RESILIENCE AS THE BRIGHT SIDE OF TRAUMA: ROLES OF SOCIAL SUPPORT, COGNITIVE REAPPRAISAL AND COPING STYLES

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RESILIENCE AS THE BRIGHT SIDE OF TRAUMA: ROLES OF SOCIAL SUPPORT, COGNITIVE REAPPRAISAL AND COPING STYLES

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ABSTRACT

RESILIENCE AS THE BRIGHT SIDE OF TRAUMA: ROLES OF SOCIAL SUPPORT, COGNITIVE REAPPRAISAL AND COPING STYLES

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Trauma is a widely studied concept that has a remarkable impact on mental health. On the other hand, resilience is the process of successfully adapting to challenging life events. Regarding resilience as a key factor to cope with traumatic symptoms, it is critical to understand its components. The purpose of this study is to explore underlying mechanisms of resilience through traumatic experiences. In this context; social support, cognitive reappraisal, and adaptive coping skills are examined under the predictor factors of resilience. Moreover, trauma is taken into the consideration as a mediator variable. In this study, socio-demographic form, Traumatic Stress Symptom Scale, Coping Strategy Indicator, Multidimensional Scale of Perceived Social Support (MSPSS), Emotion Regulation Questionnaire (ERQ) and Resilience Scale for Adults were used as measurement tools. A Multivariate Analysis of Variance (MANOVA), Pearson Correlations, Hierarchical Regression Analysis, Independent t-tests and three Mediation Analyses were conducted for examining research questions. The results showed that social support, cognitive reappraisal, and adaptive coping predicts resilience. Social support and cognitive reappraisal are mediating the relationship between trauma and resilience. However, adaptive coping skills have no indirect effect for the relationship between trauma and resilience. Regarding gender and marital status, being female and having a romantic relationship are found as socio-demographic factors to increase resiliency. These findings suggested that individuals who have relevant social support resources, cognitive reappraisal skills, and adaptive coping capacity are more likely to become resilient.

Key Words: *Resilience, Trauma, Emotion Regulation, Coping, Social Support*

ÖZ

TRAVMANIN AYDINLIK YÜZÜ OLARAK PSIKOLOJİK DAYANIKLILIK: SOSYAL DESTEK, BİLİŞSEL YENİDEN DEĞERLENDİRME VE BAŞ ETME MEKANİZMALARININ ROLLERİ

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Travma, ruh sağlığı üzerindeki etkisi sebebiyle pek çok araştırma tarafından incelenmiştir. Bir diğer yandan, psikolojik dayanıklılık, zorlu yaşam olaylarına karşı başarılı bir şekilde uyum sağlama süreci olarak tanımlanır. Psikolojik dayanıklılığın travmatik semptomlarla başa çıkmak adına sahip olduğu rol düşünüldüğünde bu kavramın bileşenlerini anlamak çok önemlidir. Bu araştırmanın amacı, travmatik deneyimlerin aracı rolüyle birlikte psikolojik dayanıklılığı yordayan etmenleri incelemektir. Bu bağlamda sosyal destek, bilişsel yeniden değerlendirme ve uyumlu başa çıkma becerileri, psikolojik dayanıklılığı yordayan faktörler olarak araştırılacaktır. Travma ise aracı değişken olarak ele alınacaktır. Bu çalışmaya 314 yetişkin (%34'ü erkek; %66'sı kadın) çevrimiçi anket yöntemi ile katılmıştır. Ölçüm araçları olarak Demografik Bilgi Formu, Travmatik Stres Belirti Ölçeği, Başa Çıkma Stratejisi Ölçeği, Çok Boyutlu Algılanan Sosyal Destek Ölçeği'nin Gözden Geçirilmiş Formu, Duygusal Düzenleme Anketi ve Yetişkinler için Psikolojik Dayanıklılık Ölçeği kullanılmıştır. Çok Değişkenli Varyans Analizi (MANOVA), Pearson Korelasyon Analizi, Hiyerarşik Regresyon Analizi, Bağımsız Grup t-testi ve üç Aracılık Analizi kullanılmıştır. Araştırma bulgularına göre sosyal destek, bilişsel yeniden değerlendirme ve uyumlu baş etme mekanizması psikolojik dayanıklılığı yordamaktadır. Hem sosyal destek hem de bilişsel yeniden değerlendirme, travma ile psikolojik dayanıklılık arasındaki ilişkide aracı bir role sahiptir. Ancak, uyumlu baş etme mekanizmasının travma ile psikolojik dayanıklılık arasındaki ilişkide aracı bir rolü bulunmamıştır. Sosyo-demografik faktörlere göre ise kadın olmak ve romantik bir ilişki içerisinde bulunmak, psikolojik dayanıklılığı arttıran etmenler olarak

bulunmuştur. Bu araştırma sonuçlarına göre sosyal kaynakları olan, bilişsel yeniden değerlendirme becerilerini kullanan ve uyumlu baş etme kapasitesine sahip olan bireyler psikolojik olarak daha dayanıklıdır.

Anahtar Kelimeler: *Psikolojik Dayanıklılık, Travma, Sosyal Destek, Duygu Regülasyonu, Baş etme*

Dedicating to my parents,

Elif & Engin Kubilay

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CHAPTER 1

INTRODUCTION

"Our resilience can help us to cope and survive our adversity. We can transcend and live on despite our challenges."

Victor E. Frankl

1.1 Background to the study

Nowadays, the world is transforming into a one global, traumatic society considering the diverse repertoire of adverse events. Trauma is defined by American Psychological Association (APA) as "an emotional response to a terrible event like an accident, rape, or natural disaster" (2013). Traumatic events are defined as sexual assault, being kidnapped, terrorist attacks, disasters, severe accidents, child abuse or any kind of life-threatening illnesses (DSM-IV-TR; American Psychiatric Association, 2000). Trauma has been one of the leading causes of mental and physical health problems, and it is found as the fourth leading cause of death in United States (Moscardi et al, 2020).

In a dark side of the medallion, the life of the majority is shaken by traumatic events ranging from natural disasters to human-induced hazards. Compared to natural events, the human-induced disasters make more severe wounds in mental health (Bromet, 2017). As a result, individuals display various cognitive, emotional, physical, and behavioral symptoms (CSAT, 2014). In a cognitive level, they may have an impaired memory about the event's

details (Brandes, 2002), poor cognitive performance (Landre, 2006) and diverse cognitive distortions such as self-criticism, self-blame, helplessness, and hopelessness (Abdullah, 2011). Emotionally, traumatic individuals may have trouble to express their feelings, regulate negative emotions and perceive their emotions as detached from thoughts or behaviors (CSAT, 2014). The physical symptoms can be listed as sleep disturbances (Sadeh, 1996), cardiovascular diseases (Violanti, 2006) and somaticized mental problems (Kealy, 2018). Finally, behavioral problems show themselves as either externalizing or internalizing forms: Externalized behaviors can be aggression (Spilsbury, 2007), delinquent behavior (Hoogsteder, 2021) or substance abuse (Chung, 2015). On the other hand, individuals may show internalizing symptoms like anxiety and depression (Nowakowski-Sims & Rowe, 2017). On one edge of the continuum, post-traumatic stress disorder is a pathological response towards severe traumatic events (Bomyea et al., 2012). Studies show that 1 in 13 people develop PTSD[1] throughout their lives (Sidran Institute, 2019).

Despite the black news, there is also a bright side introducing the hopeful term of "resilience" into the psychology literature. Just as PTSD is in the end of the spectrum, resilience is found at the opposite end. Just like there are individuals being more susceptible to traumatic effects, there are also resilient people who can positively adapt to adverse situations including the traumatic circumstances (Masten et al., 1990). The early studies generally concentrated on adversity and stressors that damage the mental health system; so, there has been more advancements in psychopathology. However, as the time changes and mindsets evolve, the attention is shifted from risk factors to protective ones in various contexts (Masten et al., 1990). The realization of the role of resilience in face of trauma made a great impact in psychology world (Friedberg & Malefakis, 2018). Researchers began to observe not only risks or problems but also potential resources to build resilience (Baum,

[1] Post-Traumatic Stress Disorder

2005). The body of knowledge is built upon to examine the individual characteristics that distinguish some people to others on overcoming the adversities (Fletcher & Sarkar, 2013). In 2012, Goldstein and Brooks listed several reasons on why studying resilience is significant. They pointed out the increasing number of young people facing with adversity; therefore, they suggested development of the clinical interventions, advancement of effective applications to build resilient mindsets and apprehension of resilience in a biopsychosocial context. Therefore, identifying personality-specific factors and environmental resources to increase resilience gain incredible importance to promote mental health (Fletcher & Sarkar, 2013). Among various predictors of resilience, commonly found contributors can be ordered as cognitive reappraisal as a type of emotion regulation (Hong, 2018), adaptive coping style (Littleton et al. 2007) and perceived social support (Ozbay et al. 2007). Resilient individuals cope with adversity adaptively, regulate their emotions effectively and seek for socially supportive behaviors (Thompson et al., 2011).

At first, emotion regulation is a way of expressing certain emotions in several settings (Gross, 1998). Emotion regulation helps people to turn down their negative feelings, adapt their positive feelings into the context or maintain a consistent emotional state (Gross, 2008). Regarding the emotional regulation strategies, individuals can regulate their emotions through suppression or cognitive reappraisal (Gross, 1998). Analyzing individual characteristics of resilient people; it is widely found that these people use their positive emotions to get both psychologically and physically healthy (Tugade & Fredrickson, 2004), return a normal level of functioning quickly after a distressing experience (Carver, 1998), cope effectively with adverse events (Tugade & Fredrickson, 2006) and promote a psychological growth (Fredrickson et al., 2003).

As another individual factor, choice of the coping style in face of adversity is a crucial element of resilient people. Life events elicit specific emotions, and coping is a way of

response to the negative emotions (Salovey et al. 1999). People use in a variety of coping strategies to mediate life strains and psychological consequences (Parker & Endler, 1992). Coping dimensions can be divided to adaptive and maladaptive styles in general (Zeidner & Saklofske, 1996). Avoidance can be regarded as a maladaptive strategy whereas problem-focused coping can be categorized under the adaptive coping style. Adaptive coping styles are associated with a reduction of internalizing symptoms, effectively dealing with stressful life events and promotion of health-related behaviors (Matthews et al., 2015). Studies show that there may be a positive relationship between resilience and problem-focused coping (Chen, 2016) or coping style may have a mediator role in resilience and well-being (Chen, 2019). Nevertheless, adaptive coping styles are often linked to a higher level of resilience (Steinhardt & Dolbier, 2018).

Besides the central importance of individual characteristics, environmental resources like social support have considerable evidence on well-being (Chu et al., 2010), mental health (Turner & Brown, 2010) and resilience (Ozbay, 2007). When people have a supportive environment constituted of care, value and love, their surrounding world is perceived as socially supporting (Wills, 1991). The source of the social support is usually formed by friends, family, and community (Allen et al., 2002). It promotes not only physical functioning but also mental health. In terms of resilience, individuals who have better social support system is more likely to avoid negative appraisals (Fontana, 1989), use active coping styles towards adversity (Moos & Schaefer, 1993) and prevent isolation that leads loneliness and psychopathology (Ozbay, 2007).

1.2 Significance of the Study

Turkish society has traumatic roots going back to old times, and one part of the continuum consists of natural disasters whereas the other is regarded as human-induced adversities. 1999 earthquake led people to develop major depression disorder or post-

traumatic stress disorder due to the extreme death anxiety, bereavement process and both physical and mental deterioration (Tural et al., 2001). On the other hand, TUIK claimed that %15,2 of the children are the victims of sexual abuse in 2016 (TÜİK, 2016) whereas %41 of the women experienced either physical or sexual abuse in a lifetime ((Hacettepe Üniversitesi Nüfüs Etütleri Enstitüsü, 2014). In addition to a wide range of traumatic events, there is a global stressor (Covid-19) affecting mental health regardless of the nationality at the present time. Therefore, a great portion of psychology world focused on the antecedents, risk factors or impact of trauma on mental health. Considering the indisputable role of trauma in worsening mental health, it is very important to draw attention to the protective factors. For this reason, there is a shiny, trending concept emerging in the field: Resilience. It is the iron shield against mental disorders, golden facilitator of well-being and a recovery package from a challenging adversity. It is not only important to understand predictors but also mediators of resilience. From part to whole, it is very essential to explore the core pieces of resiliency. In this way, we can deepen our comprehension towards the relationship among role of trauma, resilience, and other psychological concepts. Regarding not all the members of society give the same reaction to traumatic events, understanding the structure of resilience will prepare a solid foundation for future psychosocial interventions. In the end, this study will not only contribute to the literature but also practical implications.

1.3 Purpose of the Study

Therefore, the current study aims to investigate the underlying mechanism of resilience by examining the role of predictor factors; namely, cognitive reappraisal, coping style and perceived social support. Moreover, trauma will be evaluated under the mediator role, and it will be regarded as a bridge between resilience and other variables mentioned above.

1.4 Hypotheses of the Study

Thus, this study will address following hypotheses:

H1: Cognitive reappraisal, adaptive coping style and perceived social support predicts resilience.

H2: Social support mediates the relationship between trauma and resilience.

H3: Cognitive reappraisal mediates the relationship between trauma and resilience.

H4: Adaptive coping style mediates the relationship between trauma and resilience.

CHAPTER 2

LITERATURE REVIEW

2.1 Resilience Overview

Human beings encounter a variety of adversities and challenging circumstances for ages. As there are people who lost their way in this tough life, or gave up in the face of some stressors, there are many of whom successfully adapt the life as it is. As an interesting study conducted in 1993, a large group of children has been investigated by Werner longitudinally. Childhood to adulthood, he divided vulnerable children as a high-risk group and low-risk group based on their family relationships. Through years, those having specific temperaments, social skills, warm caregivers, and supportive environments become more resilient. Therefore, Werner (1993) did not only reveal the protective factors but also the roots of resiliency to cope with life stress.

After that, a broad range of studies focus on resiliency has far-reaching contributions to the traumatic implications. Despite of the great attention, there is a discrepancy among authors on the definition of this term. The word of resilience is originated from Latin vocabulary, which is “to leap back” (Hu et al., 2015). Some definition of this word has a foca point on the characteristics of the individuals (Bonanno, 2004; Connor & Davidson, 2003), some of them underlines the contextual severity (Masten et al., 1990; Rutter, 1987), and

others discuss about its conceptualization (Agaibi & Wilson, 2005; Fletcher & Sarkar, 2013; Luthar et al., 2000; Masten et al., 2001). However, the two common terms that can be found in the definitions are adversity and positive adaptation. From different perspectives, Rutter examined the role of protective factors on altering a person's response in 1987. Resilience is also conceptualized as a dynamic process (Luthar et al., 2000), a class of phenomena (Masten, 2001) and a choice of specific behaviors (Agaibi & Wilson, 2005). Those highlighting the individual factors claim that there are some personal qualities help them to recover after an adversity (Connor & Davidson, 2003) and maintain their healthy psychological functioning (Bonanno, 2004). To sum up, resilience is a capacity of a person to successfully adapt to challenging life events (Best & Garmezy, 1990; Masten et al., 2001).

2.1.1 Differences between Resilience, Coping, Protective Factors and Recovery. The relationship between resilience and some variables are commonly examined such as coping, protective factors or recovery. Although there are similarities between these concepts, they have been differentiated from each other by the structure of the construct. Coping refers to all kind of strategies an individual use to deal with stressors, whereas resilience is a capacity to successfully deal with adverse events (Steinhardt & Dolbier, 2008). Coping strategies play in explaining the degree of resilience, and they, in turn, lead to different mental health outcomes (Roesch & Weiner, 2001). Many studies show that people who can use adaptive coping style are more likely to be resilient (Chen, 2016). On the other hand, protective factors refer to the healthy characteristics of the individual, family and environment that produce well-being and eliminate adversity (Masten & Reed, 2002). Being relatively more similar, recovery is the process of going back to the normal state after a stressful life event whereas resilience is the ability to recover quickly after the event (Merriam Webster & Alexander, 2013). It cannot be said that resilient people do not experience any kind of stressful life event. In fact, their protective mechanisms deal with these adverse events to help them in retuning to a state of

equilibrium (Wagnild, 2009). As a result of this, protective mechanisms buffer the effects of stressful experiences and cause a positive outcome.

2.1.2 Models of Resiliency. Resiliency has been conceptualized as process, outcome, or trait for a while. The resiliency-as-a-process perspective claims that it is a dynamic process of successful adaptation, adaptive coping, and rapid recovery in face of stressful life events (Fergus & Zimmerman, 2005). This process has two core elements: exposure to adverse events and a positive adjustment (Luthar & Cicchetti, 2000). There are both vulnerability and protective factors which have an influence on the appraisal of negative life events, and process model investigates the underlying processes within the context (Luthar & Cicchetti, 2000). In 2002, Mahoney and Bergman emphasized the positive adaptation to understand resilience process. They suggested that the interaction among psychological, environmental, and biological levels prepare the foundation of adaptation. How an individual functions within these three levels is a determining factor for a good adjustment. In this framework, performing a positive adaptation through well-functioning under the stressful life events is the process of resilience (Mahoney & Bergman, 2002).

