59	9.1 ($n = 31$)
60 and above	10.5 ($n = 35$)
Gender	
Female	67.3 ($n = 231$)
Male	31.5 ($n = 108$)
Non-binary	.6 ($n = 2$)
Relationship Status	
Married	44.6 ($n = 153$)
Not married and not in a romantic relationship	28.6 ($n = 98$)
Not married and in a romantic relationship	22.2 ($n = 76$)
Divorced	3.8 ($n = 13$)

Does not want to specify	.9 (<i>n</i> = 3)
Education Status	
Elementary school graduate	.3 (<i>n</i> = 1)
High school graduate	5.2 (<i>n</i> = 18)
University student	12 (<i>n</i> = 41)
University graduate	43.1 (<i>n</i> = 148)
Master's/PhD student	27.1 (<i>n</i> = 93)
Master's/PhD graduate	12.2 (<i>n</i> = 42)
Employment Status	
Student and not employed	21 (<i>n</i> = 72)
Student and employed	9 (<i>n</i> = 31)
Unemployed	9.6 (<i>n</i> = 33)
Employed	46.4 (<i>n</i> = 159)
Retired	14 (<i>n</i> = 48)
Residential Status	
Turkey	93.6 (<i>n</i> = 321)
Another country	5.5 (<i>n</i> = 19)

2.2. Procedure

Participants were reached through announcements on social media, through personal contacts and snowballing. Individuals who are at least 18 years old, able to read and write in Turkish and have access to internet connection were eligible for participation in this study.

Participants who are in conformity with the inclusion criteria were able to fill out the online questionnaires. The data were collected between December 2021 and March 2022. The data collection started subsequent to approval from the Institutional Review Board (IRB).

Participants were directed to an online questionnaire via a Qualtrics link. Before participating the survey, individuals were provided with informed consent which explicitly includes following terms and conditions of the participation: 1)The participants' responses will not be matched with their personal information at any circumstances, 2)The participants' responses will be used only for academic purposes, 3)Participants will be informed that they can discontinue the study at any point, 4)To decide whether they want to participate in the study, they will be given as much time as they need. Individuals who agreed upon the terms and conditions proceeded to the survey. Participants were asked to answer questions about traumatic experiences in childhood, embitterment, belief in just world, negative life events experienced during COVID-19 pandemic, and previous potentially traumatic life events. Completion of the survey took approximately 10-15 minutes.

2.3. Measures

2.3.1. Demographic Information

Participants were asked to provide some demographic information. These include gender, age, education status, marital status, occupation, country and province of residence. Country of residence had a special role providing information since the pandemic-related conditions, experiences and consequences differentiated in different parts of the world. In addition to demographic information, they were asked to answer their opinions on their

perception of the source of the COVID-19 pandemic and how do they gather information related to pandemic (see Appendix A).

2.3.2. Traumatic Experiences in Childhood

Childhood Trauma Questionnaire (CTQ; Bernstein et al., 1994) was used to assess traumatic experiences in childhood. It consists of some events participants may have experienced before the age of 20, such as *“During my childhood or adolescence, I knew there was someone who is taking care and looking after me”*, *“During my childhood or adolescence, my family members said hurtful things.”*. This scale has 28 items, each item was rated on a 5 point-Likert Scale (0=never, 4=very frequently). The total score obtained from this questionnaire will be used as a way to assess the cumulative severity of childhood trauma. It was found that CTQ has acceptable internal consistency for the entire measure ($\alpha = .91$), as well as the four of the five subscales (Scher et al., 2001). Alpha coefficients for the five subscales found to be .58 for the physical neglect, .69 for the physical abuse, .83 for the emotional abuse, .85 for the emotional neglect, and .94 for sexual abuse subscales (Scher et al., 2001). The Turkish version of the scale has good psychometric properties ($\alpha = .93$) which have been tested among Turkish sample (Şar et al., 2012). In the current study, the reliability coefficient of CTQ was found to be ($\alpha = .88$) (see Appendix B).

2.3.3. Embitterment

The Post Traumatic Embitterment Disorder Self-Rating Scale (PTED Scale; Linden et al., 2009) was used in order to assess embitterment. This scale has 19 items, each item was rated on a 5 point-Likert Scale (0=not true at all, 4=extremely true). The minimum and maximum total scores can be obtained from PTED Scale yield between 0 and 76. The original form of PTED Scale has high internal consistency ($\alpha = .93$), and the validity analysis revealed a chi-square transformation of Wilks' lambda indicated that the computed function discriminated significantly (Chi Square = 76.94, $p < 0.001$) between the PTED sample and

matched control groups (Linden et al., 2009). The Turkish version of the scale has good psychometric properties ($\alpha = .93$) which have been tested among Turkish sample (Ünal et al., 2011). In the current study, the reliability coefficient value of this scale found to be ($\alpha = .96$). Furthermore, a mean score of 2.5 was empirically proved to be indicating clinically significant embitterment (Linden et al., 2009). In the present study, the obtained mean score of PTED scale will be used as a measure to assess the degree of embitterment in a way that higher mean scores indicate higher levels of embitterment (see Appendix C).

2.3.4. Belief in a Just World (BJW)

General Belief in a Just World (Dalbert et al., 1987) and Personal Belief in a Just World (Dalbert, 1993) were used to measure participants' belief that the world is a just place in general as well as the belief that oneself will be treated fairly and that one's own life is just. The first group of items in this questionnaire measures personal belief in a just world whereas the second group of items measuring the general belief in a just world. Items for general belief in a just world are "*I think the world is actually a fair place.*", "*I believe that people try to be fair when making important decisions.*" whereas items for personal belief in a just world are "*Mostly I got what I deserved.*", "*I think the important decisions made about me are mostly fair.*". It is 13 items in total, each item was rated on a 5-point Likert scale (0=totally disagree, 4=totally agree). In the original version, the reliability of General Belief in a Just World Scale found to be ($\alpha = .65$), (Dalbert et al., 1987); and Personal Just World Scale ($\alpha = .79$), (Dalbert, 1993b). The Turkish version of the scale has good psychometric properties both for general belief in a just world ($\alpha = .69$) and personal belief in a just world ($\alpha = .85$) which have been tested among Turkish sample (Göregenli, 2004). In the current study, while the reliability coefficient of BJW scale found to be ($\alpha = .84$); the reliability coefficient of personal belief in a just world found to be ($\alpha = .87$), and general belief in a just world found to be ($\alpha = .77$) (see Appendix D).

2.3.5. COVID-19 Related Negative Life Events

COVID-19 Related Event List (Muschalla et al., 2021) was used to assess the perceived burdens during pandemic. It has 13 items which are the life events that could be experienced during COVID-19 pandemic such as “*I have had a corona virus infection*”, “*I have lost my workplace*” etc. This scale is in a Yes-No format; items were rated as ‘yes’ if participant experienced the specific item and ‘no’ if not experienced. A cumulative score, which yields between 0 being the minimum and 13 being the maximum, is gathered and used as an indicator of the number of burdens a person perceived during COVID-19 pandemic (see Appendix E).

2.3.6. Previous Potentially Traumatic Life Events

There might be some individuals who are more vulnerable to the consequences of COVID-19 pandemic (Lahav, 2020). According to Lahav (2020), “sensitization” hypothesis state that due to increased sensitivity or exhausted coping capacities, people with previous traumatic event history are more likely to respond more severely to extra stressors (Resnick et al., 1995; Yehuda et al., 1995). Thus, previous potentially traumatic life events are controlled in present study.

The Life Events Checklist for DSM-5 (LEC-5; Weathers et al., 2013) was used to screen potentially traumatic events experienced by participants in their lifetime. The LEC-5 does not yield a total score or composite score.

