T.C.
ANKARA YILDIRIM BEYAZIT UNIVERSITY
THE GRADUATE SCHOOL OF SOCIAL SCIENCES

INVESTIGATION OF THE FACTORS RELATED WITH POSTTRAUMATIC STRESS AND POSTTRAUMATIC GROWTH AMONG EMERGING ADULTS WHO EXPERIENCED THE 2023 KAHRAMANMARAŞ-CENTERED EARTHQUAKES

MASTER'S THESIS

Fatma Gül PEMİK

DEPARTMENT OF PSYCHOLOGY

ANKARA, 2024

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Advisor

Asst. Prof. Dr. Nur ELİBOL PEKASLAN

ANKARA, 2024

APPROVAL PAGE

The thesis, prepared by Fatma Gül PEMİK and titled “Investigation of The Factors Related with Posttraumatic Stress and Posttraumatic Growth Among Emerging Adults Who Experienced The 2023 Kahramanmaraş-Centered Earthquakes” is accepted by a unanimous vote as a master thesis at Ankara Yildirim Beyazıt University, Institute of Social Sciences, Department of Psychology.

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<tr><th colspan="2">Jury Member

Title, Name and SURNAME</th><th>Institution</th><th>Signature</th></tr>
<tr><td colspan="2">Asst. Prof. Dr. Nur ELİBOL PEKASLAN</td><td rowspan="2">Ankara Yıldırım Beyazıt University</td><td rowspan="2"></td></tr>
<tr><td>Accept ☒</td><td>Reject ☐</td></tr>
<tr><td colspan="2">Asst. Prof. Dr. Elif Emir ÖKSÜZ</td><td rowspan="2">Ankara Yıldırım Beyazıt University</td><td rowspan="2"></td></tr>
<tr><td>Accept ☒</td><td>Reject ☐</td></tr>
<tr><td colspan="2">Asst. Prof. Dr. Demet KARA</td><td rowspan="2">Akdeniz Bilim University</td><td rowspan="2"></td></tr>
<tr><td>Accept ☒</td><td>Reject ☐</td></tr>
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Thesis defense date: 29/08/2024

I certify that this thesis fulfills the requirements to be deemed a master thesis at Ankara Yıldırım Beyazıt University, Institute of Social Sciences, Department of Psychology.

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Assoc. Prof. Dr. Muhammet Enes KALA

Acting Director of the Institute of Social Sciences

DECLARATION

I declare that this thesis is my own work, that I have not had any unethical behavior infringing patent rights and copyright at any stages from the planning to writing of the thesis, that I have obtained all the information in this thesis within academic and ethical rules, and that I have cited all the information and comments used in this thesis. 29.08.2024

Signature

Fatma Gül PEMİK

DEDICATION

to all the earthquake victims

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ABSTRACT

Investigation of The Factors Related with Posttraumatic Stress and Posttraumatic Growth Among Emerging Adults Who Experienced The 2023 Kahramanmaraş-Centered Earthquakes

The earthquakes are recognized as one of the traumatic events with their sudden, unexpected and catastrophic effects. Traumas are acknowledged to have adverse outcomes for people's mental health, primarily as post-traumatic stress (PTS). Nevertheless, recent studies demonstrate that traumatic experiences may also lead to favorable changes such as post-traumatic growth (PTG) along with adverse outcomes. The 2023 Kahramanmaraş-centered earthquakes affected a huge geographical region and population in Turkey due to their devastating effects. Accordingly, among this population, emerging adults, who are in a critical period of development, are important to investigate the favorable and adverse consequences of their traumatic experiences. In this regard, current study aims to examine the factors affecting posttraumatic stress and posttraumatic growth of emerging adults who experienced the 2023 Kahramanmaraş-centered earthquakes. With this aim, a total of 201 emerging adults between 18-29 age range from 11 provinces impacted by the earthquakes (Kahramanmaraş, Hatay, Adıyaman, Gaziantep, Malatya, Kilis, Diyarbakır, Adana, Osmaniye, Şanlıurfa, and Elazığ) participated in this study. The data were gathered through the online form and the participants responded to Core Beliefs Inventory, Posttraumatic Growth Inventory, Impact of Events Scale-Revised (IES-R), Event Centrality Scale and Life Views Questionnaire, respectively. For examining the direct and indirect associations between the variables, moderated mediation models were designed. In accordance with the purposes of the study, t-test, ANOVA, multiple regression analyses and moderated mediation analyses were employed for the data. As per the findings, it was determined that the event centrality served as a mediator in the relation between PTS and PTG. Moreover, the moderating effect of emerging adulthood sub-dimension of experimentation/self-focus on the relation between PTS and PTG through the event centrality was also detected as significant. This study highlighted important effects of event centrality and emerging adulthood features in posttraumatic stress and growth processes. Findings of the study are discussed within the framework of relevant and recent literature.