The outcome approach is mainly based on the premise that resilience is a behavioral outcome helping people to achieve recovery after a challenging situation (Harvey & Delfabbro, 2004). People have an ability to maintain their mental health despite experiencing an acute or chronic stressor in their lives (Kalisch et al., 2017). The outcome-oriented view proposes that resilience factors serve as a shield towards potential adversity by modifying the person's response (Fletcher & Sarkar, 2013). There are both internal factors such as personal characteristics or self-efficacy beliefs, and external factors like accessing several life resources (Hobfoll et al., 2007; Stevens, & Zalta, 2015). In 2001, Masten worked on variable-focused and person-focused approaches towards resiliency. From a variable-focused perspective, all the risk factors contribute to the outcome independently, and if there are

enough positive assets in an individual's life, then they will counterbalance the negative effects in the end (Masten, 2001). On the other hand, person-focused view focuses on individual characteristics affecting their good or poor adaptive functioning in life trajectory. She claimed that resilient individuals have parents with good skills, a good cognitive functioning and positive self-perception (Masten, 2001).

Finally, resilience can be considered as an individual trait determined by inborn factors (Rutter, 1991) which enhances coping skills and provides adjustment to adversities (Connor & Davidson, 2003). In 1980, Block and Block introduced a term of "ego-resilience" to describe individuals with a high energy level, a sense of positive outlook and a capacity of solving problems. Furthermore, Connor and Davidson developed a resilience scale to measure personal qualities helping people to recover quickly after a negative life event in 2003. CD-RISC (The Connor and Davidson Resilience Scale) show that resilient people have a wide range of trait repertoire such as having a sense of humor, personal or collective goals, patience, faith, and self-efficacy. In terms of five-factor model, extraversion, conscientiousness, emotional stability, and openness to experience are notable characteristics of resilient people (Buss, 1996). In a meta-analysis on trait resilience, it is found that trait resilience is a well-established indicator of mental health (Hu et al., 2015; Zhang & Wang, 2015).

2.1.3 Protective and Risk Factors. Resiliency theorists have been suggesting protective factors across different systems for a long time, and these processes are generally shaped by individual, familial and community levels. Individual protective factors are inherent, dispositional characteristics that promote resilience. They can be exampled as mental features (Rutter, 1979), a good temperament (Garmezy, 1991), high functioning cognitive skills (Masten, 2001) or commitment (Kobasa, 1979). Familial protective factors are based on the relationship between individual and family. A protective family atmosphere is where social

relationships are bounded (Rutter, 2013), warm parental affection is felt (Rutter, 2013), authoritative parenting style with a secure attachment is established (Masten et al., 1999) and a complete family cohesion is reached (Clarke & Stockner,1961; Garmezy et al., 1991). As a third factor, community level is external to the family and individual. They can be schools and favorable teachers (Werner, 1989), an institutional structure like a religious or extra-curricular place (Garmezy, 1991), cultural organizations with prosocial values or a supportive neighborhood (Masten, 2001).

In 2011, Sapienza and Masten did a large scale of research on promoting resilience. They found common themes on resilient people, and they can be summarized as positive relationships across those three systems, effective caregiving, good cognitive skills, mastery motivation and an optimist view of life. Therefore, their guideline on increasing resiliency is mainly based on nurturing adaptive systems, enhancing attachment relationships, supporting community practices, and reducing exposure to adverse events.

2.2 Trauma

2.2.1 Overview. From past to present, the prevalence of traumatic experiences shows a dramatic rise. Kessler et al. conducted a nationally representatively study in 1995, and he found that %60 of men and %51 of women experiences at least one traumatic event in their life (Kessler et al, 1995). Between 2001 and 2003, The National Comorbidity Survey Replication (NCS-R) concluded that lifetime prevalence of PTSD is found as %6.8 (Gradus, 2007). In 2019, %70 people in a population declared that they have a traumatic experience in their lifetime (Sidran Institute, 2019). After the recent Coronavirus outbreak, the prevalence of PTSD climbed up to %18 in the population (Salehi, 2021).

DSM – 5 (Diagnostic and Statistical Manual 5) defines trauma as an outcome of "actual or threatened death, serious injury, or a sexual violence" (p. 271). Definitions of trauma usually involve common themes such as experiencing non-ordinary events, having

evoked distressing feelings, giving intense peritraumatic reactions, having cognitive distortions and being turning points in life (Gold, 2017).

Natural hazards and human-induced disasters have a different impact on mental health. Natural disasters are resulted by catastrophic environmental processes, and they tend to traumatize a larger population (Ursano et al, 1994). Natural disasters like flood, earthquake or fire are considered as uncontrollable due to the belief of "Act of God" (Riaz, 2015). However, human-induced hazards are resulted by catastrophic human decisions. They can be divided as technological problems, warfares or individual traumatic events (Shaluf, 2007). Technological problems can be exampled as explosions or physical assets. Warfares are inter-state or international conflicts which lead major damages (Shaluf, 2007). Individual traumatic events can be conceptualized as all forms of abuse, violence, and accidents (Gold, 2017). Compared to manmade hazards, natural disasters cause higher traumatic stress on mental health. The reason behind this result is that natural disasters occur out of the human will and there is no escape from its occurrence; however, manmade hazards are based on catastrophic, controllable human decisions. Shaluf et al (2007) compared traumatic responses of victims of manmade and natural disasters. He found that the acceptance of natural disasters' uncontrollable feature serves as a protection towards psychological problems. The latter one is regarded as a type of never-ending disaster which threats an individual's well-being significantly.

Traumatic stressor can be defined as a life event perceived as distressing by almost anyone, and it stands out of the normal human experience (APA, 1987). A traumatic stressor is experienced as highly severe, chronic, disruptive, unexpected, and uncontrollable (Butcher et al, 2013). For instance, when people approach events as uncontrollable and unexpected, they are more likely to feel stressful (Evans & Stecker, 2004). In 2005, Gold et al conducted a large-scale study with 800 undergraduate students to explore the context of traumatic stressor.

Based on the ratings, %64 of students endorsed death or serious illness of a closed person, %14 of students chooses serious accidents and %13 of them decided natural disasters and assaults as traumatic stressors. When an individual face with a traumatic stressor, it is expected that he/she will experience traumatic stress and give a traumatic response – natural reaction to an abnormal event (APA, 2019). When the traumatic symptoms do not get better with time, they turn into the stress disorders like post-traumatic stress disorder.

2.2.2 Post-traumatic Stress Disorder. A traumatic event provokes not only fear and anxiety but also helplessness and hopelessness (DSM-IV, 1994). Post-traumatic stress disorder is developed after a very distressing, frightening, and prolonged traumatic experience. According to the DSM-V, individuals show persistent intrusive symptoms consist of distressing memories (DSM-V, 2013). They have a constant fear of remembering unpleasant memories that reach to the awareness, repeatedly. People with PTSD have impaired capacity to integrate coherent memories of traumatic events, and they re-experience the event through flashbacks, nightmares, and intense emotions (Van der Kolk et al, 2012). They also try to avoid any kind of thoughts, feelings and behaviors related to the event by organizing their life out of the traumatic reminders (Van der Kolk & Ducey, 1989). They may refuse to talk about the event, block their minds through alcohol or substance consumption, or avoid places and people that may serve as reminders (Schiraldi, 2009). In one sense, they may feel psychic numbing which is characterized by losing normal affect and emotional responsiveness (Wilson et al, 2013): "*To feel nothing seems to be better than feeling irritable and upset*" (Van der Kolk et al, 2012, p. 12). Later on, people with PTSD suffer from negative alternations in their cognition and mood (Butcher et al, 2013). Their negative affect consists of subjective distress, anger, contempt, and guilt (Watson & Clark, 1984) After experiencing negative affects in a continuum, they begin to have an influence in the cognition level. In fact, these people acquire a negative view of their selves, intense introspection, and an attentional

bias towards only the negative aspects of what happened (Noguchi et al, 2006). Dunmore (1999) claimed that appraisal of the event has a major impact on both development and maintenance of post-traumatic stress disorder. Especially, how individual appraisals the event, post-symptoms, coping strategies and global beliefs have an important role in understanding the disorder.

Lastly, PTSD cause extreme arousal and reactivity when the individual encounters with an internal or external trigger due to the sensitized nervous system (Schiraldi, 2009). When individuals feel arousal extremely, then they have trouble with sleeping, irritability, hypervigilance, difficulty with concentrating, and exaggerated startle response. Their chronic sleep disruption is related to repeating nightmares (Germain, 2013). Their emotional regulation problems with irritability and anger outburst are sourced by perceiving life events as threatening and malevolent (Castillo, 2002). Similarly, hypervigilance makes individuals more prone to focus on potential threats and make attentional bias (Kimble, 2014). Archibald and Tuddenham (1965) studied veterans on a project with 20-year follow up, and they found that PTSD impairs not only concentration but also memory. Also, these people become easily frightened by unusual stressors due to the sensitized nervous system (Schiraldi, 2009). When these symptoms maintain more than 1-month, they are diagnosed as post-traumatic stress disorder according to DSM-V.

2.2.3 Risk Factors. There are different risk factors playing a role in experiencing a trauma and developing PTSD. In other words, all the people experiencing trauma will not develop post-traumatic stress disorder. In fact, almost %90 of the people has experienced at least one traumatic event in their lifetime. However, only %8 of the people develops post-traumatic stress disorder (Kilpatrick, 2013). The individual risk factors based on socio-demographic characteristics are being men, young, less-educated, minority and inner-city resident (Breslau et al, 1998). Neurotic or extraverted people are more likely to expose

traumatic events and having preexisting psychiatric disorders increase the risk too (Breslau et al, 1995). On the other hand, the commonly found risk factors of PTSD are having a psychiatric disorder, childhood trauma and a family with psychiatric history (Brewin, 2000). Regarding the psychosocial factors, lack of social support and exposure to additional life stressors crease a stronger pathway to PTSD (Vogt, 2007).

2.2.4 Impact of Trauma on Mental Health. Exposure to trauma has a detrimental effect on mental health. A severe trauma impairs an individual in cognitive, emotional, physical, and social levels. Cognitively, people begin to ruminate and make self-recrimination about the event (Schiraldi, 2009). Individuals develop shattered world assumptions which makes them to perceive world as benevolent and uncontrollable, and self as unworthy. In fact, there is a bidirectional relationship between having negative cognitions and PTSD: Negative cognitions trigger the development of post-traumatic stress disorder but at the same time, people with PTSD are more likely to develop the dysfunctional thoughts (Dekel, 2013). Secondly, PTSD impairs an individual emotionally. The common emotions felt by these individuals are guilt, shame, hopelessness, excessive worry, angry, disgust or hostility (Schiraldi, 2009). For instance, an intense sadness can be followed by a traumatic grief, anger outburst can be sourced by combat stress, or a feeling of disgust can be led by fatal accidents (Dalgleish and Power, 2004). There is a vast literature on the comorbidity between PTSD and disorders of depression (Heptinstall, 2004; Momartin, 2004), anxiety (Etkin, 2007; Warshaw, 1993) and substance-abuse (Najavits, 2002; Brown, 1996). As a physical side effect, people with PTSD usually complain about somatic pains. If they cannot express their traumatic experience verbally, then traumatic stress expresses itself through body (Schiraldi, 2009). They may have chronic pain, hypertension, hypochondriasis, exhaustion, or gastrointestinal disturbances. The immune system is negatively influenced by bad health habits (substance-abuse, smoking etc.) and psychosocial factors (sleeping deficits, less social support etc.) (Stam, 2007). As a result

of this, these individuals have a poorer physical health compared to non-traumatized people (Schnurr & Green, 2004). In the social level, traumatic events have a detrimental effect on both attachment behaviors and social relationships (McFarlane and Bookless, 2001). These individuals suffer from feeling lack of empathy, irritability, and emotional detachment. Individual's loss of social contact leads to heat the conflicts among family members or friends. The source of the interpersonal difficulties lay down in the traumatic memories that leads to the avoidance patterns of behavior (McFarlane & Bookless, 2001). Therefore, it is very challenging for them to form or maintain intimate relationships clear from any negative emotionality (Escobar et al., 1983). In brief, post-traumatic stress disorder has a major impact on both physical and mental health.

2.3 Social Support

2.3.1 Definition In 1253, Aristotle wrote in his book that humans are social animals which cannot live alone. Through history, social relationships have been always playing the central role in human life. Therefore, social support has been a widely studied term across different social science fields. It can be defined as a subjective perception of being loved, valued, and cared by one's surroundings (Wills, 1991). This term is linked with other significant concepts like social network and social integration (Berkman & Glass, 2000). Social integration refers to the social ties bonding one to another, and social network describes the complex web of social relationships in an individual's life (Heaney & Israel, 2008).

2.3.2 Types of Social Support. Social support is also conceptualized as either functional or structural (Cohen et al., 1985). Structural support discovers the construction of the social network, connections among relationships and extent of the network by social integration (Rodriguez & Cohen, 1998). It measures not only the existence of spouses, friends, families, or social groups but also the size of these embedded connections. On the other hand,

functional support inquires if there are available potential resources coming from interpersonal relationships (Rodriguez & Cohen, 1998). There are different forms of social support: instrumental, emotional, informational and appraisal. Firstly, instrumental social support refers to providing tangible and concrete assistance to the person in need (Taylor, 2011). It helps people to achieve their goals or finish their tasks (Boutin-Foster, 2005). Secondly, emotional social support can be described as expressing warmth and nurturance to the individual through talking, listening, and empathizing (Zellars & Perrewé, 2001). It leads a feeling of being loved, worthy and secure (Barrera et al., 2004). Hence, intimate relationships use emotional support to build health interactions (Barrera & Ainlay, 1983). On the other hand, informational social support reveals itself when an individual is given a range of suggestions, potential costs, and benefits to fully understand the situation (Taylor, 2011). In general, people ask more informational support from experts than close friends and family. Finally, appraisal social support includes not solving a problem but using information that is fitting best to self-evaluation (Langford et al., 1997) In other words, people use feedback and affirmation for their situations. They may communicate their expectations, share their evaluations and benefit from different world views (Mitchell & Trickett, 1980). Hence, people are more likely to perceive, instrumental and appraisal support from close friends, informational support from teachers and employers, and emotional support from family (Malecki & Demaray, 2003).

2.3.3 Social Support Models. Despite there are many theories on social support, the well-known three theories are stress-buffering model and direct effect model (Cohen & Wills, 1985). The stress-buffering model claims that social support protects people's mental health against stressful events (Rodriguez & Cohen, 1998). Individuals make more adaptive appraisals towards stressful events if they perceive social support from their surroundings. Therefore, they are more likely to believe that they can actually cope with adverse

consequences (Rodriguez & Cohen, 1998). It does not only moderate physical but also emotional subjective well-being of the individuals (Ducharme & Martin, 2000). On the other hand, direct effect model is developed to demonstrate that social support always facilitates one's well-being regardless of exposure to stressors (Rodriguez & Cohen, 1998). Social relationships already have a positive impact on well-being independent from adverse events. Social support directly influences functioning, distress level, internalizing symptoms, psychopathological responses, interpersonal relationships, and self-worth (Graham & Barnow, 2013). One study found that perceived social support from family and friends have a direct influence on well-being regardless of the adverse events. In the case of stressful events, partner support has a buffering effect on one's well-being (Graham & Barnow, 2013).

2.3.4 Individual Differences. Besides the central importance attached to social support, there may be some individual differences on the role of social support. Regarding genders, females are more likely to perceive social support from others compared to males (Malecki & Demaray, 2003). A study on married couples shows that it does not differ how partners show their support to each other but it makes a difference when they provide it (Naff & Karney, 2005). It is found that wives are more likely to show support if husbands experience a great level of distress. Consistent with the stress-buffering theory, positive support may protect a partner from the negative effects of the stressful life events when the partner himself is not the reason of stress (Naff & Karney, 2005). In addition to gender, there is also a developmental trajectory amongst the age groups. From the beginning, children tend to perceive their parents as top social support providers (Malecki & Demaray, 2003). As they grow up, friends enter their lives as emotional support sources. In fact, if socially competent children perceive one part of their life is supportive, it is highly likely that they perceive other life settings as supportive, too (Dubow & Ullman, 1989). Given adolescence is a harshly complex period, the emphasis shifts from parents to peers, and lack of socioemotional or instrumental support

may lead to internalizing symptoms (Helsen et al., 2000). Interestingly, support from spouse is more predictive for other partner's well-being in young adulthood compared to other sources of social support. At the end of the timeline, older adults are again lean on their friends due to the loss of one's spouse (Walen & Lachman, 2000). Hence, it is quite possible to discuss certain personal attributions as facilitators of acquiring social support. As mentioned above, social competence is effective on largening the network size. In fact, it leads people to feel less social anxiety, loneliness, and depressive symptoms (Taylor, 2011). In 2005, Landers and Dehle found that emotional stability and conscientiousness are determiners for the type of social support whereas Lakey and Scoboria (2005) underlined the role of extraversion and self-esteem.