LEC-5 assesses 16 events known as potentially result in PTSD or distress, and one extra item to assess any exceptionally stressful event other than the ones covered in first 16 items. This scale is in a checklist format; participants can response as; Happened to me, Witnessed it, Learned about it, Part of my job, Not sure, Doesn't apply. Thus, a numerical scale point cannot be gathered from the LEC-5 and psychometric properties of this scale have not been investigated (see Appendix F).

2.4. Statistical Analyses

One of this study's aims was to examine the mediating role of BJW in the association between child trauma and embitterment. It was hypothesized that belief in a just world would mediate the relationship between childhood trauma and embitterment in a way that experiencing childhood trauma will be associated with lower levels of belief in a just world (BJW) and result in feeling more embitterment. A regression analysis was carried out to test this hypothesis by utilizing Hayes' (2022) PROCESS model 4.

Another aim of this study was to investigate the moderator role of COVID-19 related negative life events in the associations between childhood trauma and embitterment as well as the association between BJW and embitterment. It was hypothesized that COVID-19 NLE would significantly moderate the direct and indirect associations in a way that experiencing COVID-19 related negative life events will moderate the direct effect of childhood trauma on embitterment, and the association between BJW and embitterment is expected to be stronger for individuals who have experienced a greater number of COVID-19 related NLE. A regression analysis was carried out to test these hypotheses by utilizing Hayes' (2022) PROCESS model 15.

CHAPTER 3

RESULTS

3.1. Data Cleaning and Preparation

Mahalanobis Distance was used to first identify multivariate outliers-cases with extreme scores on two or more variables-and then eliminate them from the data (Kline, 2011).

3.2. Descriptive Statistics

Descriptive analysis revealed that the minimum score gathered from CTQ was 30.00, maximum score was 85.00 ($M = 41.92$, $SD = 10.45$). For embitterment, minimum score was .00, maximum score was 76.00 ($M = 30.88$, $SD = 19.72$). In BJW scale minimum score was .00, maximum score was 52.00 ($M = 20.44$, $SD = 8.08$). Lastly, from the COVID-19 NLE checklist, minimum score was 1.00, maximum score was 10.00 ($M = 3.16$, $SD = 1.80$). When the subtypes of childhood trauma form CTQ was descriptively investigated, the results revealed that emotional neglect has the highest mean score ($M = 11.72$, $SD = 4.37$), followed by emotional abuse ($M = 8.67$, $SD = 3.91$), physical neglect ($M = 7.07$, $SD = 2.39$), sexual abuse ($M = 6.38$, $SD = 3.28$), and physical abuse ($M = 6.00$, $SD = 2.46$).

Results also revealed that 20% of the individuals participated in this study were found to be clinically embittered. These participants obtained a point above the cut-off score, which is above a mean total score of 2.5 from PTED scale. The mean age of these clinically embittered individuals was 29.84 ($SD = 9.23$), and the majority piled up between the ages of 25 to 30. Also, clinically embittered individuals who participated in this study were predominantly female (82.6%).

Moreover, as compared to the individuals who have scores below the cut-off score ($M = 39.67$, $SD = 8.00$), the group of individuals who are clinically embittered ($M = 50.85$, $SD = 13.81$) gathered significantly higher CTQ scores, $t(341) = 8.78$, $p < .001$. Specifically, when

looked at the subtypes of childhood trauma there were significant difference of scores between the two groups, except for one subtype. Between the two groups, there were significant difference of scores on emotional abuse, $t(341) = 8.67, p < .001$; physical abuse, $t(341) = 6.17, p < .001$; physical neglect, $t(341) = 4.07, p < .001$; and sexual abuse $t(341) = 5.11, p < .001$ subtypes; but no significant difference for emotional neglect, $t(341) = 6.68, p = .138$. Additionally, there was no significant difference of BJW scores between these two groups $t(341) = -6.95, p = .137$, although clinically embittered individuals gathered lower scores ($M = 14.76, SD = 8.75$) than non-clinically embittered individuals ($M = 21.86, SD = 7.25$). However, COVID-19 related NLE scores were statistically significant between the two groups $t(341) = 12.47, p < .001$.

Lastly, among the group consisting of clinically embittered individuals, emotional neglect had the highest mean score ($M = 14.68, SD = 4.36$), followed by emotional abuse ($M = 11.98, SD = 4.81$), sexual abuse ($M = 8.13, SD = 5.23$), physical neglect ($M = 8.10, SD = 3.13$) and lastly physical abuse ($M = 7.56, SD = 4.23$).

3.3. Bivariate Correlations Among Study Variables

While childhood trauma was significantly and positively correlated with embitterment ($r = .52, p < .001$), it was found to be negatively and significantly correlated with BJW ($r = -.41, p < .001$). Furthermore, embitterment had a significant negative correlation with BJW ($r = -.44, p < .001$). On the other hand, embitterment was significantly and positively correlated with COVID-19 related NLE ($r = .23, p < .001$). In addition, BJW had a significant negative correlation with COVID-19 related NLE ($r = -.21, p < .001$).

LEC, which is the controlled variable in this study, had a significant positive correlation with childhood trauma ($r = .35, p < .001$), embitterment ($r = .50, p < .001$), and COVID-19 related NLE ($r = .26, p < .001$). Whereas it had a significant negative correlation with age ($r = .19, p < .001$), and BJW ($r = .30, p < .001$).

Finally, age was significantly and negatively correlated with embitterment ($r = -.34, p < .001$), childhood trauma ($r = -.12, p < .05$), COVID-19 related NLE ($r = -.14, p < .05$); and significantly and positively correlated with BJW ($r = .12, p < .05$). Thus, age was also included to analyses as a covariate.

Table 2

Means, Standard Deviations, Internal Consistencies, Correlations for the study variables and Minimum and Maximum Scores gathered from each scale

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
<u>1.CTQ</u>	=					
<u>2.EMB</u>	<u>.518**</u>	=				
<u>3.BJW</u>	<u>-.408**</u>	<u>-.445**</u>	=			
<u>4.COVID-NLE</u>	<u>.199**</u>	<u>.238**</u>	<u>-.219**</u>	=		
<u>5.LEC</u>	<u>.358**</u>	<u>.506**</u>	<u>-.303**</u>	<u>.268**</u>	=	
<u>6.Age</u>	<u>-.128*</u>	<u>-.340**</u>	<u>.124*</u>	<u>-.148**</u>	<u>-.190**</u>	=
<u>M</u>	<u>41.92</u>	<u>30.88</u>	<u>20.44</u>	<u>3.16</u>	<u>30.60</u>	<u>35.70</u>
<u>SD</u>	<u>10.45</u>	<u>19.72</u>	<u>8.08</u>	<u>1.80</u>	<u>7.54</u>	<u>13.93</u>
<u>α</u>	<u>.88</u>	<u>.96</u>	<u>.84</u>	<u>.43</u>	<u>.80</u>	=
<u>Min.</u>	<u>30.00</u>	<u>.00</u>	<u>.00</u>	<u>1.00</u>	<u>17.00</u>	-
<u>Max.</u>	<u>85.00</u>	<u>76.00</u>	<u>52.00</u>	<u>10.00</u>	<u>61.00</u>	-

Note: CTQ = Childhood Trauma Questionnaire, EMB = Embitterment, BJW = Belief in a Just World, COVID-NLE = COVID-19 related Negative Life Events.