Keywords: Kahramanmaraş-centered earthquakes, post-traumatic growth, post-traumatic stress, emerging adulthood, event centrality

ÖZET

2023 Kahramanmaraş-Merkezli Depremleri Yaşamış Beliren Yetişkinlerdeki Travma Sonrası Stres ve Büyüme ile İlişkili Faktörlerin İncelenmesi

Depremler ani, beklenmedik ve yıkıcı etkileriyle bilinen travmatik olaylardan biridir. Travmaların kişilerin psikolojik sağlığına özellikle travma sonrası stress (TSS) gibi olumsuz etkilerinin olduğu kabul edilen bir görüştür. Diğer taraftan, daha güncel çalışmalar travmatik deneyimler sonucu olumsuz çıktıların yanında kişilerde travma sonrası büyüme gibi (TSB) olumlu değişimler görülebileceğini de göstermektedir. 2023 Kahramanmaraş-merkezli depremler ülkemizde yıkıcı etkileri sebebiyle çok büyük bir coğrafi bölgeyi ve popülasyonu etkilemiştir. Bu noktada bu popülasyon içinde gelişim dönemi olarak kritik bir süreçte olan beliren yetişkinlerin travmatik deneyimleri sonrasında yaşayacakları olumlu ve olumsuz sonuçların araştırılması önem arz etmektedir. Bu bağlamda, bu çalışmanın amacı 2023 Kahramanmaraş-merkezli depremleri yaşamış beliren yetişkinlik dönemindeki bireylerdeki travma sonrası stres ve travma sonrası büyümeyi etkileyen faktörlerin incelenmesidir. Bu amaçla çalışmaya depremden etkilenen 11 ilde bulunan (Kahramanmaraş, Hatay, Adıyaman, Gaziantep, Malatya, Kilis, Diyarbakır, Adana, Osmaniye, Şanlıurfa ve Elazığ), 18-29 yaş aralığındaki 201 beliren yetişkinlik dönemindeki birey katılmıştır. Çalışma verileri çevrimiçi form aracılığıyla toplanmış ve katılımcılar sırasıyla Temel İnançlar Envanteri, Travma Sonrası Büyüme Envanteri-X, Olayların Etkisi Ölçeği-Gözden Geçirilmiş (IES-R), Olay Merkeziliği Ölçeği ve Yaşam Görüşleri Anketini cevaplamışlardır. Değişkenler arasındaki doğrudan ve dolaylı ilişkilerin incelenmesi için durumsal aracılık modelleri oluşturulmuştur. Çalışmanın amaçlarına uygun olarak veriler için t-testi, ANOVA, çoklu regresyon analizleri ve durumsal aracılık analizleri uygulanmıştır. Bulgular doğrultusunda, PTS ve PTG arasındaki ilişkide olayın merkeziyetinin aracılık rolü olduğu saptanmıştır. Ayrıca PTS'nin olayın merkeziyeti aracılığıyla PTG üzerindeki etkisinde beliren yetişkinlik alt boyutu deneme/kendine odaklanmanın düzenleyici etkisinin anlamlı olduğu tespit edilmiştir. Çalışma travma sonrası stres ve büyüme süreçlerinde olayın merkeziyeti ve beliren yetişkinlik dönemi özelliklerinin var olan etkilerinin önemini vurgulamıştır. Çalışmanın bulguları ilgili ve güncel literatür çerçevesinde tartışılmaktadır.

Anahtar Kelimeler: Kahramanmaraş-merkezli depremler, beliren yetişkinlik dönemi, travma sonrası büyüme, travma sonrası stres, olayın merkezi

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LIST OF ABBREVIATIONS

PTS : Post-traumatic stress
PTG : Post-traumatic growth
IDEA : Inventory of Dimension of Adulthood
PTSS : Post-traumatic stress symptoms
PTSD : Post-Traumatic Stress Disorder