2.3.5 Social Support and Health. There are numerous studies on how social support enhance both physical and mental health. In 1979, Berkman and Syme did large-scale research on American citizens to show that social relationships strengthen the ties and hence, increase life longevity. In the context of physical health, it empowers immune system to protect body against illness (Taylor, 2011). Familial support may produce good health habits such as non-smoking, less drinking and a nice diet. In this way, individuals get away from health-damaging behaviors (Berkman & Glass, 2000). The broad model depicts that both behavioral and psychological processes have a mutual effect on each other. Their combining effect leads to health-promoting behaviors; as a result of this, there is a lower rate of disease morbidity and mortality (Uchino, 2006). They do not only catch diseases but recover quickly (Strazdins & Broom, 2007). In a psychological manner, social support is significantly associated with how individuals appraise, feel, and think (Barrera, 2000). Individuals feel being loved and cared by others, so it contributes the sense of belonging. Empathy is the heart of social support; therefore, it motivates people to give emotional support to each other (Strazdins & Broom, 2007). To sum up, experiencing more positive emotions, engaging with

health-promoting behaviors, and extending social relationships have a great impact on mental health.

2.3.6 Social Support and Resilience. As stated, social support is fundamental for psychological and physical health. Extended social networks protect individuals from engaging unhealthy behaviors; in fact, they encourage individuals to use active coping mechanisms against stressors. Consequently, they are more likely to be resilient towards adversity (Migerode et al., 2012, Ozbay et al., 2007).

From a developmental perspective, social support improves child resilience by enhancing parent and child interaction (Armstrong et al., 2005). Parents feel more hope (Horton & Wallander, 2001), less stress (Wilks & Croom, 2008), do not show violence (Eisman et al., 2015), protect their children to develop internalizing symptoms (Mastoras et al., 2018), and mentor them carefully (Day, 2006). Resilient adolescents feel less academic stress (Wilks, 2008), more problem-solving skills (Li et al., 2018), and better coping strategies (Mai et al., 2021) in a supportive environment.

Resilience and social support also contribute advanced emotion regulation skills (Cai et al., 2007), sense of belonging (Nowicki, 2008), self-efficacy (Narayanan & Weng Onn, 2016; Nowicki, 2008), optimism (Sabouripour & Roslan, 2015), and life satisfaction (Achour & Nor, 2014). They protect individual against traumatic stress (Pietrzak et al., 2010), depressive symptoms (Pietrzak et al., 2009), psychological distress (Zhang et al., 2018), Covid-19 anxiety (Mai et al., 2021), or other mental health problems (Peng et al., 2012).

2.4 Emotion Regulation

2.4.1 Emotion. The word of "emotion" is derived from a French word, *émouvoir* which means "to move". The source of this word comes from another Latin word of *movere,* which has a meaning of "to transform" and "to stimulate". It can be inferred that somehow this

word's roots stand on a movement of the psychic life (Doerr-Zegers, 2016). Although there is an enormous literature on the role of emotion in any field of life, there is still presenting discrepancy about a definition of this construct. It has been considered as a state of physiological arousal (Schacter & Singer, 1962), mental experience with somatic signals (Cabanac, 2002) or acute experiences of fear, joy, surprise etc. (Larousse Dictionary, 1990). In a neuropsychological sense, emotion can be basically a result of nervous activity (Dantzer et al., 1996). After an inquiry on the definition of this concept, Cabanac (2002) finally explained emotion as a mental state with high intensity and hedonic experience.

As an in-depth analysis of basic universal emotions, Paul Ekman's works were groundbreaking. He used the term of "basic emotions" to distinguish emotions regarding their characteristics such as appraisal, behavioral manifests, psychological responses, or antecedent events (Ekman, 1999). In addition to the term of basic, he also explained them by their universal aspects. In this context, universal emotions are acquired by social learning for all members of the species regardless of their cultural background (Allport, 1924). Hence, Ekman believed that emotions' function is to serve as a quick, adaptive response to interpersonal encounters, and it is based on past activities (Ekman, 1999). He proposed that basic emotions distinguish from one another by having different universal meanings (Ekman, 1984), physiological features (Ekman et al.1999; Levenson & Friesen, 1983), distinctive antecedent events (Öhman, 1986), quick onset with brief duration (Ekman, 1999), subjective experience and any kind of thought or memories (Ekman, 1999).

2.4.2 Emotion Theories. Considering the ongoing debates on emotions, there are many theories widely accepted by different scholars. One of the most influential emotional theories is proposed by Ekman; namely, basic emotion theory (Gu et al., 2019). He proposed six basic emotions: Fear, anger, surprise, joy, sadness, and contempt (Ekman, 1992b). They have biological roots, psychological components, and behavioral manifestations (Ekman, 1992a).

Their fundamental role is to deal with life task in human life (Ekman, 1992b). While basic emotions theory embraces emotions as discrete entities, dimensional theory of emotion approaches them as an independent dimension (Bestelmeyer et al., 2017). To explain dimensional theory clearly, emotions can be considered in three different dimensions: pleasant-unpleasant, tension-relaxation, and excitation-calm. Every emotion has separate amounts of hedonic and arousal value (Scholsberg, 1954).

To sum up, emotion is a process of perceiving an event, attaching an importance, and then giving a proper reaction with a certain degree. On the other hand, emotion regulation is a modification of the process in generation of emotion and manifestation of the behavior (Campos et al., 2004).

2.4.3 Emotion Regulation. In 2008, Gross drew attention to the role of emotion regulation in several contexts ranging from social sciences to natural sciences. He defined emotion regulation as an automatic or controlled process of regulating the feelings, changing the emotional dynamics, and modifying the current state based on individuals' goals (Gross, 2008). The function of emotion regulation is to coordinate response systems towards an event. He distinguished intrinsic emotion regulation from extrinsic one by adjusting emotion of oneself or another (Gross, 2015). Additionally, people are motivated to down-regulate their negative emotions like sadness or upregulate them like happiness (Larsen, 2000). They may work on to change their emotional states' intensity (Smith & Kleinman, 1989), duration (Gable et al., 2004) or quality (Samson & Gross, 2012).

Apart from the definition of emotion regulation, it is appealing *why* these emotions are being regulated. The intrapersonal view claims that the process of emotion regulation aims to reach a desirable state such as feeling better, modulating expressive behavior, or hiding a negative feeling (Campos et al., 2011). People can suppress or modulate their expression regardless of the specific context. However, the relational view takes emotion regulation in a

context-specific perspective. In other words, the social context *matters* (Campos et al., 2011). The main function of this process is to manage conflicting goals instead of emotional states. An immediate pleasure can be given up to reach an important goal in the long run (Tamir, 2009). In this sense, people do not strive to choose present pleasure over displeasure; they try to balance between present concerns and long-term goal satisfaction (Tamir & Ford, 2009).

2.4.4 Emotion Regulation Theories. One of the well-known theories on emotion is the modal model of emotion (Gross & Thompson, 2007). The central of this theory is the sequence of situation, attention, appraisal, and the response (Gross, 2015). First, there must be a psychologically meaningful external or internal situation for the individual. Then, the individual gives his/her attention the event clearly. This attention leads to an appraisal of the event by attaching a meaning based on his/her goals. Finally, the sequence ends with a particular response that characterize the emotion (Moors et al., 2013). Over time, Gross (1998) proposed the process model of emotion regulation which took its roots from the modal model of emotion and followed its lead. The aim of this new model is to provide a fruitful basis for testing age differences and different stages in emotion regulation.

The first step in the process model of emotion is the situation selection, which is to choose actions which may provoke desirable emotions. Individuals are more likely to interact with helpful situations that enhance positive states (Jacobson et al., 2001), avoid negative emotional responses (Carstensen et al., 1999) and make an emotional impact (Gross, 2015). Secondly, individuals modify the situation in a purpose of changing its emotional effect, and it creates a new situation in return (Gross, 2015). Heckhausen and his colleagues view situation modification as an essential part of the adaption across the life span (Heckhausen et al., 2010). Next, attention deployment occurs when a person shifts his/her attention to change emotional response (Gross, 2015). For instance, people usually distract their attention away from the negative-emotion eliciting event. In addition to the attention deployment, cognitive

change means to modify appraisal about the event to alter the emotional response (Gross, 2015). It can be applied to an internal or external situation, and one of the most adaptive form is the cognitive reappraisal. It refers to change emotions by modifying the way of thinking (McRae et al., 2012). It does not only change many aspects of emotional responding (Gross, 1998) but also physiology (Jackson et al., 2010) and psychology (Johnstone et al., 2007). As the final step, response modulation can be explained as all kinds of efforts to change an emotion after it has been established. The well-known form of response modulation is suppression. It refers to the inhibition of verbal, behavioral or psychological parts of the aroused emotion because of the belief that these emotions are not acceptable (Luterek, & Heimberg, 2009; Spokas et al. 2009).

2.4.5 Emotion Regulation Strategies. Individuals modify their emotions to respond environmental demands in socially acceptable way (Campbell-Sills & Barlow, 2007). Through this emotion regulation process, they perform either adaptive or maladaptive strategies to alter the amount of emotional experience (Diamond & Aspinwall, 2003). Whereas the adaptive strategies are cognitive reappraisal and problem solving, the maladaptive ones are listed as suppression and avoidance (Aldao et al., 2009).

In 1998, Gross elucidated reappraisal as reforming positive interpretations on a stressful event to reduce native emotional states. A successful reappraisal includes up-regulation of the positive emotions whereas down-regulation of the negative ones (McRae et al., 2012). One kind of cognitive reappraisal is positive reframing, which is focusing the positive sides of an apparently negative situation (Folkman & Moskowitz, 2000). Another form is self-distancing, which refers to mentally step back to avoid sudden responses towards intense emotional life events (Ranney et al., 2016). In this way, one can see the big picture. Also, temporal distancing helps individuals to imagine the current stressful event from a view of distant future self (Ranney et al., 2016). Studies show that cognitive reappraisal is

associated with better psychological health (Troy et al., 2010), enhanced resilience (Folkman, 1997), better social relations (Gross & John 2003) and reduced emotional distress (Ranney et al., 2016).

Problem-solving is another adaptive strategy which means performing active attempts to change stressful events or results (Aldao et al.2009; Nolen-Hoeksema and Schweizer, 2009). Individuals make a brainstorming to create ideas to fix the problem (Aldao & Nolen-Hoeksema, 2012). D'Zurilla and Goldfried proposed social problem-solving model to describe problem-solving orientation and style as different dimensions in 1971. On one hand, the orientation is combined of cognitive and emotional aspects, and it is an either positive or negative reaction to the encountered problems. On the other hand, style is the actual behaviors or skills that one can perform to deal with problem. Problem-solving strategies reduce negative emotional states (Goldin et al., 2007), strengthen pain tolerance (Hayes et al., 1999), facilitate social relationships (Richards & Gross, 2000) and lowers the rate of depression or anxiety (Haugh, 2006).

In contrast to the adaptive strategies dealing with the situation, maladaptive strategies are the risk factors for developing psychopathology (Aldao et al., 2009; Nolen-Hoeksema and Schweizer, 2009). Suppression refers to inhibition of emotional or cognitive expressions (Brockman et al., 2016). Despite the efforts to decrease emotional expressions, it cannot provide any subjective relief (Gross, 2002). It intends to modify the external response but cannot deal with the internal emotional response (Dryman, 2018). Emotional suppression has a negative impact on adjustment (Nezlek & Kuppens, 2008), authenticity (Gross & John, 2003), self-esteem (Blalock et al., 2016) and life satisfaction (Gross & John, 2003).

Last but not least, avoidance causes to an array of psychological experiences due to the unwillingness to face with negatively evaluated emotions or cognitions (Hayes et al., 1996). It does not only increase negative thoughts but also dysfunctional behaviors (Wenzlaff

& Wegner, 2000). In 1987, Hayes claims that psychopathology is not the result of thoughts or feelings but suppressive and avoidant attempts. At first, immediate outcomes of avoidance seem positive; however, it raises the severity and frequency of the problems in long-term (Marx & Sloan, 2002). A repetitive cycle of avoidance brings problems in general psychopathology (Sloan, 2004), locus of control (Bond & Bunce, 2003), maladaptive compensatory behaviors (Heatherton & Baumeister, 1991) and substance abuse (Aldao et al. 2009; Nolen et al., 2009).

To sum up, emotion regulation skills include being aware of emotions, accurately labeling them, recognizing bodily sensations, successfully dealing with emotionally intense situations, modify negative affects, show resilience to distressing feelings and confront stressful life events (Berking et al., 2008). In this way, there is an improvement of well-being (Cameron et al., 2018; Smyth & Arigo, 2009), academic achievement (Davis & Levine, 2012; Graziano et al., 2007), mental health (Berking et al., 2008; Bernstein et al., 2020), anger-management (Miles et al., 2016), parenting practices (Rutherford, 2015; Zhang et al., 2021), impulse control (Fox et al., 2007), stress responses (Raio et al., 2013), interpersonal relationships (English et al., 2012; Rydell et al., 2007), self – efficacy (Aparicio et al., 2016) and resiliency (Bonanno, 2005; Çiçek, 2019; Kay, 2016; Scoglio et al, 2015; Yöndem et al., 2021). Due to the high amount of studies conceptualizes cognitive reappraisal as an adaptive and suppression is a main maladaptive strategy, this study emphasized these two emotion regulation strategies.

2.4.6 Emotion Regulation and Resilience. Positive emotions help individuals to broaden their thoughts, choose appropriate actions and benefit from supportive relationships (Fredrickson, 2001). Hence, resilient individuals are experts on using positive emotions at times of stress (Tugade & Fredrickson, 2002). Therefore, people who can regulate their positive and negative emotions are more likely to recover from an adversity – a pattern

resilient people usually demonstrate (Tugade & Fredrickson, 2006). They experience more positive emotions such as gratitude, love, optimism, and interest instead of any kind of sadness at all (Tugade & Fredrickson, 2006).

On the other hand, reappraisal, a form of emotion regulation, is associated to secure attachment. The reason behind this argument is that securely attached people are less influenced by stress because they are more likely to lean on their close relationships. Eventually, they become more resilient to stress (Karreman & Vingerhoets, 2012). Also, cognitive reappraisal adds another perspective to the certain situation; in this way, they can attach a realistic meaning to the event (Kay, 2016). Once an attribution has changed, then the pattern of emotion has also modified. The adaptive emotional reaction facilitates the resilience (Troy & Mauss, 2011).

To sum up, resilience links with cognitive reappraisal because these people have mental health, emotional well-being, self-enhancing humor, physical health, social connectedness, gratitude, good social control, and high hopelessness level (Carlson et al., 2012; Dolcos et al., 2021; Gooding et al., 2012; Kuhlman et al., 2021; Tabibnia and Radecki, 2018; Troy, 2012; Wills and Bantum, 2012)

2.5 Coping

2.5.1 Stress. Stress is an influential phenomenon that has been studied over different branches of science for years. It has been defined as a non-specific body response (Selye, 1956), stimuli that cause an adaptation (Homes & Masuda, 1974), imbalance between one's capacity and environmental demands (Cox, 1978), or just a psychological state of being disturbed (Houston, 1987). Currently, definition of psychological stress is more similar to Cox's definition, which is a perception of environmental demands as exceeding one's adaptive coping ability (Cohen et al., 2007). Just as appraisal plays a role in the regulation of emotions, it also takes a predominant part in cognitive process. In 1966, behavioral

psychologist Richard Lazarus underlined that it is not the event, but the appraisal of the circumstances leads an actual stress response. Therefore, when people perceive an event as a stressor, they feel negative emotions, manifest physiological symptoms, and demonstrate specific behaviors (Carver, 2011). In other words, an event is perceived as a threat in cognitive level. It triggers the emotional system, and the individual begins to feel alarmed, frightened, or extremely anxious. Then, it causes an increased blood pressure, escalated cortisol release and a downgraded immune system. Consequently, the individual may perform a fight or flight reaction. Eventually, stress leads to the coping process (Carver, 2011).

Throughout history, humankind faced with severe challenges ranging from natural disasters to deprivation of basic needs, physiological pain to psychological suffering. Despite the catastrophic threats, humans have an extraordinary capacity to overcome all these life circumstances (Moos, 2012). At this point, psychology world looks closer to the concept of coping. Understanding coping is seen as a key to understand subjective well-being and social functioning (Lazarus & Folkman, 1987).

2.5.2 Development of Coping. The coping skill develops throughout the lifespan. In childhood, there are many new forms of adverse events a child encounter. Studies on children's coping mainly based on how children react to specific stressors in a behavioral, emotional, and cognitive manner (Skinner & Zimmer-Gembeck, 2007). Particularly, their temperament and parental practices have a determining role on the development of coping skills. The temperament is not only influential for stress response but also the choice of coping style. Regarding the individual differences, it should be noted that self-efficacy beliefs, environmental sensitivity, inhibitory nature, and self-esteem affects the coping skills (Compas, 1987). To understand children's coping clearly, one must include the importance of their social context with family members. Caregivers who follow age-appropriate behaviors help their child to cope with adversity successfully (Skinner & Zimmer-Gembeck, 2007). In

adolescence, stressors are usually going around the interpersonal difficulties with family members, friends or romantic partners (Frydenberg & Lewis, 2000). Boys cope with stress by distracting their attention with physical activities whereas girls use more passive distraction such as reading or talking with friends. Hence, adolescents use adaptive or maladaptive coping based on the context. Situations that are perceived as less controllable, intensely stressful, and socially not supported are more likely to cause distractive coping partners (Frydenberg & Lewis, 2000). From youth to adulthood, the working memory which provides a solid base for cognitive abilities to retain goals continues to improve (Evans et al., 2016). Therefore, adults are more likely to engage with searching for solutions. Also, their important life decisions like marriage or bearing a child allows an increase in family size, and social support as a coping resource changes its direction from peers to new family members (Scabini et al., 2006). In general, it can be assumed that coping developmentally improves as learning ability is progressed, motivational efforts are shown, and interdependent relations are established (Leipold & Malkowsky, 2018).