* $p < .05$, ** $p < .01$

3.4. ANOVA Test for Group Comparisons

It was also found that gender had a significant effect for childhood trauma, embitterment and BJW; but not for the COVID-19 related NLE. Females ($M = 42.86$, $SD = 11.49$) received significantly higher scores than males ($M = 39.80$, $SD = 7.48$) from the CTQ, $t(337) = 2.52$, $p < .05$. As compared to males ($M = 24.62$, $SD = 17.28$) females ($M = 33.59$, $SD = 20.12$) reported significantly higher levels of embitterment, $t(337) = 3.99$, $p < .001$. Lastly, males ($M = 22.18$, $SD = 7.76$) gathered significantly higher scores than females ($M = 19.73$, $SD = 8.13$) from the BJW scale, $t(337) = -2.62$, $p < .05$. However, the effect of gender was not significant for COVID-19 related NLE, $t(337) = 1.65$, $p > .05$, although females ($M = 3.26$, $SD = 1.80$) received higher scores than males ($M = 2.91$, $SD = 1.77$).

3.5. Testing the Main Hypotheses

The SPSS macro – PROCESS, which allows for the analysis of mediation effect and moderated mediation with conditional indirect effects, was used to test the study's main hypotheses (Hayes, 2022). PROCESS uses the bootstrapping sample technique, a statistical method that entails taking repeated samples from the data and replacing them with new ones in order to obtain the distribution of indirect effects to be used in construction of confidence intervals (Kisbu-Sakarya et al., 2014). 5000 bootstrapping sample technique was utilized in the current analysis (Hayes, 2022). If the confidence intervals do not include zero in between, this indicates a significant indirect (mediated) effect. A significant conditional indirect effect is shown by the index of moderated mediation, which also suggests that changes in indirect effects across levels of moderation are statistically different (Hayes, 2015). For all paths, unstandardized regression coefficients provided by PROCESS (Hayes, 2017).

3.5.1. Mediation Analysis

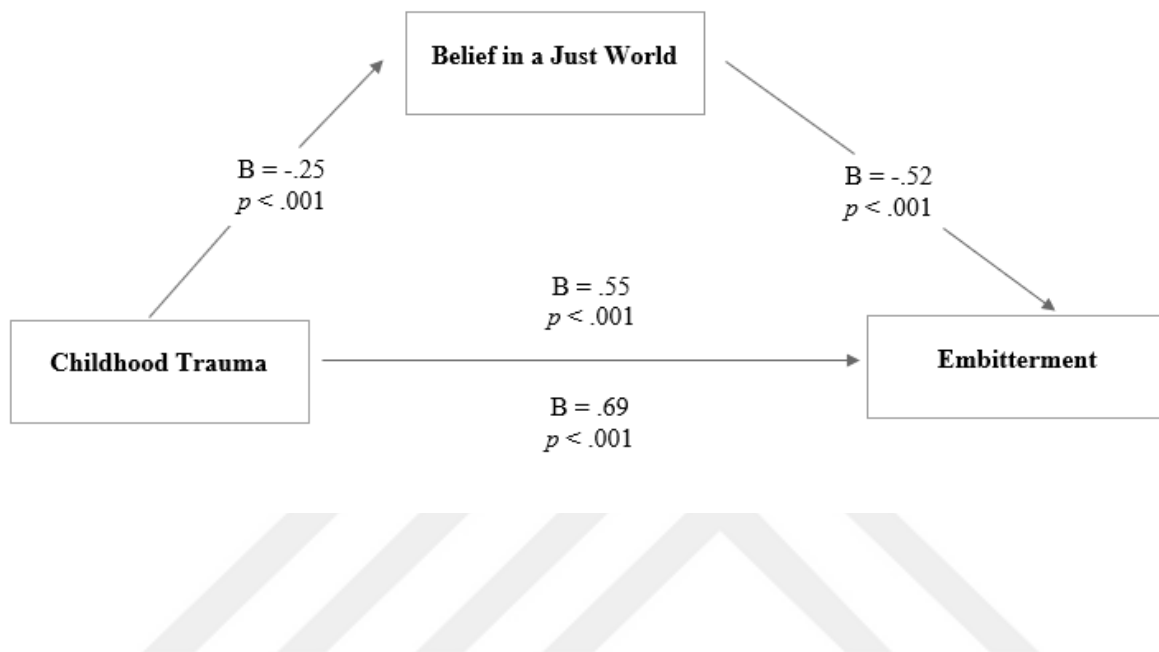
In order to investigate the mediator role of BJW between childhood trauma and embitterment, a regression analysis was carried out to test this hypothesis by utilizing Hayes' (2022) PROCESS model 4.

BJW found to be significantly mediating the association between childhood trauma and embitterment. Childhood trauma was significantly and negatively associated with BJW ($b = -.2591$; $SE = .04$; $t = -6.32$, $p < .001$). Next, BJW was also significantly and negatively associated with embitterment ($b = -.5235$; $SE = .11$; $t = -4.75$, $p < .001$). The results also suggested that even after accounting for the mediating role of BJW, childhood trauma was still significantly associated with embitterment ($b = .5585$; $SE = .08$; $t = 6.49$, $p < .001$), which indicates a significant direct effect of childhood trauma on embitterment, when controlling the BJW. The results also showed that childhood trauma was significantly and positively associated with embitterment ($b = .6942$; $SE = .08$; $t = 8.27$, $p < .001$). This result revealed that the first hypothesis was confirmed; which suggested that there is a positive association between childhood trauma and embitterment (Hypothesis 1).

Moreover, the indirect effect of childhood trauma on embitterment via BJW was statistically significant (indirect effect = .1356 % CI [.067, .21]). Therefore, it is possible to state that the results revealed that the mediation hypothesis was also confirmed (Hypothesis 2), and BJW mediated the relationship between childhood trauma and embitterment, after controlling effect of the age and LEC, since the confidence interval does not include zero.

Figure 2

The mediation model: Belief in a just world is a mediator between childhood trauma and embitterment



3.5.2. Mediated Moderation Analysis

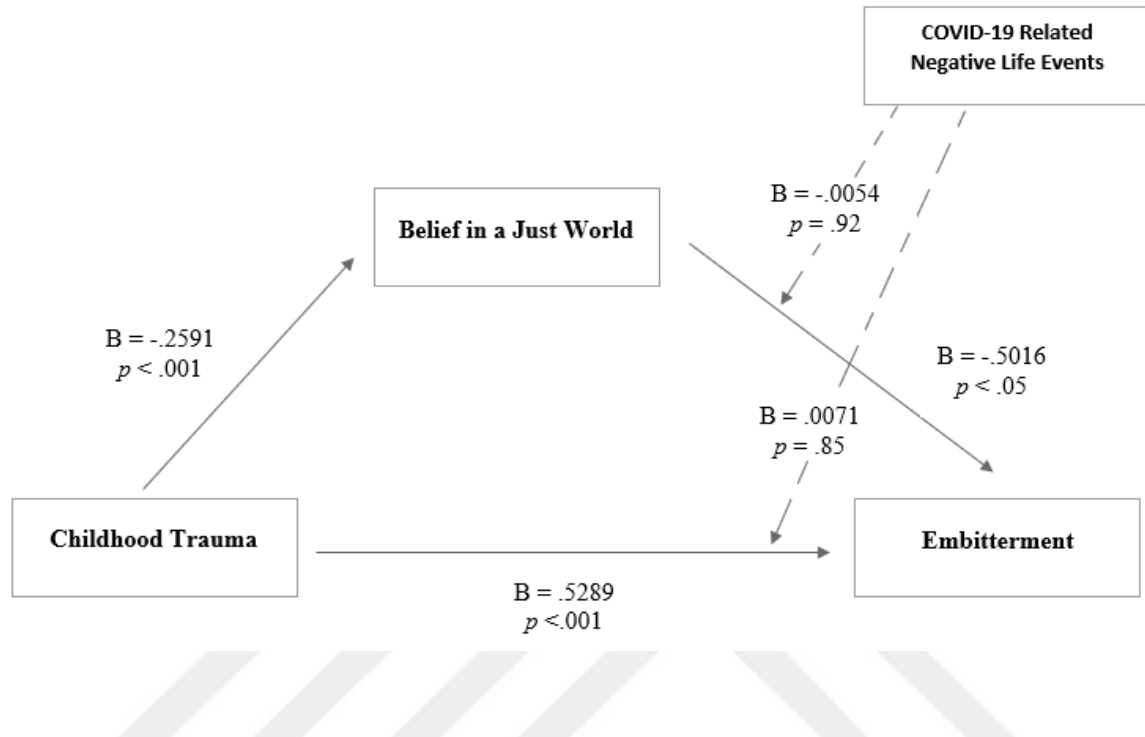
In order to investigate mediated moderation model where COVID-19 related NLE was moderator and BJW was mediator, a regression analysis was carried out to test these hypotheses by utilizing Hayes' (2022) PROCESS model 15.