2.5.3 Coping Models. Coping refers to successfully dealing with an adverse event by removing it or decreasing its harmful effects (Carver, 2011). Individuals feel having a sense of control over mental integrity (Broom & Johnson 1993). In 1987, Lazarus and Folkman propose a transactional model of stress and coping to show that coping includes not only behavioral aspects but also cognitive patterns. First, people make primary appraisal of the stressful event by evaluating its challenges, threats, and damage. Then, secondary assessment takes a place when they determine how to manage this stressful event. Finally, a coping strategy is formulated to deal with the threatening event (Beutler et al., 2003).

Coping performs in three different levels: individual, social, and communal (Afifi et al., 2006). Individual coping means that a person takes the full responsibility and deals with the stressor by himself. Social coping occurs when a group of people have a mutual

understanding of a shared problem, but they take action to solve it separately. Communal coping, on the other hand, is related to cooperative work to solve a common problem. Therefore, different forms of coping depend on the appraisal of both problem and solving strategy (Rossetto, 2015).

2.5.4 Coping Styles. In 1984, Lazarus and Folkman made a detailed analysis of psychological terms in their book, *Stress, Appraisal and Coping.* They proposed that coping strategies are distinguished by their characteristics of being either emotion-focused or problem-focused. First of all, emotion-focused coping aims to reduce emotional distress of the event to maintain optimistic view. The strategies can be avoiding the event, minimizing the importance or distancing oneself (Lazarus & Folkman, 1984). Positive emotion-focused coping is related to relying on others' emotional support whereas negative emotion-focused strategies include constant blaming, showing hostile behaviors, and persistently complaining (Chen et al., 2017).

There is a disagreement on whether emotion-focused coping has more beneficial or detrimental effects on well-being. In the positive continuum, emotional-coping may increase insight to begin a causal thinking chain (Baker & Berenbaum, 2007), search for emotional support and buffering emotional distress (Noh & Kaspar, 2003). However, the negative continuum is more likely to written by studies. They show that it may lead avoiding the reality (Lazarus & Folkman, 1984), worsening internalizing symptoms (Baker & Berenbaum, 2007), increasing negative feelings (Chen et al., 2017), less perceived control (Folkman & Greer, 2000) and decreasing psychological adjustment (Allen & Leary, 2010). Therefore, it is accepted as a maladaptive coping strategy.

On the other hand, problem-focused coping detects the problem, search for solutions, weight the costs and benefits, and perform a behavior accordingly (Lazarus & Folkman, 1984). It does not only focus on outward but also inward strategies such as changing

aspirations, finding another source for gratification or learning new ways (Lazarus & Folkman, 1984). Problem-solving aims to reduce the detrimental effects of a stressor that leads negative emotional responses (Herman & Tetrick, 2009). People can modify the situation by showing more efforts, taking necessary actions, and changing the viewpoint (Chen et al., 2017). It should be noted that how individuals appraise their problem-solving skills influence their both performance and process (Heppner et al., 2004). Moreover, children socially learn by modeling their parents' coping strategies. When a parent approach a situation in a problem-solving manner, the child is more likely to feel self-confident and show both social and behavioral adjustment (Heppner et al., 2004).

At the positive side, problem-focused coping leads a satisfaction sourced by social support (Sarid et al., 2004), decline in mental problems (Brown et al, 1987; Heppner et al., 2004), self-efficacy (Parto & Besharat, 2011), lack of hopelessness (Heppner et al., 2004), less alcohol abuse (Bandura, 1977), better emotion regulation skills (Por et al., 2011), personal growth (Loukzadeh & Bafrooi, 2013), and resilience (Hamill, 2003; Kitano & Lewis, 2005; Leipold & Greve, 2009; Steinhardt & Dolbier, 2008) Therefore, problem-focused coping has been largely found as an adaptive coping strategy.

Finally, avoidant coping occurs when an individual disregards the emotions, withdraws behaviors and disengages mentally with the situation (Carver et al., 1989). These individuals focus only on the distressing parts of the event, does not show effort to solve the behavior and ignore the stressor itself (Chao, 2011). Especially, when there is a great emotional hardship, people are more likely to deny its reality (Budge et al., 2012). They do not rely on social support but isolation (Ben-Zur, 2009). A study found that the common avoidant strategies used by college students are surfing in internet, sleeping, text-messaging, complaining the situation without any direct action and watching tv shows (Sideridis, 2008).

Avoidant coping is related with negative consequences such as worsening social support (Chao, 2011), developing internalizing symptoms (Seiffge-Krenke & Klessinger, 2000), increasing traumatic responses (Krause et al., 2008), negatively affecting mental health (Iwamoto et al., 2010) and leading negative social interactions (Dunkley et al., 2006). It is found that avoidant coping increases the perceived stress and decreases the life satisfaction (Ryan, 2013). Thus, avoidant coping is a maladaptive coping strategy.

It is commonly found that traumatic stressful events are serious risk factors for developing maladaptive coping styles (Heppner et al., 2004). It may be the reason that emotionally strong traumas like incest (Reis & Heppner, 1993) or alcoholism (Sher, 1991) may intervene the problem-solving process. It has been commonly found that both emotion-focused coping and avoidant coping are maladaptive coping styles. They make an individual more likely to engage in harmful behaviors (Carver, 2011), feel lonely, depressed, and anxious (Kochenderfer-Ladd, 2004), drink alcohol or engage in binge eating (Holton et al. 2016) and feel higher levels of stress (Dolbier et al., 2007).

On the other hand, problem-solving is an adaptive coping strategy. People are more likely to seek advice and resolve conflicts (Kochenderfer-Ladd, 2004). They make a realistic appraisal by weighting costs and benefits to find the optimal solution, and this process carefully requires consideration of what environment demands and what coping resources individual has (Lazarus & Folkman, 1984). It promotes healthy behaviors (Carver, 2011), expressive communication with others (Holton et al. 2016), and emotional well-being (Zhou et al., 2010). Kirby and his friends (2011) studied over post-traumatic responses of emergency medical technician. They found that individuals who use adaptive coping are less likely to suffer from intrusive thoughts, hyperarousal, and rumination. On the contrary, they create constructive thoughts about the event which leads a dramatic rise in positive functioning, resilience, and adaptation.

2.5.5 Coping and Resilience. It has been consistently found that stressful life events lead both mental and somatic issues in youth; however, resilient children and adolescents can overcome developmental hazards (Smith & Carlson, 1997). Some personal attributions are reflected by resilient children such as self-efficacy, high cognitive skills, and easy temperament (Garmenzy, 1991). These personal traits allow them to cope with adversity more effectively; in other words, children perceive themselves as competent to cope with life problems (Barbarin, 1993). An interesting study on children of mentally ill parents concludes that resilient children have an outstanding awareness, ability to express difficult emotions and learn adaptive coping practices (Pölkki et al., 2005). On the other hand, adolescents who use problem solving as a primary coping mechanism are more likely to be competent, satisfied with life and physically healthy as an indicator of resilience.

Resilience and adaptive coping styles intersect with each other. Resilience is negatively associated with avoidant coping mechanisms which leads to social withdrawal and denial. On the contrary, problem-focused strategies predict resilience (Mayordomo et al., 2016). Resilient people use problem-solving skills to face with their fears, express social competence, and experience mainly positive feelings (Thompson, 2018). They have internal locus of control, acquire a sense of humor, know relaxation techniques, feel connectedness, show better performance, seek to get something good out of the situation, enhance their sense of mastery and build supportive relationships with others (Caroli & Sagone, 2014; Docena, 2015; Glennie, 2010; Hobfoll et al., 2007; Mayordomo et al., 2016; Parker et al., 2015; Santos & Soares, 2018; Warchal and Graham, 2011)

CHAPTER 3

METHOD

This chapter provides information on demographic characteristics of the participants, procedures, and the measures of the study.

3.1 Participants

Population sample consisted of individuals from Turkey who are over the age of 18 years. The study group of this research was consisted of 314 participants aging between 18 – 65. 107 of them were male (%34) and 207 of them (%66) were female. The inclusion criteria of this study were, a) being over 18 years old, b) being literate, c) having Turkish nationality, d) having proficiency in the use of computers to fill online measures, and e) having no mental disability. Demographic statistics of the participants were presented in table 1.

Table 1

Demographic Statistics of Participants

Sample Characteristics	n	%
Gender		
Female	207	66
Male	107	34
Marital status		
Single	74	23,6
Married	148	47
Divorced/ Widowed	16	5
Age group		
18-24	97	31
25-34	61	19,4
35-50	43	13,7
50-65	85	27
65+	28	9
Income Group		
Low	54	17
Middle	109	34,7
High	151	48
Highest educational attainment		
Middle school	3	1
High school	39	12
University graduate degree	201	64
Postgraduate degree	71	22,6
Psychiatric diagnosis	37	12
Neurological diagnosis	13	4

As it was summarized in Table 3.1, a total of 318 adults were participated. In this study, %66 of the participants was female whereas %34 were males. Most of the participants (%31) were in the 18-24 age group. According to the income levels, it can be said that half of the sample constitute the high-income group (%48). It is a highly educated group regarding the highest educational attainment is either graduate or postgraduate degree (%86,6). Lastly, most of the participants have no previous psychiatric or neurological diagnosis (%84). Participants were selected through convenience sampling; they were at least 18 years old and elementary school graduates.

3.2 Procedures

Participants were selected through convenience sampling; they were at least 18 years old and elementary school graduates. As a research technique, online survey method was used.

Most of the participants were gathered by directly sending the online survey link, and others were recruited from several sources such as social media tools, mail groups and website with an online link. All questionnaire was distributed with online survey link to participants rather than paper-pencil battery. Before the survey questions were given to the participants, informed consent form was requested from the participants and the ethical principles were clearly stated in this form. Then, they were asked to complete the questionnaires consisting of one demographic form and five scales individually. Based on the power analysis by G-power 3.1.9.7. program, it is assumed that effect size (f^2) is .47 [α error probability = .05; power (1- β error probability) = .95] according to the research by Malkoç and Yalçın (2015). Our analysis for 3 predictors is rendered a small sample size of 41 participants (Critical F: 2.85, numerator df = 37, denominator df = 37). However, our sample size included 314 participants to increase both validity and reliability of the study.

3. 3 Measures

There were six instruments used in this research. The first instrument is the socio – demographic form, and it aims to provide information on demographic information and psychiatric condition. The other instruments were Traumatic Stress Symptom Scale, Coping Strategy Indicator, Multidimensional Scale of Perceived Social Support (MSPSS), Emotion Regulation Questionnaire (ERQ) and Resilience Scale for Adults.

3.3.1 Traumatic Stress Symptom Scale. Traumatic Stress Symptom Scale was developed by Başoğlu and his friends in 2001. There were several trauma scales provided to combat veterans; however, there was also a need for assessing trauma severity of civils. Considering a variety of traumatic symptoms attached to natural disasters, Başoğlu et al (2001) conducted a study on earthquake survivors in 1999 to develop a new trauma-specific and culturally specific instrument.

A group of 130 earthquake survivors took a place in the study. The sample characteristics were mainly based on being exposed to earthquake intensely, showing traumatic symptoms and experiencing disaster-related devastation. The psychometric purpose of this study is to assess validity and reliability of the newly developed scale.

In the development, not only DSM-IV criteria for post-traumatic stress disorder but also depression is used. It has been observed that a high majority of survivors also show depressive symptoms comorbid to PTSD. The trauma items measure the PTSD symptoms in general while depression items focus on depressed mood, loss of interest, suicidal ideation, sense of hopelessness and helplessness.

The self-report is based on 23 items (e.g., Yaşadığım olayla ilgili bazı anıları /görüntüleri aklımdan atamıyorum, Yaşadığım olayla ilgili sıkıntılı rüyalar görüyorum) in a 4-point Likert scale. The item scores are ranging between 0 and 3, and 0 means “slightly”

whereas 3 means “fairly”. The scale rates the severity of traumatic symptoms. The first 17 items reflect post-traumatic stress disorder symptoms as a sub-dimension of the scale. The last 6 items are provided to measure depressive symptoms as a second sub-dimension. The total score above 25 indicates that the participant shows symptoms related to post-traumatic stress disorder. First, a time frame of one week is selected to measure acute stress symptoms. Later, the time frame extended to one month. The screening instrument took an average of 15 minutes to complete.

Reliability analyses are conducted. All three analyses yielded satisfactory alpha values, .94, .92, and .84, respectively. In the analysis of items, strongly predictive item for PTSD diagnosis was found as avoidance of trauma-related situations. Avoidance behavior is strongly associated with other anxiety disorders (Başoglu et al., 1994) The psychometric results show that a diagnosis based on the total scores yield higher sensitivity of 81 and specificity of 81. Hence, Traumatic Stress Symptom Scale is developed as a culturally relevant scale. Cronbach’s alpha internal consistency was found as .92 in this study.

3.3.2 Coping Strategy Indicator. The Coping Strategy Indicator was developed by Amirkhan in 1990. The fundamental motive for him to make research on coping strategies is that the previous results cannot be generalized to the general population. This scale intends to identify coping dimensions people use when they encounter with stressful life events.

As the developmental stages of the inventory, the first phase consisted of finding the dimensions derived from Amirkhan’s study in 1984. They were firstly considered as behavioral vs, cognitive, active vs. passive, instrumental vs. palliative and self – reliant vs. reliant on others. These dimensions mainly reflect the approach and avoidance strategies (Roth & Cohen, 1986). The questionnaire requested a description of a stressful life event, and there were 161 items based on a 3-point Likert scale. “A lot” was equivalent to 3 whereas “not at all” was equivalent to 1. In this study, questionnaires were randomly distributed to a

total of 357 people. In the second phase, number of the items were dropped from 161 to 63. A total of 520 participants have been reached. Three dominant factors have been found as an explanation of the majority of variance; namely, problem – solving, avoidance and seeking support. In phase 3, item numbers were revised as 36 and sample size was enlarged to 954. The previously found three dimensions continue to keep their positions as a description of coping across different stressors and samples. In the final version of the inventory, psychometric power of the measure has been tested. The item number was finalized as 33 to represent all three dimensions (e.g., Duygularınızı bir arkadaşa açtınız?, Ne yapacağınıza karar vermeden önce bütün olası çözümleri aklınızda tartışınız?). Cronbach's alpha coefficient indicated high internal reliability for Seeking Support (α =.92), Problem Solving (α =.89), and Avoidance (α =.83). On the other hand, test – retest was made in the first application and then, second application after 4 – 8 weeks. Pearson coefficients for the Problem Solving scale were .83 and .77, for Seeking Support were .80 and .86; and for Avoidance were .82 and .79. It indicated a good overall reliability score of .82 and .81.

In Turkey, Aysan firstly reviewed the coping strategies in 1994. She stated that when an individual encounters with a stressful life event, she or he uses different coping strategies based on which stage of the stressful life event she/he experiences at that moment. Therefore, the timing of filling scale must be taken into the consideration to increase external validity (Aysan, 1994). In 2003, Aysan aims to develop the Turkish form of Coping Strategies Indicator. Firstly, she reviewed the psychometric soundness of the form. Then, she compared English and Turkish versions of the questionnaire to measure any different result due to the language. Regarding the characteristics, she used Turkish form which consists of 33 items which are 3-Likert type measurement and items are graded between one and three which are “Not at all” is equivalent to point 1 and “A lot” is equivalent to point 3. It has three sub-dimension of problem – solving, seeking support and avoidance. Maximum obtained grade of

this inventory is 33 and minimum obtained grade is 11. Besides, higher score from the inventory indicates higher usage of this coping strategy. The sub – dimensions are independent from each other; so, there is no correlation among them. This inventory has relatively a high reliability and validity. The internal consistency scores for seeking support dimension is .92, for problem – solving dimension is .89 and for avoidance is .83. Moreover, Aysan made test – retest in first application and the second application after 2 weeks to see consistency of scores in time.

Also, Aysan compared the Turkish forms and English forms in students to see if there is discrepancy between answers due to the language. The total sample of participants were 118 high – school and university students, aging between 16 and 25. She found that there is no statistically significant difference between original form and Turkish form of the Coping Strategies Inventory. In other words, the language compatibility has been tested and results were found as satisfactory. It can be safely concluded that current coping strategies measures are compatible to this inventory. In this study, Cronbach's alpha internal consistency was found as .90.

3.3.3. Multidimensional Scale of Perceived Social Support (MSPSS). Social support is perceived as an extremely important concept for psychology literature. There are many attempts to demonstrate the role of social support on promoting mental health (Berkman and Syme, 1979; Berkman & Glass, 2000; Taylor, 2011; Uchino, 2006) Therefore, Zimet et al. (1988) developed Multidimensional Scale of Perceived Social Support (MSPSS) to measure social support. This instrument focuses on the subjective assessment of received social support from friends, family and significant other.