Although there was a significant association between childhood trauma and BJW ($b = -.2591$; $SE = .04$; $t = -6.3229$, $p < .001$), significant association between BJW and embitterment ($b = -.5016$; $SE = .21$; $t = -2.3284$, $p < .05$), and a significant association between childhood trauma and embitterment ($b = .5289$; $SE = .16$; $t = 3.2640$, $p < .001$); the association between COVID-19 related NLE and embitterment found to be not significant ($b = .0089$; $SE = 2.40$; $t = .0037$, $p = .99$). The results revealed that neither the association between BJW and embitterment nor the direct effect of childhood trauma on embitterment were moderated by COVID-19 related NLE. The interaction effect of childhood trauma and COVID-19 related NLE (Int. 1) was not significant ($b = .0071$; $SE = .03$; $t = .1845$, $p = .85$). In addition, the interaction effect of BJW and COVID-19 related NLE (Int. 2) was also not significant ($b = -.0054$, $SE = .05$; $t = -.0916$, $p = .92$). Thus, it can be stated that the moderation hypothesis was not confirmed (Hypothesis 3a).

Moreover, the results also suggest that there was no conditional indirect effect of childhood trauma on embitterment through BJW across different levels of COVID-19 related NLE (index of moderated mediation = .0014; 95% CI [-.0002, .0013]), which implies the indirect effect of childhood trauma on embitterment through BJW does not depend on COVID-19 related NLE. This suggests that the overall moderated mediation model was not supported with the index of moderated mediation, and the intensity of the association between childhood trauma and embitterment through BJW does not differ according to the level of experienced COVID-19 related NLE. Therefore, the moderated mediation hypothesis (Hypothesis 3b) was not confirmed.

Figure 3

The moderated mediation model: Belief in a just world as mediator between childhood trauma and embitterment, and COVID-19 related NLE as a moderator in this model



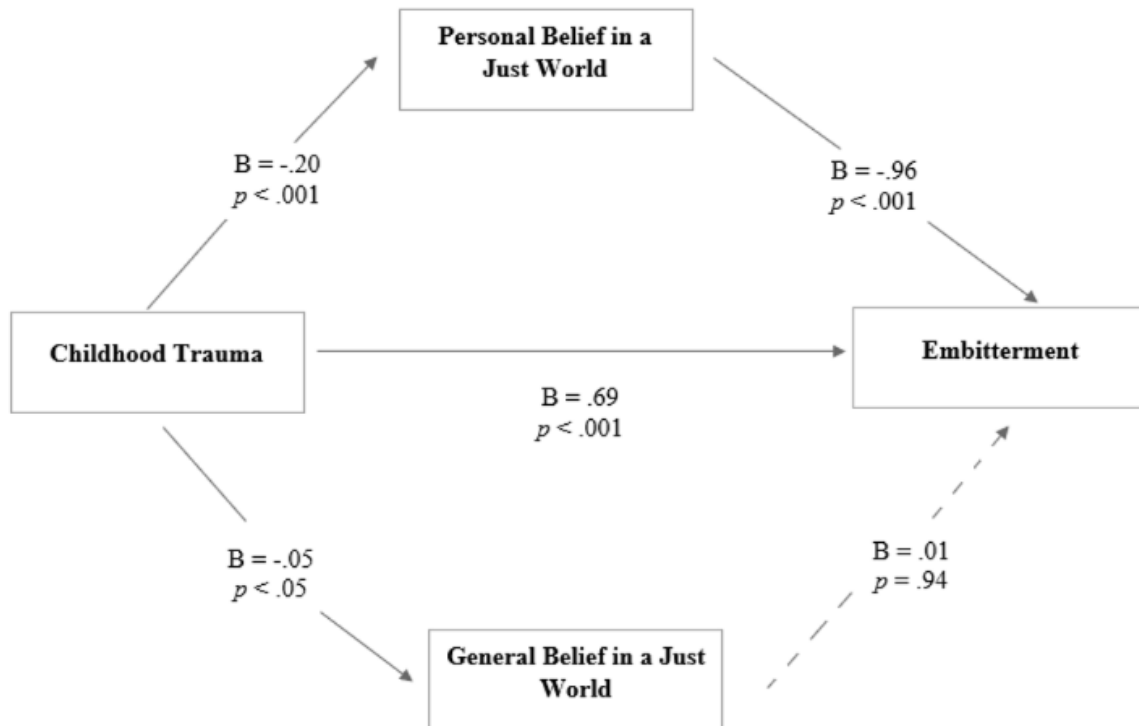
3.6. Post-Hoc Analysis

Since the results indicated that BJW significantly mediates the relationship between childhood trauma, for the post-hoc analysis, a parallel mediation model was also investigated. As mentioned earlier, there are two subtypes of BJW which are personal and general BJW (Lipkusa et al., 1996). While the personal belief in a just world implies to *'the belief that the world is fair to oneself'* whereas the general belief in a just world implies to *'the belief that the world is fair to other people'* (Wang et al., 2021, p. 1). To investigate the presence of a possible difference between these two subtypes of BJW, a regression analysis was conducted by utilizing Hayes' (2022) PROCESS model 4 where the personal and general BJW were the mediators between childhood trauma and embitterment.

Results revealed that childhood trauma had a significant positive association with embitterment ($b = .6942$; $SE = .08$; $t = 8.28$, $p < .001$). Childhood trauma also was significantly and negatively associated with both the personal BJW ($b = -.2060$; $SE = .02$; $t = -7.65$, $p < .001$) and general BJW ($b = -.0531$; $SE = .02$; $t = -2.25$, $p < .05$). Moreover, while the personal BJW had a significant association with embitterment ($b = -.9617$; $SE = .17$; $t = -5.51$, $p < .001$); general BJW was not significantly associated with embitterment ($b = .0131$; $SE = .19$; $t = .06$, $p = .94$). When looked at the indirect effects; the results indicated that while the association between childhood trauma and embitterment through personal BJW was significant ($b = .1982$; 95% CI [.1138, .2971]), the association between childhood trauma and embitterment through general BJW was not significant ($b = -.0007$; 95% CI [-.0260, .0246]). Thus, it is possible to state that while the personal BJW plays a mediating role between childhood trauma and embitterment; general BJW does not.

Figure 4

Post-hoc Analysis, Parallel Mediation Model: Personal Belief in a Just World and General Belief in a Just World are Mediators



CHAPTER 4

DISCUSSION

The aim of this study was to investigate the association between childhood trauma and embitterment. Another aim was to examine the mediator role of BJW and the moderator role of COVID-19 related NLE in this relationship. The findings revealed that the traumatic events experienced in childhood have crucial role on experiencing embitterment in adulthood. Moreover, BJW mediates the association between childhood trauma and embitterment. That is, experiencing traumatic events in childhood was associated with lower levels of BJW and higher levels of embitterment. Furthermore, the results indicated that while personal BJW played a mediator role between childhood trauma and embitterment, general BJW did not. Moreover, neither the moderator role of COVID-19 related NLE nor the moderated mediation hypothesis was found to be significant in this study.