Sample size is consisted of 275 undergraduate students (M = 18.6). there are 24 items in the self-inventory to measure social relationships with friends, family and a significant other (e.g. Ailem (örneğin, annem, babam, eşim, çocuklarım, kardeşlerim) bana yardımcı

olmaya çalışır, Sorunlarımı ailemle (örneğin, annem, babam, eşim, çocuklarım, kardeşlerim) konuşabilirim.). The following areas are investigated: Social popularity, respect and perceived social support. Type of the questionnaire is 5-point Likert scale where 1 means strongly disagree and 5 corresponds to strongly agree. After the factor analysis, some items are excluded, and total number of items are reduced to 12. Then, 5-point Likers scale is changed with 7-point Likert scale to increase response variability (1 = Very strongly disagree; 7 = Very strongly agree).

In the psychometric characteristics, internal reliability is found high for significant other (α =.91), family (α =.87) and friends (α =.85). The reliability of the total scale was .88. 67 of the subjects were participated to test – retest reliability check after a couple of months, and test – retest reliability is found as .85 in total. Adequate construct validity was demonstrated in significant correlations between social support and depression and anxiety. Therefore, it can be said that a good internal reliability has found over time. Due to the homogenous sample, a further study by Zimet et al. (1990) conducted to investigate psychometric properties and factor structure. This time, three different sample groups have been used: There are a group of pregnant women (N: 265), adolescents (N: 74) and pediatric residents (N: 55). So, the sample size consisted of 394 people. Compared to initial study (Zimet et al., 1988), higher levels of mean social support has been found. MSPSS demonstrated a higher internal reliability for family subscale (ranging from .81 to .90), friends' subscale (ranging from .90 to .94) and a significant other (ranging from .83 to .98). On the other hand, a good validity of .92 is found too. Hence, MPSS is a psychometrically sound instrument due to the high internal reliability and a strong factorial validity across different subject groups.

The instrument was adapted to Turkish by Eker and Arkar in 1995. They also test the internal reliability, validity and factor analysis. The total number of 346 participants filled out

the Turkish adapted questionnaire (146 university students and 200 psychiatric patients). However, they found a low correlation between depression - anxiety scales and a significant other. Another result is that psychiatric patients perceive less social support compared to university student group. The factor analysis is reliable and valid across different cultures. A further study is conducted by Eker, Arkar & Yaldız in 2001 to test the soundness of psychometric properties in revised MSPSS. They also investigate why a significant other subdimension was found as weak. Eker, Arkar & Yaldız (2001) suggested that the term of "a significant other" is not used widely in Turkey, so they defined this term clearly in the questionnaire (a significant other corresponds to girlfriend/boyfriend, fiancée, relative, neighbor etc.). The sample size was 150 participants in three different groups. The Cronbach alpha is ranged from .80 to .95. Their study showed psychometrically sound and similar factorial structure. In this study, Cronbach's alpha internal consistency was found as .91. To sum up, social support subdimensions are valid and reliable cross culturally.

3.3.4 Emotion Regulation Questionnaire (ERQ). Individuals use different strategies to take control over their emotions (Gross, 1998). The most common two emotion regulation strategies are called as cognitive reappraisal and expressive suppression. In this respect, Gross and John (2003) developed a new instrument as Emotion Regulation Questionnaire (ERQ) to indicate specific emotion regulation strategy. The subdimension of cognitive reappraisal measures whether individual regulate emotions by making a cognitive change. On the other hand, expressive suppression is related to inhibit emotion – expressive behavior by doing response modulation (Gross, 1998).

The questionnaire is made by 10 items (e.g., Daha fazla olumlu duygu hissetmek istediğimde (sevinç veya eğlence gibi) düşündüğüm şeyi değiştiririm, Stresli bir durumla karşılaştığımda, sakin kalmama yardım edecek şekilde düşünmeye çalışırım) in a 7-point Liker scale (1: Very strongly disagree and 3: Very strongly agree). The first 6 items measure

cognitive reappraisal subdimension whereas the last 4 reflects expressive suppression subdimension. In the first study, the internal reliability score is found .79 for reappraisal, .73 for suppression and .69 in both scale as test-retest result after 3 months.

The first study for assessing internal reliability and test-retest scores of Emotion Regulation Questionnaire is done by Yurtsever in 2008. A total of 228 undergraduate students filled out the questionnaire, and the questions translated from English to Turkish. There was a good internal reliability for both cognitive reappraisal (α =.85) and expressive suppression (α =.78). Additionally, test-retest reliability is computed after 4 weeks, and found .88 for cognitive reappraisal and .82 for expressive suppression. In 2011, Aka added item-total correlations and validity scores to Turkish adapted form of ERQ. The item-total correlations ranged between .47 and .73 for Cognitive Reappraisal subscale, .41 and .70 for Suppression subscale. However, the first study to test psychometric properties of ERQ in the context of classical test theory is conducted by Totan in 2015.

303 participants enrolled for the study (M = 21). The translation of the instrument is done. Factory analysis, reliability and validity analyses are conducted. The item-total correlations are good for both subdimensions (cognitive reappraisal score is ranging from .43 to .63 and excessive suppression is ranging from .33 to .43). The internal reliability score for cognitive reappraisal is found as .78 and excessive suppression as .71. Test-retest is implemented after 2 weeks on participants, and it is found as .67 for cognitive reappraisal and .65 for excessive suppression. According to the results, the coefficient for cognitive reappraisal is higher than excessive suppression, which is coherent with previous studies (Aka, 2011; Balzarotti, 2010; Yurtsever, 2008). In this study, Cronbach's alpha internal consistency was found as .78.

To sum up, emotion regulation questionnaire show strong psychometric soundness in Turkish form. Therefore, it can be safely used by different psychotherapy perspectives to measure emotional functionality.

3.3.5 Resilience Scale for Adults. Resilience Scale for Adults was developed by Friborg et al. in 2001. This inventory aims to determine essential protective factors for providing and maintaining a solid base for mental health. (Friborg et al., 2003). It consisted of 45 items with five sub-dimensions; namely, personal competence, social competence, family coherence, personal structure, and social support (Hjemdal et al., 2001). Personal competence dimension focuses on self; specifically, self-esteem, self-concept, and self-perspective. Social competence dimension measures extraversion, communication, and a happy mood. Personal structure dimension is related to organizational skills. Family cohesion dimension is connected to family conflicts and support. Finally, social support dimension is linked to internal and external support systems. The internal consistency was found as high in all sub-dimensions ($\alpha = 0.93$).

Later, Friborg et al. (2003) replicated the preliminary scale by 37 items (e.g., Beklenmedik bir olay olduğunda…her zaman bir çözüm bulurum/çoğu kez ne yapacağımı kestiremem, En iyi olduğum durumlar şu durumlardır… Ulaşmak istediğim açık bir hedefim olduğunda / Tam bir günlük boş bir vaktim olduğunda). Their study was applied on 289 people (59 participants in experimental group and 230 participants in control group). They found a high internal consistency ranging from .67 to .90, and test-retest correlations were found between .69 and .84. There was some sort of gender and age differences: Women' scores were higher in social support dimension whereas men got higher scores on personal competence. On the other hand, only personal competence dimension found as statistically significant with age. In the final version of the scale, Friborg et al. divide personal competence to perception of self and perception of future; so, there were 6 sub-dimensions in

the end. Their general conclusion is that people who have at least one psychiatric problem report fewer protective factors against maladjustment.

Turkish version of the scale was made by Basım and Çetin in 2011. Their study aims to reconsider the term of resilience including the environmental factors, and test reliability and validity of resilience scale for adults in Turkish population. In this study, university students (N:350) and employees (N:262) as two different samples were used to increase external validity. The current scale consists of 33 items which is a five-point semantic differential scale format. Each item had a positive and a negative attribute at each end of the scale continuum. The underlying reason of locating attributes in different ends is to reduce acquiescence biases. Regarding the data analysis, reliability analysis of the scale was made by test-retest reliability and Pearson correlation analysis. Internal consistency analysis for social competence (α =.82), perception for self (α =.80), perception for future (α =.75), family coherence (α =.86), social support (α =.84) and personal competence (α =.76) was done. Internal consistency analysis was found statistically high (α =0.86). Regarding the test – retest results, they were used to assess the relationship between first application and second application which was obtained three weeks later from first application. Test – retest reliability is found as social competence (α =.78), perception for self (α =.72), perception for future (α =.75), family coherence (α =.81), social support (α =.77) and personal competence (α =.72). Therefore, results indicate that this inventory is both reliable and valid for two different Turkish samples; namely, university students and employees (Basım and Çetin, 2011). In this study, Cronbach's alpha internal consistency was found as .91.

CHAPTER 4

RESULTS

The main purpose of this study is to explore the predictor variables of resilience; namely, cognitive reappraisal, coping style and perceived social support. It is firstly hypothesized that cognitive reappraisal, adaptive coping style, and perceived social support will predict resilience in individuals. To improve the understanding, it was firstly tried to analyze the demographic information of the participants and make preliminary analyses. Then, Pearson correlations and hierarchical regression analyses were conducted to test the relationship between predictor variables and resilience. Also, A Multivariate Analysis of Variance (MANOVA) and independent t-tests were performed to see the effect of demographic variables on resilience.

The second aim of this study was to investigate the role of predictor factors as mediators between resilience and traumatic experiences. Therefore, three mediation analyses were performed. These analyses were conducted to show the total, direct and indirect effects of trauma on resilience via perceived social support, cognitive reappraisal, and adaptive coping style of trauma on resilience via perceived social support, cognitive reappraisal, and adaptive coping style.

4.1 Data Screening

Before conducting the statistical analyses, the data used in this study was screened in terms of missing values and parametric test assumptions. There were no missing values in any of the scales or socio-demographic variables. Therefore, all the participants (N=318) were included into the preliminary analyses. Then, outliers are checked in the data set. To see univariate outliers, all the skewness and kurtosis values are checked among the study variables. Only resilience variable was not located between -1 and +1; therefore, this item converted to z-scores. Z-scores of the 4 participants were not included between -3 and +3; hence, they were removed from the data set. After excluding the outliers, the skewness and kurtosis values of resilience variable were founded between -1 and +1.

Next, the normality of resilience was assessed. The Shapiro-Wilk test indicated that the scores were not normally distributed, W (314) = 0.983, p = 0.001. According to the central limit theory, it is still possible to use parametric tests for not-normally distributed sample (Kwak and Kim, 2017). It claims that distribution of sample means will approximate a normal distribution if the sample size gets larger regardless of the population's distribution. The criterion is to have a greater sample size than 30, and there are 314 valid participants in this study. Therefore, parametric tests are used.

4.2 Descriptive Statistics

In the context of demographic variables; gender, age, marital status, income group, highest educational attainment, psychiatric and neurological diagnoses were explored. Due to the rare number of divorced and widowed participants, they were entered as single.

4.3. Preliminary Analyses

4.3.1. Correlational Analysis. To understand the direction and strength of the correlational relationship between the variables that were evaluated in this study, Pearson

Correlational Analysis was conducted. As it is indicated in table 2, there was a positive and moderate relationship between resilience and social support (r=.569; p<.*05*). In other words, individuals with a supportive environment were analyzed as having a high resilience level at all. In common with social support, cognitive reappraisal also correlated with resilience. Results of the Pearson correlation indicated that there was a significant positive association between cognitive reappraisal and resilience, (r=.364; p<.05). People who highly use cognitive reappraisal to regulate their emotions become more resilient. Regarding coping strategies, it was found that there is also a positive correlation between adaptive coping style and resilience, (r=.308; p<.05). As people use adaptive coping style to deal with stressors, they are more likely to be resilient.

In the context of correlations among variables, there was statistically significant but weak relationships between social support and cognitive reappraisal (r=.172; p<.05) and cognitive reappraisal and adaptive coping style (r=.194; p<.05). On the other hand, it can be observed that there is a moderate correlation between adaptive coping style and social support (r=.; p<.05). Hence, socially supported individuals are more likely to use adaptive coping strategies towards adverse events. Overall results demonstrated that the scores of cognitive reappraisal, adaptive coping, and social support increase as resilience increases.

Table 2

Descriptive Statistics and Correlation Matrix for Study Variables

Variable	*n*	*M*	*SD*	1	2	3	4	5	6	7
1. Resilience	314	128	17.6	—						
2. Social Support	314	66	14.2	.569**	—					
3. Cognitive Reappraisal	314	29	7	.364**	.172**	—				
4. Adaptive Coping Style	314	46	8.7	.308**	.353**	.194**	—			

4.3.2. Independent Samples t-test. Results showed that there was significant difference in trauma, adaptive coping, and social support between males and females, t (312) = -2,367, p = .019, t (312) = -4.707, p = .000, and t (312) = -2.145, p = .033, respectively.

In terms of trauma, female participants (M = 20.14, SD = 11.53) have significantly higher trauma scores than male participants (M = 16.96, SD = 11.13). Regarding coping skills, results suggest that females (M = 48.63, SD = 7.77) are more likely to use adaptive coping towards adverse events compared to males (M = 43.60, SD = 9.52). In the context of social support, it can be observed that women (M = 67.28, SD = 14.72) have significantly higher scores on social support than men (M = 63.81, SD = 13), and Cohen's d was estimated at .33, which is a relatively medium effect size. The detailed information can be found in Table 3.

Independent samples t-test was utilized to evaluate whether there was a difference in the levels of cognitive reappraisal, social support, adaptive coping style, resilience, and trauma according to gender of participants. It was observed that statistically significant mean difference was not found for either resilience (t (312) = -.448, p = .654) or cognitive reappraisal (t (312) = -.191, p = .849) between different genders.

Table 3

Results of Independent Samples t-test Related to The Difference Among Cognitive Reappraisal, Social Support, Adaptive Coping Style, Resilience and Trauma according to Gender of The Respondents

Logistic parameter	Male		Female		*t* (312)	*p*	Cohen's *d*
	M	SD	M	SD			
Resilience	128.28	17.09	129.20	17.90	-.448	.654	0.005
Trauma	16.96	11.13	20.14	11.53	-2.367	.019	0.028
Adaptive Coping	43.60	9.52	48.63	7.77	-4.707	.000	0.003
Social Support	63.81	13	67.28	14.72	-2.145	.033	0.333
Cognitive Reappraisal	29.61	7.06	29.77	7.14	-.191	.849	0.022

4.3.3 Multivariate Analysis of Variance. A One-Way Between Groups MANOVA (Multivariate Analysis of Variance) was conducted to compare the effect of marital status on resilience, trauma, cognitive reappraisal, adaptive coping, and social support. The conditions of marital status were being single, married, or in a romantic relationship. The detailed information is given in the table 4.

First of all, there was a significant effect of marital status on resilience at the $p < .05$ level for the three conditions [$F(2,311) = 13.966$, $p = .000$]. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the married condition ($M = 133.76$, $SD = 16.32$) is significantly higher than both single condition ($M = 127.12$, $SD = 17.54$) and romantic relationship ($M = 121.43$, $SD = 17.32$) condition. However, there is no statistically significant effect found between single and romantic relationship group ($p < .05$).

Secondly, trauma was significantly differed across the conditions of marital status [F (2,311) = 10.777, p = .000]. Post-hoc comparisons showed that the mean score for the romantic relationship condition (M = 22.89, SD = 11.05) is significantly higher than both single condition (M = 20.71, SD = 12.70) and married (M = 16.08, SD = 10.13) conditions. Again, there is no significant effect between single and romantic relationship group.

As a third analysis, there is no statistically significant effect found for the effect of marital status on cognitive reappraisal status [F (2,311) = 2.762, p = .065]. Being married, involved in a romantic relationship or single is not differed for the cognitive reappraisal.

Fourth analysis show that marital status has a significant effect on adaptive coping at the p < .05 level [F (2,311) = 5.741, p = .004]. The condition of romantic relationship (M = 49.32, SD = 7,32) has the highest mean scores compared to single (M = 47.51, SD = 8.12) and married groups (M = 45.32, SD = 9.44) according to the post-hoc comparisons. However, the only significant difference is found between married and romantic relationship groups (p < .05).

In the final MANOVA, the effect of marital status on social support is investigated [F (2,311) = 8.959, p = .000]. The post-hoc comparisons show that romantic relationship group's mean scores (M = 70.65, SD = 12.35) are higher than married groups (M = 66.52, SD = 13.70) and single (M = 61.56, SD = 15.32) groups. However, there is no statistically significant effect found between married and romantic relationship conditions (p < .05).

Taken together, these results suggest that marital status has an effect on resilience, trauma, adaptive coping, and social support. Specifically, our results suggest that married people are more likely to be resilient and less likely to be traumatic. Being in a romantic relationship is slightly effective than being married on using adaptive coping strategies. Also, when people have a partner, they feel more social support compared to single people. In

general, regardless of the marital status, having a partner causes a positive effect on people's lives.

Table 4

MANOVA Results of Resilience, Trauma, Cognitive Reappraisal, Adaptive Coping, and Social Support According to Martial Status

Measure	Single		Romantic Relationship		Married		*F* (2, 311)	*p*
	M	*SD*	*M*	*SD*	*M*	*SD*		
Resilience	127.12	17.54	121.43	17.32	133.76	16.32	13.966	.000
Trauma	20.71	12.70	22.89	11.05	16.08	10.13	10.777	.000
Cognitive reappraisal	30.81	6.00	28.23	6.77	29.82	7.77	2.762	.065
Adaptive coping	47.51	8.12	49.32	7.32	45.32	9.44	5.741	.004
Social support	61.56	15.32	70.65	12.35	66.52	13.70	8.959	.000

4.4 Main Analyses

4.4.1 Hierarchical Regression Analysis. To test the first hypothesis, hierarchical regression analysis was employed to examine how well the three set of predictors namely cognitive reappraisal, social support, and adaptive coping style predicted resilience scores of the participants regardless of the effect of gender and marital status. In line with this purpose, control variables were entered in the model in the first stage, and all the predictor factors were entered in the second stage determine the linear combination with resilience.

The assumptions of multiple regression is suggested by Field (2005). Eight assumptions can be listed as having quantitative or categorical variables with 2-levels, no perfect multicollinearity, independence of errors, independent observations, non-zero variance among variables, homoscedasticity, normally disturbed errors, and linearity.

First of all, the predictor variables (cognitive reappraisal, social support, and adaptive coping style) and the outcome variable (resilience) were quantitative. Next, there is no perfect multicollinearity because collinearity diagnostics of VIF scores are below 10. To show independence of errors, Durbin-Watson statistics revealed the value of .643, which is less than 2.5. Moreover, independent observations were also assumed for this study. To address the assumption, it is seen that there is no zero variance among the variables. Homoscedasticity assumption was met in this study, and scatterplots are checked. There is no obvious pattern, and the points are seen as equally distributed for both X and Y axis. In the context of normally distributed residuals, histogram of regression is investigated. It shows a relatively normal distribution. Finally, the scatterplots demonstrate a linear relationship between predictor factors and resilience.

A two-stage hierarchical multiple regression was conducted. In the first stage, resilience was regarded as dependent variable whereas gender and marital status were considered as control variables to control for the effects of covariates. In the second stage, resilience was still considered as dependent variable and independent variables were social support, cognitive reappraisal, and adaptive coping. Results of Hierarchical Multiple Regression were presented in Table 5.

Table 5

Results of the Hierarchical Regression Analysis: Predicting Resilience from Cognitive Reappraisal, Social Support, and Adaptive Coping Style

Predictor Variables	*B*	*SE*	*β*	*T*
Model 1				
Constant	130.659	2.141		
Control Variables				
Gender	.935	2.092	.25	.447
Marital Status	-2.496	1.366	-.103	-1.826
R	.106			
Adj. R^2	.005			
Model 2				
Constant	64.214			
Predictor Variables				
Social Support	.682	.058	.552	11.716***
Cognitive Reappraisal	.551	.110	.222	5.025***
Adaptive Coping	.207	.096	.102	2.164*
R	.668			
Adj. R^2	.437			

Note: R = .668, Adjusted R^2 = .437

At stage one, gender as control variable was not significantly contributed to the regression model, F (1, 312) = .447, p= .655). In addition to the gender, marital status was found as not statistically significant control variable too, F (1, 312) = 22.843, p= -1,826). These variables accounted only .005% of the variation in the resilience. In other words, neither gender nor marital status have a significant contribution to the results. Introducing the predictor factors as social support, cognitive reappraisal, and adaptive coping in stage two, it explained 43% of variation in resiliency. This change in R^2 was found as significant, F (1,312)

= 12.468, p = .000. To sum up, social support, cognitive reappraisal, and adaptive coping significantly predicts resilience when the gender and marital status were controlled. The results of the regression indicated that the model explained 40.3% of the variance (R = .668; ΔR^2 =.437).

The standardized coefficients (β) indicates that social support was the most important predictor factor of resilience (*t* = 11.716, *p* = .000), followed by cognitive reappraisal (*t* = 5.025, *p* = .000), and adaptive coping style (*t* = 2.164, *p* = .031) in the hierarchical regression analysis.

Overall, it can be summarized as the model of hierarchical linear regression yields that social support, cognitive reappraisal, and adaptive coping style successfully predicts resilience when controlling the effect of gender and marital status. Predictor factors explain 43.7% of the resilience scores.

4.4.2 Mediation Analysis. Preacher and Hayes (2008) put forward the idea that a deeper understanding towards the mechanisms among variables must be gained through mediation analyses. As a following step to test hypotheses, it was investigated whether predictor factors of social support, cognitive reappraisal, and adaptive coping style have a mediator role between resilience and trauma. In this context, independent variable was considered as trauma whereas resilience was considered as outcome. Social support, cognitive reappraisal, and adaptive coping were considered as mediator variables. A simple mediation model contains one causal antecedent variable, consequent variable, and an intervening variable as a mediator (Hayes, 2013). For thesis purposes, three simple mediation models were established by using PROCESS Makro Models (Preacher and Hayes, 2008). The first model took social support as a mediator variable, second model explored cognitive reappraisal as a mediator variable, and the last model considered adaptive coping as a mediator variable. Moreover, Hayes (2017) claimed that it is not an important issue that whether the mediation analyses are labeled as

complete or partial in this century. Instead, the explicit estimation of the indirect effect should be underlined.

4.4.2.1 Simple Mediation Model Between Trauma and Resilience through Social Support.

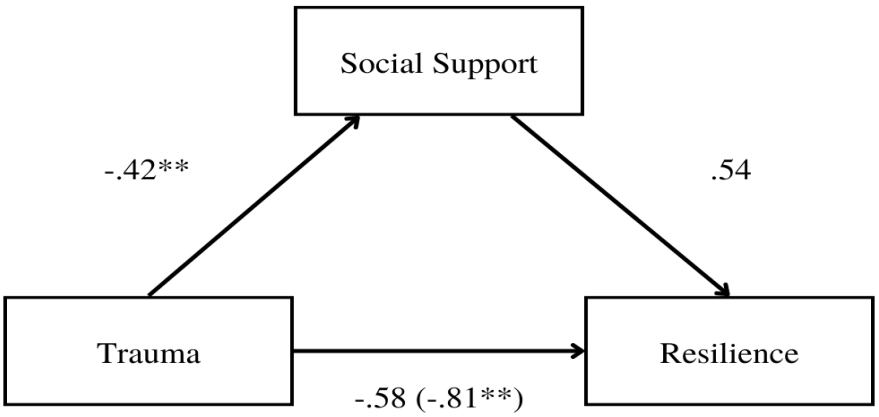
In the first mediation model, trauma is investigated under the predictor variable (*X*), resilience is outcome variable (*Y*), and social support is the mediator variable (*M*). The purpose of this analysis is to test whether social support mediates the relationship between trauma and resilience.

In the proposed model, the total effect was found significant [$F(1, 312) = -.81$, $p < .001$]. Hence, it can be seen that trauma explains 53% of the variance through social support, when explaining resilience (Figure 1.)

The direct effect of trauma (X) on resilience (Y) was significant ($\beta = -.58$, SE = .06, $t(314) = -8.54$, $p < .001$). The direct effect of trauma (X) on social support (M) was found as statistically significant ($\beta = -.42$, SE = .06, $t(314) = -6.40$, $p < .001$). Also, the direct effect of social support (M) on resilience (Y) was found as statistically significant too ($\beta = .54$, SE = .05, $t(314) = 9.84$, $p < .001$) as Figure 1. illustrates.

The indirect effect of social support on resilience through trauma is also significant ($\beta = -.22$, SE = .0469, 90% CI [-.32, -.14]). This model presented that there was an indirect effect of social support on resilience via trauma.

Figure 1. Mediation Model of Trauma on Resilience through Social Support



4.4.2.2 Simple Mediation Model Between Trauma and Resilience through Cognitive Reappraisal

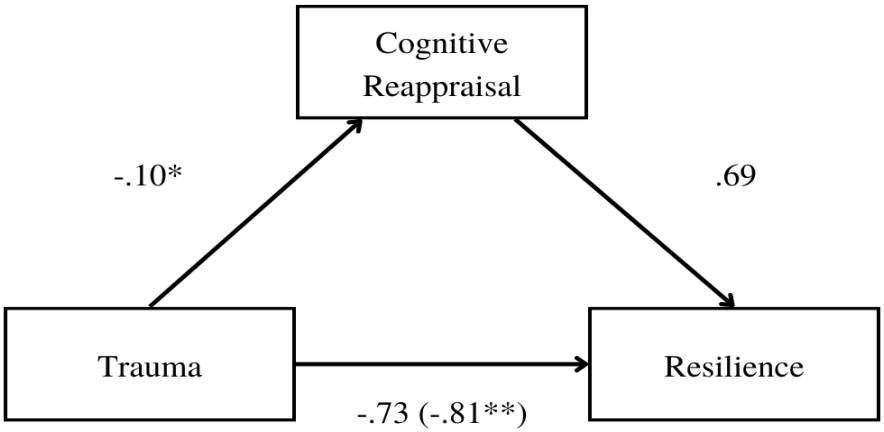
In the second mediation model, trauma is examined as a predictor variable (*X*), resilience is outcome variable (*Y*), and cognitive reappraisal is the mediator variable (*M*). The purpose of this analysis is to test whether cognitive reappraisal mediates the relationship between trauma and resilience.

In the proposed model, the total effect was found significant [F(**1, 312**)= -.81, p< .001)]. Hence, it can be observed that trauma explains 53% of the variance through cognitive reappraisal, when explaining resilience (Figure 2.)

Moreover, the direct effect of trauma (X) on resilience (Y) was significant (β = -.73, SE = .07, t(314) = -10.45, p < .001). The direct effect of trauma (X) on cognitive reappraisal (M) was found as statistically significant (β = -.10, SE = .03, t (314) = -3.13, p < .001). Also, the direct effect of cognitive reappraisal (M) on resilience (Y) was found as statistically significant too (β = .69, SE = .11, t (314) = 6.05, p < .001) as Figure 2. illustrates.

The indirect effect of trauma on resilience through cognitive reappraisal is also significant (β = -.07, SE = .03, 90% CI [-.14, -.02]). This model presented that cognitive reappraisal has an indirect effect in the relationship between trauma and resilience.

Figure 2. Mediation Model of Trauma on Resilience through Cognitive Reappraisal



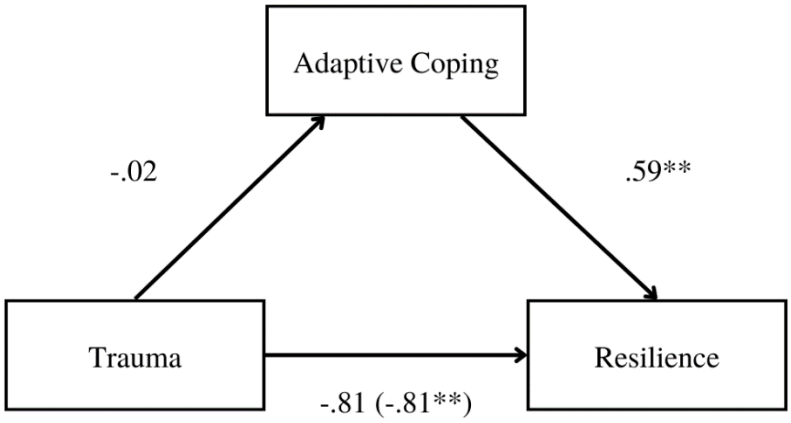
4.4.2.3 Simple Mediation Model Between Trauma and Resilience through Adaptive Coping. In the final mediation model, trauma is taken into consideration as a predictor variable (*X*), resilience is outcome variable (*Y*), and adaptive coping is the mediator variable (*M*). The purpose of this analysis is to test whether adaptive coping mediates the relationship between resilience and trauma.

In the proposed model, the total effect was found significant [$F(1, 312) = -.81$, $p < .001$)]. Hence, it can be observed that trauma explains 53% of the variance together with adaptive coping, when explaining resilience (Figure 3.).

Moreover, the direct effect of trauma (X) on resilience (Y) was significant [β = -.81, SE = .07, t (314) = -11.74, p < .001]. The direct effect of trauma (X) on adaptive coping (M) was seen as not statistically significant [$\beta = -.019$, $SE = .0430$, $t(314) = -.4456$, $p < .001$]. Also, the direct effect of adaptive coping (M) on resilience (Y) was found as statistically significant too [$\beta = .59$, $SE = .09$, $t(314) = 6.53$, $p < .001$] as Figure 3 illustrates.

The indirect effect of trauma on resilience through adaptive coping is also not significant (β = -.01, *SE* = .02, 90% CI [-.05, .04]). This model presented that adaptive coping does not explain any mediating effect between trauma and resilience.

Figure 3. Mediation Model of Trauma on Resilience through Adaptive Coping



CHAPTER 5

DISCUSSION

The purpose of this study was to gain a better understanding of the underlying mechanisms of resilience through traumatic experiences. In line with this perspective, social support, cognitive reappraisal, and adaptive coping strategies are examined as predictor factors of resilience in the first part of the study. Then, these factors were analyzed as mediator variables between trauma and resilience. The hypotheses of this research were, (1) Social support, cognitive reappraisal and adaptive coping predict resilience, (2) Social support mediates the relationship between trauma and resilience, (3) Cognitive reappraisal mediates the relationship between trauma and resilience, (4) Adaptive coping mediates the relationship between trauma and resilience. In accordance with the first hypothesis, a hierarchical linear regression model was conducted. For the next three hypotheses, simple mediation models were carried out.

In this chapter, the findings of the present study will be discussed in light of the previous psychology literature. To do that, first section will discuss descriptive results of the study. Then, the second section will provide the correlations and regressions among the predictor variables and the criterion variable. Next, the analysis of three variables as potential mediators factor in the relationship between trauma and resilience will be discussed in the

third section. In the fourth section, the contributions of this study to the literature will be mentioned, and the possible implications will be argued. Finally, the potential limitations of this research and possible suggestions will be pointed out in the fifth section.

5.1 Evaluation of Descriptive Analyses

In this section, the relationship between descriptive variables and study variables will be evaluated.

5.1.1. Effect of Gender on Trauma, Resilience, Coping, Cognitive Reappraisal, and Social Support. In this study, only gender and marital status were considered as significant descriptive factors on study variables. In the context of gender differences in trauma, females had significantly higher trauma scores than males, which is a predictable result according to the literature. National Center of PTSD found that 10% of women are under the risk of PTSD in their lifetime whereas the rate of developing this mental disorder drops to 4% for men. In the context of PTSD, the duration of the symptoms can be 2 years longer than men (Kessler et al., 1995). There can be many reasons to explain these results. Primarily, being a victim of any kind of sexual abuse is the foremost cause of developing post-traumatic stress disorder (Komarovskaya et al., 2011). Moreover, anxiety disorders are found two times higher in women than men (Robinson, 2006). Regarding the comorbidity across the mental disorders, women are bearing a risk of developing traumatic disorders. Tang and Freyd (2012) worked on gender differences on betrayal trauma, and they found that women reported more sexual assault and emotional abuse from someone close. From adolescence to adulthood, the level of exploitation and abuse by intimate partners increases (Tjaden & Thoennes, 2006). They also have intense feelings of threat and control loss after the traumatic exposure (Olff et al., 2007) The perceived threat changes women's reactions and perceptions of life, and it makes them to feel more vulnerable towards future risks (Stein et al., 2000). Messina and Grella (2006) also pointed out that there are less available mental health services for women to deal with

traumatic symptoms. However, when women take psychological counseling, they show more post-traumatic growth that is based on protecting themselves against abusive relationships, learning self-care and making good decisions for their own best interests (Tedeschi and Calhoun, 1996).

Men and women have significantly different coping strategies when it comes to stress or adverse events. In this study, adaptive coping contains only problem-solving skills. Therefore, according to the adaptive coping skills in this study, women are more likely to use adaptive coping skills than men. In the context of gender roles, masculine behaviors can be performed via confronting the problem or denying it. However, feminine behaviors can be described as either actively searching for a solution to the problem or giving an emotional response to it (Tamres et al., 2002). Particularly, women are more likely to express their emotions with others whereas men try to suppress them by avoiding (Kirchner et al., 2008). In a study on adolescents, females are more likely to rely on their social support resources, and they use a combination of problem-focused and emotion-focused strategies (Williams and McGillicuddy-De Lisi, 1999). However, male adolescents perform externalizing behaviors or use humor to ignore the problem. In a wide-range of mental disorders, the preference of the coping strategy has a considerable effect on mental health. To manage depressive symptoms, men are more likely to use avoidant coping. In this way, they can gain a control over their upsetting feelings, emphasizing self-reliance, and use substance as an avoidance tactic (Iwamoto et al., 2010). A study which is conducted on clinically depressed individuals demonstrated that they are more likely to rely on non-adaptive coping strategies. Even in a depressed sample, the probability of using avoidant coping declines in only women with more social support resources (Fondacaro & Moos, 1987). A 20-year meta-analysis on the effect of problem-solving strategies on mental health indicated that women who are diagnosed as at least one eating disorder use less problem-solving strategies. Also, less problem-solving

behavior is seen among women who have been sexually abused. They are more likely to be engaged in lack of health promotion behaviors, feel distress in marital relationships, and experience career-related problems (Heppner et al., 2004) In a study on coping levels, Rossetto (2015) pointed out that women employed a combination of problem and emotion-focused strategies which can be seen as adaptive to deal with problems. They don't only seek support from close relationships but also more information to reach solutions. As a problem-solving strategy, mothers can structure and plan family life by sharing the responsibilities with other members. Also, establishing an open communication with family members may create a solution-oriented attitude.