This study demonstrated a positive association of childhood trauma with embitterment. As far as the author aware, in the present study this association was investigated for the first time. Despite the fact that there is no study in the literature which investigated the relationship between childhood trauma and embitterment, there are several studies proposing the positive association of experiencing negative life events with embitterment. Linden (2003) proposed that experiencing a single negative life event can be a triggering factor for embitterment. Moreover, in a study conducted among South Korea population, You and Ju (2020) found that negative life events such as “experiencing a financial crisis”, “having an intimate relationship broken” and “being insulted seriously or receiving an unfair treatment” were substantial factors triggering embitterment. Additionally, among the young adults in Korea, Lee and Kim (2019) found that risk factor for developing embitterment is higher for people who had experienced any negative life events, compared to those who had not encountered any negative occurrences. Lastly, Shin and You (2022) also

found a positive direct effect of negative life events on embitterment in their study. In addition to this, embitterment is also known as a reaction to trust-breaching events (Linden & Arnold, 2021).

Childhood is a period of time where children learn to trust others through their relationships with important attachment figures (Peterson, 2018a). It is safe to suggest that; experiencing traumatic events during childhood disrupts the sense of trust in children which might have an enduring effect throughout the lifetime. The traumatic events experienced in childhood can be perceived as a trust-breaching, and might trigger feelings of embitterment. Additionally, Linden and Arnold (2021) proposed that embitterment consists of features such as self-blame, feelings of hopelessness and helplessness. Similarly, children who were abused frequently tend to blame themselves, children who grow up in violent homes and environments learn from an early age that they can't trust people, that the world is dangerous, and that they are helpless and impotent to change their circumstances, and they struggle to feel hopeful (Peterson, 2018a).

As congruent with the information on the literature, present study added evidence to predictors of embitterment by demonstrating a significant positive relationship between childhood trauma and embitterment. The more traumatic events experienced in childhood, the more embitterment participants felt. Overall, the results of the present study revealed that the first hypothesis of this study which proposed there would be a positive association between childhood trauma and embitterment, was confirmed (Hypothesis 1).

The present study also revealed that BJW has a mediator role in the association between childhood trauma and embitterment. In this study, a negative association of childhood trauma with BJW, and a negative association of BJW with embitterment was found.

Children develop their ability to trust others, control their emotions, and engage with others through their relationships with significant attachment figures (Peterson, 2018a). They also learn to perceive the world as safe or unsafe and to understand their own value as individuals (Peterson, 2018a). When these relationships built between children and others are unstable or unpredictable; children learn that they cannot depend on others to aid them (Peterson, 2018a). Children who are exploited and abused, they learn that they are bad, and the world is an awful place (Peterson, 2018a). Additionally, Janoff – Bulman (1989) argued that a history of trauma creates a tendency to possess more negative views about perceived self-worth, chance and benevolence of the impersonal world. Congruently, considering the results of the current study, it is possible to speculate that having a history of childhood trauma, might also be linked with some alterations in the perception of the world, including the justness of the world. Similarly, Zheng et al. (2022) state that due to negative past experiences, individuals have a tendency to mistrust others and may believe that the world is unfair to them. In their study, Zheng et al. (2022) argued that BJW is one's way of explaining their environment surrounding them, and individuals who have childhood trauma tend to distrust others. It was stated that, these individuals are more likely to perceive their surroundings as unjust, and other individuals treating them unfairly, so that this propensity weakens their BJW and increases their mistrust of other people (Zheng et al., 2022). In their study, You and Ju (2020) also found that experiencing negative life events weakens the BJW. Correspondingly, the present study also revealed a negative association of childhood trauma with BJW. In other words, encountering with traumatic experiences during childhood is linked to weaker BJW.

Results of the present study also demonstrated a negative association of BJW with embitterment. Linden and Arnold (2021) proposed that perceiving a negative life event as unjust is one of the core criteria of embitterment. According to Dalbert (2011), embitterment

is characterized by a cognitive-emotional pattern that is centered on emotions of injustice, including an assessment of the incident as unjust, sentiments of vengeance and embitterment, as well as a propensity to blame oneself. Dalbert (2011) argued that the essence of embitterment is the experience of unjustness. In their study, You and Ju (2020) also found that the strongest triggering factor for embitterment was BJW. It is possible to argue that weaker BJW might be linked to perceiving the experienced occurrences as unjust; and perceiving events as unjust is linked to feelings of embitterment. In line with these, the present study found a significant association between BJW and embitterment. Namely, lower levels of BJW were associated with higher levels of embitterment. Thus, it is possible to state that, according to the results of the mediation analysis, another hypothesis of the present study, which was BJW would mediate the relationship between the childhood trauma and embitterment, (Hypothesis 2) was also confirmed.

The findings of the present study revealed non-significant moderator role of COVID-19 related NLE. However, there were several studies in the literature suggesting the COVID-19 related NLE would have a role on embitterment. According to De Sousa and D'souza (2020), in the context of COVID-19 pandemic, there have been several occurrences that embitterment and PTED might develop in individuals. It was argued that in the context of COVID-19 pandemic embitterment, as well as PTED would be immensely frequent and result in “*guilt, anger, shame, conflict at work, redundancy, and unemployment*” (De Sousa & D'souza, 2020). It was found that, among the German population, the prevalence of embitterment was increased during the pandemic, as compared to pre-pandemic times (Muschalla et al., 2021). Authors argue that one possible cause for this elevated rate of embitterment may be that critical events and injustices have occurred more frequently during the COVID-19 pandemic as compared to usual, or that individuals perceive the ongoing and fast-changing circumstances during the pandemic with accelerating anger (Muschalla et al.,

2021). However, in contrast with the previous studies, the results of the present study did not reveal any significant moderator or moderated mediation role of COVID-19 related NLE. In other words, the strength of the association between childhood trauma and embitterment did not differ by the levels of COVID-19 related NLE. The level of experienced COVID-19 related NLE also did not change the strength of the association between BJW and embitterment. Therefore, according to the findings of this study, the hypotheses of COVID-19 related NLE would moderate the direct (Hypothesis 3a) and indirect (Hypothesis 3b) relationships between childhood trauma and embitterment via BJW were not confirmed.

There might be several explanations for this finding. One of the possible reasons might be the fact that by the time the data of this study was collected, the vaccination process has already started and ongoing, instead of complete lockdown, partial lockdown and restrictions were implemented. Mask-wearing in open air was no longer mandatory and a “normalization process” in daily life has started in Turkey. It is possible to state that during the data collection process, individuals might have felt less stressed in terms of the worry of getting infected and they were able go back to their daily routines before the pandemic.

Another possible explanation might be the fact that the negative outcomes of the COVID-19 pandemic were experienced collectively and worldwide. Individuals might have not perceived COVID-19 related NLE as personal adversities, rather as the adversities shared by general population. Additionally, at this point, cultural differences might also have a role. Namely, the collectively experienced COVID-19 related NLE might have different influence on individuals, due to their cultures. People in collectivistic cultures, such as Turkey, and people in individualistic cultures, such as Germany, might have perceived and interpreted their experiences in different ways. Therefore, the results of the previous study which conducted among German population, and the present study conducted among Turkish individuals might have differed. Eventually, it is possible to speculate that, these

aforementioned explanations were possible reasons why COVID-19 related NLE did not have a significant moderator role, and moderated mediation model was not confirmed in the present study.

Also, in the sample of this study, the majority of the participants (95%) experienced less than half of the events among the COVID-19 related NLE checklist. This can be inferred as individuals who participated in this study were not highly affected by the adversities caused by COVID-19 pandemic. This could be another explanation for this result contrary to the literature, and COVID-19 NLE did not have a moderator role in the present model.