Moreover, this study gave additional evidence that women may benefit from social support more than men. Regarding socialization, males focus on independence and self-reliance whereas females emphasize to express feelings, search for intimate relationship, and build warm connections (Matud et al., 2003). In 1966, Bakan put forward the concepts of agency as a masculine role and communion as a feminine role. Agency underlines being differentiated from others and communion reflects participation in the community. Therefore, women are more likely to connect with others, encompasses cooperative behaviors, and utilize relationships (Matud et al., 2003). In terms of support structure, even though men have more extensive support structures, women are more likely to build intensive structures (Belle, 1987). In other words, women are more confident about to whom they can share their privacy with (Flaherty & Richman, 1989). Even though the size of social network for men can be greater than women, it can be observed that women build deeper relationships inside their network (Colarossi, 2001). As a source of support, women are chosen as primary social support resources by both men and women (Shumaker and Hill, 1991). One study showed that female adolescents view their friends as main social support providers, but male adolescents do not differentiate one resource to another (Colarossi, 2001). Considering support functions,

females receive and provide emotional and health-related support to the surroundings (Depner et al., 1988).

There are no significant gender differences found for either resilience or cognitive reappraisal in this study. In resilience literature, Isaacs et al., (2017) did not find any considerable gender differences in terms of resilience. Vogt et al. (2011) explored gender differences in combat-related stressors, and they found similar levels of perceived threat in the war zone in both genders. Therefore, they concluded that the resilience levels are not significantly differed by gender. It can be said that women and men use different resources to cope with adversity; women rely on social support systems whereas men rely on self-governing ways. Bezek (2010) searched for gender differences of emerging adulthood in their resilience levels, and he found no further evidence for any significant differences. He concluded that using either instrumental or supportive means can lead resilience. Sampogna et al. (2021) looked for resilience of both genders during pandemic, and they also found no additional evidence for this.

On the other hand, Gross (2007) claimed relatively less neurol findings for gender difference on emotion regulation. McRae (2008) highlighted gender stereotypes as responsible for the beliefs on different emotional responses. It may create a bias that women express irrational, emotional responding to the situation whereas men do not express any kind of emotions which make them to appear as either rational or emotionless. However, emotion regulation is not the same concept with emotional responding. Cognitive reappraisal, as a subtype of emotion regulation, can be either down-regulating negative emotions or up-regulating positive ones. The studies on individual differences demonstrated that both women and men use cognitive reappraisal in everyday life (Gross et al., 2006). In a study conducted by McRae (2008) clarifies those points which indicate that male and female participants did not differ on either emotional reactivity or emotion regulation. Perchtold (2019) also found no

additional claim that there is a clear difference between genders on emotion regulation capacities.

5.1.2 Effect of Marital Status on Trauma, Resilience, Coping, Cognitive Reappraisal, and Social Support. Regarding marital status, married people are found to be more resilient in the study. Stressful life events may create opportunities for growth of spouses who use their coping resources effectively and engage in relationship-promoting behaviors (Neff & Broady, 2011). The successful adaptation for future stressors helps them to be more resilient. When spouses encounter with small stressors in their relationship, they can work together to deal with the problem – eventually, these situations enhance their resilience capacity (Baumeister et al., 2006). Neff and Broady (2011) postulated that resilient married couples show a greater extent of problem-solving skills, marital quality, and effective parenting. In a longitudinal marriage, building positive emotions are essential parts of resilient personal (Bradley & Hojjat, 2017). Considering that regular conflicts are normal for a marriage, it is vital to deal with marital difficulties. It can be observed that resilient spouses handle with problems more effectively compared to others. Resilience capacity is based on self-efficacy, confidence, and trust, which leads to a greater relationship satisfaction. A joint resilience of the partners in a couple can serve as a protective factor for marital adjustment and satisfaction (Cihan & Aydoğan, 2020).

In addition to be more resilient, married people are less likely to suffer from traumatic symptoms according to the current study. A study has done after September 11 attack, and it found that the most resilient group is married couples compared to singles, divorced, or separated individuals (Mancini & Bonanno, 2006). In couple and family therapy literature, the concept of "relational resilience" emphasizes a mutual coping mechanism protecting against traumatic outcomes (Jordan, 2005). In other words, relationships can strengthen the resilience level in two-way connections that involve mutual growth, empathy, and coping. It emphasizes

the importance of interdependence and mutuality instead of independency and solitude. Therefore, when partners engage in joint coping strategies against adverse life events, the marital satisfaction is more likely to be strengthened (Berg et al., 2008). On the other hand, being married is found as a protective factor against trauma in many studies (Coker et al., 2005; Green et al., 2014; Israel-Cohen & Kaplan, 2015; Wood, Goesling, & Avellar, 2007). Marriage is seen as an environmental and social support to deal with post-traumatic symptoms in both men and women (Coker et al., 2005). After traumatic events, marriage can be seen as a shield against risky behaviors or maladaptive healthy patterns for men (Wood et al., 2007). In a similar finding, alcohol dependency (Green et al., 2014) and committing suicide (Weisenhorn et al., 2017) are less likely to be seen in married male soldiers than single ones Husbands may see their wives as a potential nurturing resource to deal with traumatic symptoms (Israel-Cohen & Kaplan, 2015).

Regarding the coping skills, the data suggests that having a romantic relationship has a beneficial effect. A study on adolescents showed that adaptive way of coping with romantic stress directly influence the quality of the relationship ((Nieder & Seiffge-Krenke, 2001). In time, they learn how to deepen their relationship by adding intimacy element, and having a partner helps them to cope with stress more effectively. Moreover, people who are currently involved in a romantic relationship reported higher levels of mastery and self-esteem which causes a better coping resource to deal with emotional damage. Following the power of social support from partner, they can determine their problems and monitor emotional responses (Kessler & Essex, 1982). In a study on cancer patients, it is demonstrated that singles individuals show significantly more psychological distress compared to couples considering the benefit of spouse support (Goldzweig et al., 2009). When a cancer patient's distress level exceeds his or her tolerance, then the supportive behavior from spouse enhances the coping mechanism (Hannum, 1991). Individuals who can cope well with stress are more likely to

take responsibilities in different areas in life; therefore, they can also maintain relational responsibilities in their relationships as well (Preston, 1995).

As it can be guessed in this research, either married or not married, having a partner makes people feel more social support. Romantic relationships help individuals to make social integration with each other, and it enhances social adjustment (Shapiro & Keyes, 2008). The motivation of the partner's support seeking behavior contributes to the social support interactions with one another. Regardless of the specific behavior, autonomously motivated individuals perceive more tangible and emotional support from their partners (Don & Hammond, 2017). Spouses who receive higher levels of social support from each other feel more marital satisfaction, which makes them to have longer marital relationship (Pasch & Bradbury, 1998). From men's perspective, being married means that satisfaction comes from wives through social support (Neff & Karney, 2005). When husbands have stressful experiences due to work-related problems, wives are more likely to help chores at home; so, they try to give more relief to them (Bolger et al., 1989). A study showed that when husbands experience severe problems, wives are seen as better social support providers (Neff & Karney, 2005). In fact, they do not differ in the amount of social support they provide, but how the husbands perceive it changes. Stressful wives can perceive their husbands as people who engage either in negative behaviors or socially supportive behaviors.

As a similar finding with gender, there are no differences between participants who have different marital status' regarding emotion regulation skills. Some studies found that having a romantic partner contributes to positive refocusing as an emotion regulation (Min et al., 2013; Nakagawa et al., 2017). On the contrary, one study claim that single individuals use more cognitive reappraisal compared to single or widowed individuals (Enebrink et al., 2013) However, there are more studies showing no significant variance of martial status on emotion regulation skills (Bonanno & Burton, 2013; Garnefski & Kraaij, 2006; Petit et al., 2015;

Pepping et al., 2018). For instance, Frye-Cox et al., (2021) demonstrated that cognitive reappraisal is effective in first marriages but not in remarriages due to the greater complexity of the problems. Garnefski et al., (2014) found no difference of emotion regulation between men and women, too.

5.2 The Findings Related to Resilience and Predictor Factors

In this section, the relationships among the predictor factors and criterion variable will be examined.

5.2.1 The Relationship Between Social Support and Resilience. Most of the research related with mental health indicates that perceived social support is positively related with resilience (Armstrong et al., 2005; Cai et al., 2007; Narayanan & Weng Onn, 2016; Nowicki, 2008; Ozbay et al., 2007; Migerode et al., 2012; Zhang et al., 2018). Similar to the research in the literature, this study showed that resilience revealed positive linear relationship with perceived social support. Individuals who are provided with a high level of social support may have an enhanced capacity to regulate stress (Sippel et al., 2015). Support from family, friends or a romantic partner can buffer the adverse effects of stressful events (Raffaelli et al., 2013). Social support has an influence on their self-confidence, which may help them to foster active coping styles instead of engaging risky behaviors. Therefore, the likelihood of developing either internalizing or externalizing mental health disorders decline.

As it found in our study, social support has a high level of predictor role in resilience. In many ways, it is an essential key to understand the resilience process (Gaffey et al., 2016). In an evolutionary sense, a possibility of social rejection can be perceived as a threat of getting lonely (Miller et al., 2009). As being excluded from a group, an isolated individual becomes vulnerable to threats coming from the environment. In other words, a resilient individual has also more chances to be survived. From one perspective, high-quality social

networks provide beneficial assistance in hard times, emotional support to deal with negative feelings, and a feeling of connectivity instead of loneliness (Gaffey et al., 2016). In a recent study on the impact of Covid-19, social support also moderated the association between individual resilience and mental health during Covid-19. It may be a chain reaction, where there is a plenty amount of social support resources increase the resilience level on individual, and it will transform to a form of shield against mental health problems (Li et al., 2021). Related to the literature, a high level of social support predicts high resilience as it found in this study.

5.2.2 The Relationship Between Cognitive Reappraisal and Resilience. Psychology literature has many studies that show the role of emotion regulation on resilience; particularly, cognitive reappraisal has a positive relationship with resilience (Dolcos et al., 2021; Gooding et al., 2012; Karreman & Vingerhoets, 2012; Kay, 2016; Troy & Mauss, 2011; Tugade & Fredrickson, 2002). In this research, this strategy that attempts to interpret an emotion-eliciting situation in a meaningful way was found as positively associated with resilience. Individuals who can regulate their emotions express fewer negative reactions to the events because they reappraise the situations (Birditt & Fingerman, 2005). Cognitive reappraisal is effective in not only feeling low stress but also recovering quickly after the adverse event (Ong et al., 2006). In a current study on Covid-19 pandemic, it is claimed that the effect of Covid-19 may be bidirectional: It can lead to psychopathology or pre-existing mental health problems make people to be more vulnerable to get infected (Kuhlman et al., 2021). The authors reveal that both humor and cognitive reappraisal are potential sources of adolescent resiliency. Regarding the role of resilience on protection against both mental and physical disorders, it is discussed that adolescents with less cognitive reappraisal capacity have a bigger tendency to suffer from Covid-19 symptoms.

Troy (2012) investigated the protective role of cognitive reappraisal against stress, and he put forward the idea of that cognitive reappraisal is also effective in uncontrollable events where the individual changes his emotions and perspective towards the event. Particularly, adverse events create not only stress but a wide-range of negative feelings. Besides, it is not enough to deal with the situation only; an action is also required to manage these overwhelming emotions. In that point, emotion regulation skills get involved (Troy & Mauss, 2011). In one edge, excessive suppression decreases one's self-worth and self-competence; in the other edge, the habitual usage of cognitive reappraisal promotes self-esteem and resiliency (Gross & John, 2003). In brief, cognitive reappraisal is an ability to change the meaning of a situation by replacing it from a terrifying problem status to a more manageable and solvable status (Mouatsou & Koutra, 2021). Consequently, a frequent use of cognitive reappraisal is a spectacular characteristic of resilient individuals (Fritz et al., 2018).

5.2.3 The Relationship Between Adaptive Coping and Resilience. According to literature, adaptive coping style as a problem-solving strategy is positively related to resilience (Glennie, 2010; Mayordomo et al., 2016; Santos & Soares, 2018; Smith & Carlson, 1997; Warchal and Graham, 2011). Current study determined that individuals who try to solve their problems tend to become more resilient. In coping terms, resiliency is an outcome or process of coping with adverse events successfully (Cicchetti and Rogosch, 2009).

Cicchetti and Rogosch (2009) investigated the role of adaptive coping in resilient children, and they reported that coping capacity is enhanced by some personal characteristics such as internal locus of control, self-esteem, and self-reliance. Dumont and Provost, (1999) found a strong association between avoidance strategies and feeling of stress in adolescents. Considering avoidant coping strategies do not actually solve the problem, the level of stress maintains without any sign of decline. These maladaptive coping patterns leads to a development of mental health problems. On the contrary, resilient adolescents use active

coping mechanisms, which make them to be distinguished from non-resilient ones. Problem-solving capacity, as a form of adaptive coping, adds elements of internal locus of control, goal-setting skills, and personal motivation. In turn, adaptive coping mechanisms increase resilience. In addition to children and adolescents, adaptive coping strategies of adults include problem-solving and meaning-focused coping (Leipold et al., 2019). They are more likely to either creating active goals to generate solutions or reorganizing the value of the situation in a parallel vein of cognitive reappraisal.

Nowadays, Covid-19 is one of the most stressful situations that pushes people's tolerance of coping. Just as people do not give the same reaction to an adverse event, they also apply different coping strategies to overcome the crisis (Kar et al., 2021). The most resilient people are found in a group that use planning, reframing, and acceptance as adaptive coping behaviors. On the other hand, maladaptive coping strategies involve avoidance or denial during pandemic, and they will lead low levels of resiliency.

Taken together, the first hypothesis is accepted. Our findings indicate that social support has the biggest portion of the predictive effect on resilience. In line with the stress-buffering hypothesis, perceived availability of social support resources weakens the potential adverse impact of stress through strengthen the resiliency of the individuals (Gellert et al., 2018). After social support, cognitive reappraisal was found as effective on the resilience. This idea is further supported by the finding that cognitive reappraisal produces more adaptive emotions which may help individuals to return in a healthy psychological baseline (Zarotti et al., 2020). Thus, it may create a resilient surface. Finally, adaptive coping has smaller predictive effect on resilience compared to other two predictor factors. It is interesting that while most of the literature suggests that adaptive coping is one of the core elements of resiliency, this study found a lower effect size compared to other predictors mentioned above. Still, exhibition of a good functioning of coping in the context of adversity is considered as an

important sign of resiliency. All in all, when the three predictive factors are analyzed together, 40% of the variance in resilience was explained. Social support, cognitive reappraisal and adaptive coping skills enrich individuals' resources to thrive adverse life events through strengthening resilience capacity.

5.3 The Mediating Role of Social Support, Cognitive Reappraisal and Adaptive Coping on the Relationship Between Trauma and Resilience

In this section, the mediating effect of three variables in the relationship between resilience and trauma will be analyzed. Trauma is conceptualized as an adverse long-lasting impact on individual after exposing a specific event (Harms, 2015). After the traumatic experience, individuals can take a step into either a post-traumatic stress or post-traumatic growth pathways. The second way embraces recovery, adaptation, and resiliency. Considering the strong presence of traumatic experiences involved in resilient people, our findings are supported by past research (Aburn et al., 2016; Beardsleei, 1989; Connor, 2016). Luthar et al. (2000) asserted two critical conditions for resilience: A significant threatening event must be presented, and a positive adaptation must be actualized.

Considering adverse life events may come before resilience, resilient people can be seen as some sort of survivors (Beardsleei, 1989). It is a strong shield against developing post-traumatic symptoms, overwhelming crisis reactions, or drowning in hopelessness (Connor, 2016). It is the ultimate flourishing to rise above during the major breakdown (Aburn et al., 2016). Therefore, there is a strong relationship between trauma and resilience. However, this relationship can be either strengthen or weaken through some variables. In this study, effect of these three variables will be explored in this relationship.

5.3.1 The Mediating Role of Social Support in the Relationship Between Trauma and Resilience. First of all, regardless of the presence of trauma, there is a moderate direct effect of

social support on resilience. This pattern of results is consistent with the previous literature underlying the role of social support on resilience. With or without trauma, socially supported resilient people approach situations in an optimist manner, cope with adversity adaptively, and cultivate positive feelings (Fredrickson et al., 2003). McCanlies et al. (2017) explored the mediating role of resilience between social support and post-traumatic stress symptoms. Their study's results demonstrate that higher social support predicts fewer traumatic reactions through resilience. Tsai et al. (2012) used Connor-Davidson Resilience Scale to evaluate whether resilience has an indirect effect on traumatic symptoms. They concluded that availability of secure relationships as an important aspect of resilience make the actual difference on traumatic symptoms. In another study, positive affect is taken as a mediator between resilience, post-traumatic growth, and social support (Kong et al., 2018). It contributed to the understanding that higher levels of social support are associated with greater resilience, and eventually it leads to experience less traumatic symptoms through having a capacity to feel positive emotions. There are studies examining the relationship between trauma and social support (Flannery Jr, 1990; Michalopoulos, & Aparicio, 2012; Sippel et al., 2015) or trauma and resilience (Harms, 2015; Mancini et al., 2012; Montgomery, 2010).