As post-hoc analysis, the present study investigated the possible differences of the mediator roles of personal BJW and general BJW in the association between childhood trauma and embitterment. Results revealed that childhood trauma had a negative association with both personal BJW and general BJW. However, while personal BJW played a significant mediator role in the association between childhood trauma and embitterment; general BJW did not have a significant mediator role in this association.

This finding seems to be congruent with the literature. It was argued that the violation of the personal BJW is the specific pathogenetic mechanism underlying embitterment (Dalbert, 2011), and personal BJW have a greater impact on mental health and success in coping with unfairness prediction, as compared to the general BJW (Dalbert, 2002). Dalbert (2011) suggested that in the context of embitterment, personal BJW is more relevant, instead of general BJW. In line with these, the results of post-hoc analysis in the present study revealed that while personal BJW played a mediator role between childhood trauma and embitterment, general BJW did not. According to this result, personal BJW seems to have a more important role on developing embitterment, as compared to general BJW.

This result might be interpreted as; embitterment is a feeling that is more in the individual level, rather than societal or general levels. In other words, for embitterment,

thinking that one's life is not fair is more crucial than thinking the world is an unjust place in general. It is known that embitterment is a reaction to unjustness and unjust events (Linden & Arnold, 2021). In light of the findings of the present study, it is possible to infer that the aforementioned "unjustness" might be associated with embitterment when it is a personal event which was perceived as an unjustness to self. Here, a possible explanation of this result can be made from the perspective of self-concept. The self-concept could be viewed as an important topic in psychology and psychological well-being. Self-concept is defined as *"the individual's belief about himself or herself, including the person's attributes and who and what the self is"* (Baumeister, 1999). It is how individuals perceive their behaviors, capabilities, and distinct features (Bailey, 2003). Self-concept has found to be positively associated with positive affect and life satisfaction (McCullough et al., 2000); negatively associated with negative emotions (Zhang et al., 2022). Since self-concept is learned, and influenced by environmental factors and social interactions (Ackerman, 2018), the life events individuals experience may make some alterations in their self-concepts. It was found that people who have positive self-concept are inclined to have a more positive mood and higher self-esteem (Zhang et al., 2022). Also, a direct association between self-concept and depression was found, since negative self-evaluation is included as a depressive symptom (Hards et al., 2020). Negative self-concept found to be aggravating the progress of both internalizing and externalizing problems (Lee & Stone, 2012). In the context of embitterment, if individuals experience an event which they perceive as unjust, they might think that they are someone who has been "downtrodden", or they might blame themselves because of the event and think that they are "guilty". These cognitions might make some unfavorable changes in the self-concepts of individuals and might be linked to poorer mental health. Therefore, considering the findings of the current study, believing that the world is unjust to

oneself, which corresponds to personal BJW, might be more linked to self-concept and associated with embitterment; whereas general BJW was not.

4.1. Limitations and Strengths

One of the limitations of this study was that it was based on only self-reports of individuals, which due to common methods bias, diminishes the validity of the found associations (Koumoundourou et al., 2011). Gathering information from many sources would alleviate the common method bias issue and would increase the validity of the results.

Another limitation was, in the present study, traumatic events experienced in childhood were asked retrospectively. This creates a vulnerability to bias in memory recollection and retrieval, such as false memories and childhood amnesia. In order to control this kind of contamination, a prospective design with a long-term follow-up could be beneficial.

Additionally, since this study is in a cross-sectional design, it is not possible to conclude any type of cause-and-effect relationships among variables. Moreover, the directions of the hypotheses can be in reverse. Namely, due to the traumatic events experienced in childhood, individuals might feel embitterment in adulthood. Or, they might have a tendency to recall the traumatic experiences in childhood more often, given their current embittered states. Similarly, it is not possible to infer whether individuals were more inclined to have lower levels of BJW because they are embittered. Or they have lower levels of BJW, therefore are ended up in an embittered state. Studies in longitudinal designs may be conducted, in order to obtain a clearer picture of the causal direction among the study variables.

Also, in this study, 95% of the participants only experienced less than half of the events among the COVID-19 related NLE checklist. In the checklist consisting of 13 events, the mean of the number of experienced COVID-19 related NLE was 3.16 ($SD = 1.80$). Which

implies that this study might have failed to reach to the individuals who are highly affected by pandemic related adversities. Therefore, in the future, studies might try to gather data from the people who faced with greater negative life events due to COVID-19 pandemic.

Lastly, the present study did not investigate the distress levels of individuals due to the experienced traumatic events in childhood. However, in their study, Yoo et al. (2020) found that the relationship between distress levels and reactive embitterment was significant, whereas the relationship between negative life events and reactive embitterment was not. This result implies that, not only experiencing negative life events, the distress levels of individuals are also an important factor in developing embitterment. Therefore, gathering information about the distress levels of participants due to the traumatic events could have been beneficial in the context of this study.

Despite these limitations, the present study also has several strengths and contributions. First, this study contributed to the literature on embitterment, which considered as a neglected topic of mental health and psychology. Furthermore, the current study investigated the relationship between childhood trauma and embitterment, which to the author's knowledge, has never been investigated before. Moreover, in addition to the known consequences of childhood trauma on physical, psychological and mental health aspects in adulthood; now the association of childhood trauma and embitterment was also pointed out. Lastly, this study highlighted the importance of believing in a just world on the development of embitterment. Hopefully, this study will be able to draw more attention to embitterment and its social, cognitive, behavioral and mental health consequences; as well as the crucial role of childhood trauma on mental health once more.

4.2. Implications for Future Research

Future research could consider investigate the model by adding other study variables. One of the study variables could be investigated in future could be the concept of revenge.

According to Linden and Arnold (2021), one of the symptoms of embitterment is; having repetitive thoughts of revenge. Indeed, revenge seems to be linked to embitterment (Gäbler & Maercker, 2011). Embittered individuals might perceive revenge as a remedy to cure their hatred (Znoj, 2011). Additionally, another cognitive factor considered to be pertinent in the context of revenge is; BJW (Gäbler & Maercker, 2011). BJW can be shattered by traumatic experiences, and feelings of revenge might arise from the subsequent attempts to reinstate a sense of justice (Gäbler & Maercker, 2011). In light of these, it is possible to state that revenge is another variable seems to be relevant with the theoretical model of the present study. Whether the embittered individuals have gotten revenge from the person they perceive to be responsible from their current status could be investigated in future studies.

Additionally, the present study investigated the childhood trauma as a whole, meaning that, the associations of the subtypes of childhood trauma (e.g., sexual abuse, emotional neglect etc.) were not investigated in the present model. Future studies might consider investigate the associations of different subtypes of childhood trauma with embitterment. Thus, the possible differences between the subtypes of childhood trauma in the relationship with embitterment can be further investigated, and a clearer picture of the mechanisms between the subtypes of childhood trauma and embitterment could be drawn.

Moreover, future studies could also include and examine attachment styles as another study variable. It was found that, all of the subtypes of childhood trauma were negatively associated with secure attachment style; and positively associated with insecure types of attachment which are fearful, preoccupied, and dismissing attachment styles (Erozkan, 2016). Moreover, Blom et al., (2012) found that among the attachment styles, preoccupied attachment and fearful attachment were the ones who had strong associations with embitterment. Therefore, it was argued that anxious attachment posits as a vulnerability factor for embitterment (Blom et al., 2012). Consequently, future studies may also consider

investigating the role of attachment styles, and their role in the association of childhood trauma and embitterment.

Future research could also examine the potential cultural elements that contribute to the findings of this study, particularly in rural areas of Turkey with samples from backgrounds that are more conservative and collectivist. This would help the findings of this study to become more culturally representative.

Lastly, as stated earlier, the present study was in a cross-sectional design, thus it was not possible to draw cause-and-effect relationships. Future studies could benefit from longitudinal designs to be able to make inferences about the causal direction among the study variables.

4.3. Clinical Implications and Conclusion

The results of the present study also offer some suggestions to practitioners. The findings of this study highlighted the influence of childhood trauma on embitterment in adulthood, as well as the mediating role of BJW in this association. It is known that childhood trauma is quite prevalent and underestimated (SAMHSA, 2022). In addition to the knowledge from the literature, results of this study once again highlighted the importance of traumatic events experienced in childhood and their unfavorable mental health consequences in adulthood. In addition to this, BJW, specifically personal BJW also found to have a significant role on developing embitterment.

In terms of clinical implications, first, it could be important to develop strategies for preventing traumatic experiences during childhood, such as public education campaigns, improving parenting skills and family relationship approaches, and mentoring and after-school programs. Furthermore, for the individuals who experienced childhood trauma; psychotherapy modalities such as trauma focused cognitive behavioral therapy and schema therapy, as well as the EMDR approach could be beneficial. In these treatment methods,

clients and therapists work together on the cognitions and emotions of individuals, related to the traumatic experiences. Furthermore, EMDR approach uses a technique of reprocessing of traumatic events in order to alleviate the negative effects of traumatic memories on individuals. Altogether, these therapy modalities and approaches work on the unfavorable effects of traumatic experiences on individuals, and help improving psychological well-being.

Additionally, cognitive behavioral therapy and schema therapy are known to be focusing on beliefs and schemas on individuals, and childhood is a period of life when beliefs and schemas are forming. Therefore, these psychotherapy modalities could be crucial and beneficial in addressing the beliefs of individuals, including the BJW, by working therapeutically on personal just world beliefs.

Lastly, it would be crucial for people who work in mental health field- psychologists, psychiatrists, psychotherapists etc.- getting familiar and knowledgeable with the terms of embitterment and PTED, in order to provide the most beneficial services for patients and clients. This is crucial because embitterment is a hurtful and disabling emotion (Linden & Rotter, 2018), as well as resulting in significant stress and impairment in daily life (Linden & Arnold, 2021). Therefore, it is possible to state that this would be beneficial for public health in general.

Treatment for embitterment and PTED is also a noteworthy topic worth to discuss. Most of the patients feel that the precipitating event was unjust, and they want the world to see how poorly they have been treated (Linden et al., 2008). Consequently, numerous patients are uncooperative in treatment; some of them refuse help completely (Linden et al., 2008). By embitterment and PTED become more recognizable in the field of mental health, it would allow gathering more information about the prevention and treatment opportunities.

In conclusion, the findings of the present study suggest that experiencing childhood trauma increases the risk of embitterment in adulthood, since there is a positive association

between childhood trauma and embitterment. Moreover, BJW mediates this association; higher levels of childhood trauma are associated with lower levels of BJW, and lower levels of BJW is associated with higher levels of embitterment. In addition, while personal BJW plays a mediator role between childhood trauma and embitterment, general BJW does not. However, COVID-19 related NLE did not moderate the direct and indirect associations between childhood trauma and embitterment. The findings of the present study indicated that the traumatic events experienced in childhood have a crucial role on experiencing embitterment in adulthood, and BJW mediates the association between childhood trauma and embitterment.



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APPENDIX A: Demographics Form

Yaşınız: _____

Cinsiyetiniz:

- Kadın
- Erkek
- Diğer (lütfen belirtiniz): _____

Medeni Durumunuz:

- Evli
- Bekar ve ilişkisi yok
- Bekar ve ilişkisi var
- Boşanmış
- Belirtmek istemiyorum

Eğitim Durumunuz:

- İlköğretim mezunu
- Lise mezunu
- Üniversitede eğitim görüyor
- Üniversite mezunu
- Yüksek lisans/doktora eğitimi görüyor
- Yüksek lisans/doktora mezunu

Mesleğiniz:

- Öğrenci ve çalışmıyor
- Öğrenci ve çalışıyor (lütfen belirtin): _____
- Çalışmıyor
- Çalışıyor (lütfen mesleğinizi belirtin): _____
- Emekli

Yaşadığınız Ülke:

- Türkiye
- Başka bir ülke (lütfen belirtin): _____

Yaşadığınız Şehir: _____

APPENDIX B: Childhood Trauma Questionnaire

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.

Çocukluğumda ya da ilk gençliğimde...

	Hiçbir zaman (1)	Nadiren (2)	Zaman zaman (3)	Sıklıkla (4)	Çok sık olarak (5)
Yeterli yemek bulamazdım.					
Bana bakan ve beni koruyan birinin olduğunu biliyordum.					
Ailemdelikler bana "salak", "beceriksiz" ya da "tipsiz" gibi sıfatlarla seslenirlerdi.					
Anne ve babam ailelerine bakamayacak kadar sıklıkla sarhoş olur ya da uyuşturucu alırlardı.					
Ailemde önemli ve özel biri olduğum duygusunu hissetmeme yardımcı olan birisi vardı.					
Kirli giysiler içersinde dolaşmak zorunda kalırdım.					
Sevildiğimi hissediyordum.					
Anababamın benim doğmuş olmamı					

istemediklerini düşünüyordum.					
Ailemden birisi bana öyle kötü vurmuştu ki doktora ya da hastaneye gitmem gerekmişti.					
Ailemdelikler bana o kadar şiddetle vuruyorlardı ki vücudumda morartı ya da sıyrıklar oluyordu.					
Kayış, sopa, kordon ya da başka sert bir cisimle vurularak cezalandırılıyordum.					
Ailemden tam olarak memnundum.					
Ailemdelikler birbirlerine ilgi gösterirlerdi.					
Ailemdelikler bana kırıcı ya da saldırganca sözler söylerlerdi.					
Vücutça kötüye kullanılmış olduğuma inanıyorum.					
Bana o kadar kötü vuruluyor ya da dövülüyordum ki öğretmen, komşu ya da bir doktorun bunu farketdiği oluyordu.					
Ailemde birisi benden nefret ederdi.					
Ailemdelikler kendilerini birbirlerine yakın hissedilerdi.					
Birisi bana cinsel amaçla dokundu ya da kendisine dokunmamı istedi.					

Kendisi ile cinsel temas kurmadığım takdirde beni yaralamakla ya da benim hakkımda yalanlar söylemekle tehdit eden birisi vardı.					
Çocukluğum mükemmeldi.					
Birisi beni cinsel şeyler yapmaya ya da cinsel şeylere bakmaya zorladı.					
Birisi bana cinsel tacizde bulundu.					
Duygusal bakımdan kötüye kullanılmış olduğuma inanıyorum.					
Benim ailem dünyanın en iyisiydi.					
Cinsel bakımdan kötüye kullanılmış olduğuma inanıyorum.					
Ailem benim için bir güç ve destek kaynağı idi.					
İhtiyacım olduğunda beni doktora götürececek birisi vardı.					

APPENDIX C: Post Traumatic Embitterment Disorder Self Rating Scale

Lütfen aşağıdaki ifadeleri dikkatlice okuyun ve sizin için ne derece geçerli olduklarını belirtin (0 = hiç doğru değil, 4 = tamamen doğru).

Son yıllarda,

	0- Hiç doğru değil	1- Pek doğru değil	2- Kısmen doğru	3- Oldukça doğru	4- Tamamen doğru
1. Büyük ölçüde beni canımdan bezdiren ve inciten bir deneyim yaşadım.					
2. Genel olarak ruhsal iyilik halimde kalıcı ve önemli bir olumsuz değişikliğe yol açan yaşantım oldu.					
3. Çok haksız ve adaletsiz olarak nitelendirdiğim ciddi bir olay yaşadım.					
4. Hakkında tekrar tekrar düşünmek zorunda kaldığım olumsuz bir olay yaşadım.					
5. Hatırladıkça hala beni derinden üzen bir deneyimim oldu.					
6. Beni intikam alma düşüncelerine iten bir yaşantım oldu.					
7. Kendime kızmama ve suçlamama rağmen yol açan olumsuz bir yaşantım oldu.					
8. "Çaba göstermeye ve uğraşmaya değmez" diye hissetmeme neden olan ciddi bir yaşam deneyimim oldu.					
9. Beni mutsuz ve somurtkan yapan olumsuz bir yaşam deneyimim oldu.					
10. Genel fiziksel sağlığımı bozacak kadar beni üzen bir yaşam deneyimim oldu.					