Also, there is an indirect effect of social support on the relationship between trauma and resilience. In this study, social support mediates the association between trauma and resilience. Xu and Ou (2014) investigated whether social support has an indirect influence on resiliency of earthquake survivors. They emphasized that resiliency is one of the greatest predictor of well-being of traumatic people, and social support is found as a protective factor in stressful life events. Therefore, earthquake survivors with a socially supported background less likely to show physical health signs, poor well-being, and mental health deterioration. On the other hand, Tsai (2012) worked with veterans, and concluded that the greatest traumatic

symptoms are shown in a group of people with poor social functioning. The relationship between life quality and traumatic symptoms are mediated by social support. This group reported that they perceive less social support family, friends, and parents. Also, they have a great extent of relational difficulties which leads to feel less relational resiliency. On the other hand, Yuan et al. (2018) looked for the adolescent resiliency after the traumatic Tornodo disaster via perceived social support. Adolescents who perceive social support from their parents have also secure attachment, and it makes them to feel more resilient towards the natural hazard. Catabay et al. (2019) examined the mediating role of social support and resilience on mental health after a traumatic event. In the context of post-traumatic symptoms, they suggested that both social support and resilience partially mediates the relationship between stress and post-traumatic reactions.

The results of the present study support the hypothesis that social support has a mediating effect on the association between trauma and resilience. In other words, socially supported people with traumatic past may feel less resilient against present problems. This result may be explained by the stress-buffering model which emphasizes that social support resources provide a protection against deterioration of mental health (Rodriguez & Cohen, 1998). Also, these results may be in parallel with the direct effect model underlines that social support enhances people's well-beings (Rodriguez & Cohen, 1998). So, these results with the research background may be explained as having a traumatic experience has may have less effect on resiliency through a strong social support.

5.3.2 The Mediating Role of Cognitive Reappraisal in the Relationship Between Trauma and Resilience. Secondly, there is a direct pathway from trauma to resiliency. The number of traumatic experiences, the specific type of the event, personality characteristics, and social environment have an impact on whether the individual will adapt the situation or not (Montgomery, 2010). Resilience is not a consequence of one single, dominant factor but a

combination of multiple factors. The chronic stressors, maladaptive socioeconomic conditions, pre-existing symptoms, and absence of healthy resources may cause trauma without any resilient response.

In addition to the pathway going from trauma to resiliency, the predictive role of cognitive reappraisal in resiliency has been studied. There is a strong direct effect of cognitive reappraisal on resilience. These results are consistent with the claim that cognitive reappraisal has a high predictive value on resilience regardless of traumatic or non-traumatic samples. Studies on self-reported reappraisal gave additional evidence that highly stressed people feel psychologically more healthy after an adverse event in case of more usage of cognitive reappraisal (Folkman & Moskowitz, 2000a; Moore et al., 2008, Pakenham, 2005; van der Veek et al., 2007). On the other hand, studies on healthy samples showed also similar findings that higher cognitive reappraisal predicts higher level of resiliency (Mouatsou & Koutra, 2021; Narukurthi er al., 2017; Thomas, & Zolkoski, 2020).

Moreover, there is an indirect effect of cognitive reappraisal in the relationship between trauma and resilience. The present study demonstrated that cognitive reappraisal may affect the association between the effect of traumatic experience and resilience. Hopfinger (2016) explored the role of emotion regulation as a mediator on the relationship between depression severity and childhood trauma. They resulted that when people be aware of the situation, accept it, show tolerance, and be willing to confront with the problem instead of avoiding, then their trauma is less likely to predict severe depression. Cloitre (2019) also added that emotion regulation meditates the outcome of trauma by increasing both physical and mental health. Furthermore, after a catastrophic natural disaster, cognitive reappraisal skills enhance positive attitudes and beliefs on no post-traumatic future, which is related to changing the thinking patterns on worldview. Therefore, it weakens the impact of trauma on resiliency (Yuan et al., 2018). Even though there is an individual with a severe traumatic

background, she can learn to reevaluate situations in a logical way, which leads her resilience level to be increased. Individuals who are able to process emotionally salient events in an adaptive way are more likely to preserve their mental health (Mouatsou & Koutra, 2021). When they change the meaning of the event, they gain a capacity to decrease the influence of negative emotions. Lang et al. (2012) did a study on trauma-exposed individuals and demonstrated that they interpret most of the events as potentially risky or deny the existence of problem. Excessive suppression inhibits them to down-regulate their negative affects, and this situation makes them to be less resilient in face of adversity. Compared to cognitive reappraisal, expressive suppression is related to higher stress symptoms due to the inhibited emotions, ruminated thoughts, and the absence of post-traumatic growth (Moore et al., 2008).

In sum, the third hypothesis is accepted. Cognitive reappraisal has both direct and indirect impact on resilience. The results of this research provide supporting evidence that cognitive reappraisal is mediating the relationship between trauma and resilience. Even though traumatic past making emotions difficult to control, reframing the event has a positive influence on resiliency. In the context of modal model of emotion, resilient people are more likely to engage in situations that enhance their positive emotions, modify the situation's meaning, shift their attention to the positive-emotion eliciting sides by cognitive reappraisal skills, and assign a new response to the event. Considering the mediating role of cognitive reappraisal, it may be possible that traumatic experiences can be approached from rational perspective to enhance resilient capacity.

5.3.3 The Mediating Role of Adaptive Coping in the Relationship Between Trauma and Resilience. Lastly, a direct effect is found between adaptive coping skills and resilience. The literature suggests that coping behaviors may help some sort of personal characteristics to be developed (Alonso-Tapia, 2019). The present results are consistent with Cicchetti and Rogosch's (2009) work that deals with highly resilient maltreated children. They found that

some of the abused and neglected children can effectively cope with unfortunate life events. The problem-solving coping are constituted by several factors such as academic performance, social relationships, intellectual capacity, and a presence of secure bond. Another factor that is related to adaptive coping is the presence of positive emotions (Folkman & Moskowitz, 2000). It does not only strengthen the present situation but also the future scenarios. Positive emotions open a gate to the recognition of a greater extent of possible coping methods, and in turn, it creates resilient movement towards severe challenges. Positive emotions are more likely to be facilitated through active coping skills, and eventually it may lead to ego-resiliency (Vulpe & Dafinoiu, 2012). About the coping styles, Chen et al. (2018) added that problem-solving coping enhances resilience by reducing the risk of psychopathology. On the contrary, avoidant-coping is a maladaptive style for mental health. Also, rational decision making as a part of problem-solving, which provides a solid based of protection against overwhelming irrational feelings (Balmer et al. (2014). One study on emerging adulthood demonstrated that university students who show more active coping to manage with stressful events are more likely to be resilience (Tamannaeifar & Shahmirzaei, 2019). The reason underlying this result is that they feel more competence, self-control, resistance to negative emotions, and acceptance over change. In contrast to problem-solving skills, students who frequently use maladaptive coping styles tend to be self-blaming, self-preoccupying, or fantasizing.

On the other hand, the present study has shown that there is a moderate total effect of trauma on resiliency without a mediator role of adaptive coping. Presence of adaptive coping strategy does not affect how resilient people are influenced by their traumatic past. Even though past researchers have found that the relationship between some factors and resilience can be mediated by adaptive coping (Zapater-Fajarí, 2021; Yu et al., 2014) such as alexithymia (Craparo et al., 2018), job burnout (Ogińska-Bulik & Michalska, 2021) or self-

esteem (Kocatürk & Çiçek, 2021), one study claims that a specific type of traumatic event can impact the relationship between resilience and coping (Alonso-Tapia, 2019). The important point which must be emphasized is the degree of the effect of adverse situation on individuals.

This study's results do not support the hypothesis that adaptive coping is a mediator between trauma and resilience. It is an interesting result compared to past research. Kirby et al. (2011) found that adaptive coping styles increase resiliency in emergency ambulance workers as a traumatic sample. Also, Ogińska-Bulik (2015) found that almost half of the participants show a high level of post-traumatic growth after a frequent use of problem-solving style of coping. It is possible that the importance should not be given into the specific type of the coping but coping skills in general. In other words, we focused on the mediating effect of only adaptive coping styles like problem-solving, but not maladaptive coping styles like avoidance. Regardless of the coping style, it may be possible to cope with adversity may have an effect on resiliency in general. Ogińska-Bulik (2015) also underlines that both strategies of problem-solving and avoidance styles has an effect on resiliency according to their study.

Friedberg & Malefakis (2018) claims that the time period after the potentially traumatic event constitutes the basis of early interventions. They compared two groups to see if early interventions made a difference on the reactions towards traumatic event, and they showed that people who learn how to cope with traumatic event may modify their reactions. In time, even though they are not exposed to traumatic materials, their early-thought coping mechanisms help them to become more resilient. However, coping skills in general matters instead of the specific type of coping. Moreover, Gloria & Steinhardt, (2014) claimed that people can facilitate their coping mechanisms via positive emotion capacity. Even though people who are using adaptive coping styles to deal with adversity are more likely to be resilient, there is no significant difference on whether they use adaptive or maladaptive coping

as an indirect effect. Coping was not found as an effective factor to strengthen or weaken the pathway from trauma to resilience. Therefore, regardless of the specific coping strategy, trauma can drop resiliency.

5.4 Contributions and Implications of the Study

The first goal of this study was to investigate possible predictor factors as underlying mechanisms of resilience. Thus, we hypothesized that social support, cognitive reappraisal, and adaptive coping style are the main predictors of becoming a resilient individual. Even though most of the relations among main variables was studied by previous research, these variables were taken together for the first time in the present study, to our knowledge. Therefore, this study provided a chance to analyze the components of resilience to gain insight on the underlying mechanisms.

The second goal of the study is to examine if trauma has a mediating role between resilience and these predictor factors. To our knowledge, the current study is the first one that analyzes the mediating effect of trauma in the relationship between resilience and predictor factors that are social support, cognitive reappraisal, and adaptive coping style. While there are other similar studies that explore the relationship among these predictor factors, the mediating effect of trauma is rarely investigated. In the context of social support, there is no study found for taking trauma as a mediator among the aforementioned factors. Regarding the cognitive reappraisal, whereas some studies focus on healthy samples, others emphasize traumatic samples. However, this study's sample is consisted of people who have severe, moderate, or weak traumatic past. Therefore, the mediating effect of trauma is tested on a more heterogonous sample. In addition to the previous predictor factors, trauma was never taken as a mediator for the role of adaptive coping style in resiliency. Coping is the general factor that is considered as a mediator in the studies. All in all, instead of trauma, studies are more likely to focus on the mediating role of social support, emotion regulation or coping in

resilience. Thereby, this research contributes a clear understanding of how traumatic experiences indirectly affect resilience through one's social support perception, regulation of emotions in a rational way, and coping capacity towards adversity in an adaptive way.

Based on the findings, there can be many implications applied to increase resilience. First of all, there is a positive relationship between social support and resilience. Further clinical interventions may be conducted as either in group or individual setting to enhance social support skills. These individual social support interventions may target to produce enduring changes in the present social support system, improve social or behavioral skills, and enhance problem-solving capacity in social situations. Also, the group-setting interventions may involve improving cooperative couple relationship, family members assistance, and peer support groups. Hogan, Linden & Najarian (2002) also add that when the individual feels more social support from surroundings, the resiliency level may increase. Consequently, the social support interventions have an ultimate purpose to increase one's resiliency level.

On the other hand, cognitive reappraisal also increases the likelihood of resilience. In practice, emotion regulation strategies can be taught by mental health professionals. Individuals can learn how to notice their current feelings, describe the emotions, and accept them as they are. As a psychotherapy perspective, Dialectical Behavioral Therapy offers a range of emotion regulation skill training to the clients (Berking et al., 2008). Some examples of these skills are understanding the following behavior after the emotion, checking the triggering facts, and learning the connection between body and mind. So, it would be valuable for clients to learn recognizing negative patterns in thoughts to change them accordingly. Once clients practice cognitive reappraisal as a component of resiliency, they can recover quickly from the difficult life events.

Finally, there are many implications for coping strategies done for any ages. While one coping skills training program help adolescents to cope with their diabetes through

cognitive-behavioral modification (Edraki et al., 2018), the other ones focus on alcohol dependence via virtual reality coping skill program (Lee et al., 2008), pathological gambling (McCormick, 1994), or suicidality (Shamsi et al., 2007). Regarding the role of coping in the resiliency, an intervention may be implemented to the individuals to raise their level. An intervention may include both psychoeducation and imaginary scenarios. Whereas psychoeducation may hold in problem-solving skills, better communication tips, and useful cognitive techniques, imaginary scenarios focus on creating a real-life situation to implement newly-learned adaptive coping skills.

5.5 Potential Limitations and Future Directions

The first limitation of this current thesis is related to demographics. The gender distribution is not equal because most of the respondents are composed of female participants. In marital status, it is observed that almost half of the participants are married, and there are a few participants who were divorced or widowed. Due to the very rare number of these choices, their data were entered as single. Regarding educational attainment, the participants are coming from a highly educated background. A mass majority of the participants have a university degree; therefore, this study represents highly educated individuals. The biggest limitation about demographics is the status of income level. During the data collection, Turkish government updated the minimum salary level. Therefore, people choose their income group based on the previous salary data, and this may cause an unhealthy representation of income distribution.

On the other hand, this study is based on self-reports of the respondents, and it may decrease external validity via social desirability bias. Another limitation is the design of the study. The current study had a correlational design to find out the relationship between predictor factors and resilience; however, it does not point out any kind of causality. Even though we can discuss about the connections, we cannot demonstrate any cause-and-effect

relationships. Furthermore, data is collected via online methods. It is possible that face-to-face data collection methods may cause different results and interpretations.

Further research with experimental designs on resilience would be useful to understand whether this study's variables also cause resilience or not. Also, replication studies may be conducted to see whether this study's findings are consistent with different groups in future direction. For example, cross-cultural studies may be conducted to generalize the results. Different cultural groups may conceptualize resilience in different terms, and it may affect the relationship among factors. Even the definition of traumatic events may change the traumatic reactions and the possibility of developing post-traumatic stress disorder. In fact, Eastern societies have more collective cultures that emphasize social support more than Western societies who value independence instead of interdependence. Considering Turkish society has a collectivistic culture, it is not surprising that this study found social support has the strongest component in resiliency. In the future directions, there can be studies comparing the resilience scores of traumatic and non-traumatic samples. Thus, the understanding toward the role of trauma can become clearer.

Hence, the relationship between psychopathology and resiliency can be explored. Beyond traumatic experiences, other etiological factors of mental health disorders can be deeply searched to see resilience from a different perspective. Gaher et al. (2013) took emotion regulation as a mediator between trauma and borderline symptoms, and they clarified that recognizing emotions may have an indirect effect of traumatic symptom severity. On the other hand, some vulnerability factors like anxiety-sensitivity or rumination may have an indirect effect among the association of psychopathology, resilience, and cognitive reappraisal (Moore et al., 2008). In a study on firefighters, it was demonstrated that when the number of traumatic experiences increases, the perceived stress level also increases (Lee et al., 2014). However, perceived stress can partially explain whether firefighters develop PTSD or not. In other

words, resilient people perceive less stress; as a result, they are less likely to develop psychopathology. Moreover, cognitive reappraisal is effective in the point of perception of stress. Firefighters who can reinterpret the situation in a more positive way reported that they are less likely to adopt negative perceptions towards situation – which makes the situation less threatening or stressful. So, it can be inferred that cognitive reappraisal positively influence the perception of a situation in a stressful way, and it will increase resilience while decreasing the development of PTSD. In recent years, emotion-focused coping also gains importance. Instead of removing the stressor from problem-solving perspective, this coping strategy focuses changing related emotional responses (Herman and Tetrick, 2009). In the context of a situation that is difficult to be modified, this strategy can reduce negative affect, enhance mindfulness, and help recovery from traumatic events (Lilly and Graham-Bermann, 2010). So, as a further direction, emotion-focused coping skills can be enhanced by emotion-focused therapy atmosphere where emotion regulation is prioritized. Therefore, further studies may explore the relationship among psychopathology, emotion regulation, and resiliency.

In addition to these predictor factors, literature took the role of mindfulness or specific personality traits into the consideration; so, their role in resiliency can be examined in detail. In 2020, Zarotti et al. searched whether mindfulness can indirectly affect the association between cognitive reappraisal and resilience. Their study highlighted that the level of being receptively attentive to the present moment has an indirect effect on reinterpreting the situation and bouncing back against adverse events. In practice, mindfulness-based interventions may benefit from that kind of study's results to develop clinical techniques. In work psychology, the role of personality characteristics may help recruiters to choose the right employees for jobs that may have traumatic risks.

To conclude, resiliency is the combination of inner strength and external resources. It gives individuals the power of overcoming adverse life events, protecting their mental health, and

moving forward to the future challenges. Just as darkest hour is just before the dawn, the darkest time of trauma is just before finding the resiliency inside. *Resiliency is being strong on the inside, having a courageous spirit* (Brokenleg, 2012, *p. 12*).

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