11. Bana onu tekrar hatırlatacak kişiler ya da yerlerden kaçınmama neden olacak şiddette bir yaşam deneyimim oldu.					
12. Beni çaresizlik ve güçsüzlük duygularına sürükleyen bir yaşam deneyimim oldu.					
13. Bana bunları yaşatanların aynı duruma düşmelerini çok istememe neden olan bir yaşam deneyimim oldu.					
14. Yaşama istek ve gücümün oldukça azalmasına yol açan bir yaşam deneyimim oldu.					
15. Eskisinden daha kolay sinirlenen bir insan olmama yol açan bir yaşam deneyimim oldu.					
16. Normal ruh haline dönmek için dikkatimi başka şeylere yönlendirmek zorunda kalmama yol açan bir yaşam deneyimim oldu.					
17. Beni ailem ve kendi işlerimle eskisi gibi ilgilenemeyecek hale getiren bir yaşam deneyimim oldu.					
18. Beni sosyal aktivitelerimden ve arkadaşarımla birlikte olmaktan alıkoyacak kadar ağır bir yaşam deneyimim oldu.					
19. Acı veren hatıralarını sıklıkla hatırladığım bir yaşam deneyimim oldu.					

APPENDIX D: General and Personal Belief in a Just World Scale

Lütfen aşağıdaki ifadeleri dikkatlice okuyun ve her bir ifade için ne derece katıldığınızı belirtin (0 = kesinlikle katılmıyorum, 4 = bütünüyle katılıyorum).

	Kesinlikle katılmıyorum	Katılmıyorum	Kısmen Katılıyorum	Katılıyorum	Bütünüyle katılıyorum
1. Eninde sonunda başıma gelen her şeyi hak ettiğime inanıyorum.					
2. Bana karşı genellikle adil davranılmıştır.					
3. Çoğunlukla ne hak ettiysem onu bulmuşumdur.					
4. Genel olarak baktığımda, yaşadığım olaylar adildir.					
5. Hayatımdaki adaletsizlikler istisnai durumlardır.					
6. Hayatta başıma gelen olayların çok büyük bir kısmının adil olduğuna inanıyorum.					
7. Benimle ilgili verilen önemli kararların çoğunlukla adil olduğunu düşünüyorum.					
8. Dünyanın aslında adil bir yer olduğunu düşünüyorum.					
9. İnsanların eninde sonunda ne hak ederlerse onu bulacaklarına inanıyorum.					
10. Adaletin her zaman adaletsizlikler karşısında galip geleceğinden eminim.					
11. Uzun vadede insanların adaletsizliklerin üstesinden geleceğine inanıyorum.					
12. Hayatın her alanındaki adaletsizliklerin (örneğin iş hayatında, aile hayatında, politik hayatta vs.) bir kural olmaktan ziyade birer istisna olduğuna inanıyorum.					
13. İnsanların önemli kararlar verirken adil olmaya gayret ettiklerine inanıyorum.					

APPENDIX E: Negative Life Events Experienced during COVID-19 Pandemic

Aşağıda Korona virüs pandemisinin ve doğurduğu sonuçların kişileri etkileyebileceği çeşitli olaylar listelenmiştir. Lütfen aşağıdaki ifadeleri dikkatlice okuyun ve pandemi sürecinde hangi olay/olaylardan etkilendiğini işaretleyin.

Hiçbir şekilde etkilenmedim.	
Koronavirüs enfeksiyonu geçirdim.	
Bir yakınım koronavirüs enfeksiyonu geçirdi.	
Bir yakınım koronavirüs enfeksiyonu sonucu yaşamını kaybetti.	
İşimi/işyerimi kaybettim.	
Bir yakınım işini/işyerini kaybetti.	
Pandemi önlemleri sebebiyle hayatımı etkileyen ekonomik kayıplarım oldu.	
Aynı evi paylaştığım kişi/kişiler sebebiyle şiddete maruz kaldım.	
Evde bulunan kişilerle aynı evi paylaşmaktan dolayı çok bunalmış hissediyorum.	
Sosyal bağlarımın azaldığını düşünüyorum.	
Sosyal bağlarımın azalmasından sıkıntı duyuyorum.	
Pandemi önlemleri sebebiyle öz bakım ve öz yönetim ile ilgili sorunlar yaşadım.	
Pandemi önlemleri sebebiyle tıbbi tedavilerimi iptal etmek durumunda kaldım.	
WhatsApp, Skype, Zoom gibi online iletişim kanallarını kullanmak için gerekli tekniğe sahip değilim.	

APPENDIX F: Life Events Checklist for DSM-5

Aşağıda insanların bazen yaşadıkları bir grup zor ve stresli durumlar listelenmiştir. Her bir olay için sağ tarafta yer alan bir veya daha fazla kutucuğu şu açıklamalara uygun olarak işaretleyiniz: (a) Kişisel olarak bizzat yaşadınız; (b) bir başkasının başına geldiğine şahit oldunuz; (c) yakın bir aile üyenizin veya yakın bir arkadaşınızın başına geldiğini öğrendiniz; (d) işiniz gereği bu olaya maruz kaldınız (örn., askeri doktor, polis, asker veya benzer bir meslek üyesi olarak); (e) buna benzer bir olay yaşadığınıza emin değilsiniz; veya (f) size uygun değil. Listede yer alan olayları bütün geçmiş yaşamınızı (büyürken olduğu kadar yetişkinliği de) dikkate alarak değerlendiriniz

Olay	Bizzat yaşadım	Şahit oldum	Öğrendim	İşimin gereği	Emin Değilim	Bana uygun değil
1. Doğal afet (örneğin, deprem, sel, tufan, hortum)						
2. Yangın veya patlama						
3. Seyahat ederken kaza (örneğin, araba kazası, gemi kazası, tren çarpması, uçak kazası)						
4. İşte, evde veya eğlenceli bir etkinlik sırasında ciddi kaza						
5. Zehirli maddeye maruz kalma (örneğin, tehlikeli kimyasallar, radyasyon)						
6. Fiziksel saldırı (örneğin, saldırıya uğrama, yumruk yeme, tekmelenme, tokatlanma, dayak yeme)						
7. Silahlı saldırıya uğrama (örneğin, vurulma, bıçaklanma, bıçakla silahla veya bombayla tehdit edilme)						
8. Cinsel saldırı (ırza saldırı, ırza saldırı girişimi, zor kullanarak veya zarar verme tehdidiyle her türlü cinsel eylem)						
9. Diğer türlü istenmeyen veya rahatsızlık veren cinsel deneyim						
10. Bir savaş bölgesinde çatışmaya girme veya ateş altında kalma (askerde veya sivil olarak)						
11. Esaret (örneğin, kaçırılma, esir alınma, rehin alınma, savaş tutsağı)						
12. Yaşamı tehdit eden hastalık veya yaralanma						
13. Ciddi ızdırap çekme						

14. Ani vahşice ölüm (örneğin, cinayet, intihar)						
15. Ani kaza sonucu olan ölüm						
16. Sizin bir başkasının ciddi şekilde yaralanmasına, zarar görmesine veya ölümüne sebep olmanız						
17. Herhangi bir başka çok stresli olay veya deneyim						