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1. INTRODUCTION

During the existence of humanity, each human being has been exposed to at least one or more traumatic experiences throughout their lives (Breslau et al., 1991). Traumatic experiences can be said to have a deep-rooted history over the years (Norris et al., 2002). The concept of trauma is differentiated from stressful life events frequently encountered in daily life by its content of death or severity (Van der Kolk, 2003). Facing a traumatic life event leads to psychological distress by causing intense and prolonged stress reactions that the person has difficulty coping with (Briere & Scott, 2014). After the traumatic experience, the person might be under a life-threatening risk. Such an experience can seriously damage physical and psychological health. Being exposed to a traumatic experience can negatively affect many areas of life, especially social existence, occupational status and the right to belong (Brady, 2012). People could have experienced or witnessed death or serious injury in a traumatic event (APA, 2013). Such severe events can be experienced by the person himself/herself or directly witnessed or experienced by a close one (APA, 2013). Traumatic events that disrupt the natural flow of life can be categorised into three groups: natural (earthquakes, floods, hurricanes etc.), deliberate human-caused (e.g. a war, physical-sexual assault, kidnapping etc.) and accidental (as serious motor vehicle accidents, workplace accidents etc.). Natural hazards like earthquakes, floods, hurricanes, fires and landslides are traumatic experiences that occur naturally and have serious damaging features on individual's dealing strategies (Tedeschi & Calhoun, 2004).

Natural disasters are defined as rapid, sudden and extreme events within the geophysical system that surpass the abilities of the affected area to respond and recover. Also, causing damages such as injury and death to the inhabitants and material damage (Bedirli, 2014; Briere & Scott, 2014). Natural disasters cause serious human and economic costs by causing deaths, injuries and homelessness (AFAD, 2018). Over the last decades, disasters are occurring more and more frequently around the world (Al Khalaileh, 2009). The fact that the number of people affected by traumatic events, especially as a result of natural disasters such as earthquakes, reaches millions makes it clear that the natural disasters are a serious public health issue (Pfefferbaum et al., 2014).

Considering all natural disasters, earthquakes pose the greatest threat for Türkiye. Due to its location and geological structure, Türkiye is one of the countries with the highest earthquake risk and considered as the most threatening natural disaster with the most destructive effects (Korkmaz, 2009). Throughout its history, Türkiye has faced many major earthquakes. On 6 February 2023 at 04:17 and 13:24 Türkiye time, a 7.7 magnitude earthquake occurred in Pazarcık province of Kahramanmaraş, followed by a second 7.6 magnitude earthquake centred in Elbistan (AFAD, 2023). These earthquakes centred in Kahramanmaraş directly had devastating effects on 11 provinces in Türkiye. As a result of these earthquakes, according to official data, over 50 thousand lives were lost and over 115 thousand injuries, 38 thousand buildings collapsed, 528,146 people were evacuated to safe provinces and 1,971,589 earthquake victims evacuated by their own means (AFAD, 2023). Since these earthquakes affected a large region and a large number of people, they caused a mass trauma and thus are considered as a traumatic event. Especially earthquakes can cause great trauma in physical, psychological and social dimensions with their destructive effects. Earthquakes shake individuals' sense of security, may result in loss of life and destruction, and may require struggle with homelessness and losses. Such traumatic events can leave long-term effects on people's psychological health (Kurt & Gülbahçe, 2019). In some cases, due to the intensity, severity and duration of the physical threat or pain after earthquakes, anxiety reactions may continue for a long time even if the current threat situation disappears (Tedeschi & Calhoun, 2004). These traumatic events can cause post-traumatic stress (PTS) in individuals by creating intense feelings of fear and helplessness. Posttraumatic stress can be defined by symptoms such as re-experiencing the traumatic event, having negative thoughts and feelings about the event, sensitivity to trauma-related stimuli, and a tendency to avoid them (APA, 2013). If these responses are short-term, it can be considered as normal reactions to high levels of stress, however, when they are more prolonged, it can lead to the onset of many diseases such as post-traumatic stress disorder (PTSD) (APA, 2013; Brown et al., 2001). At this point, persistent and worsening deterioration in cognitions, emotions and responses related to the traumatic event is referred to as PTSD (APA, 2013). As an explanation, the present study investigated all levels of posttraumatic stress reactions that may occur after traumatic experiences, rather than the responses that would be diagnosed as PTSD. Nevertheless, it is known that posttraumatic stress symptoms can be a strong indicator of PTSD (Bonde et al., 2022). In this context, the terms PTS and PTSS were generally used in this study since PTS reactions were examined. However, in parallel with the literature,

studies measuring PTSD are also referenced in the present study because of they are closely related.

After a severe disaster as a traumatic event, Norris et al. (2002) suggest that survivors often suffer from the devastating psychological effects of the disaster (e.g. depression, anxiety disorders) and among these, post-traumatic stress occupies the most prominent place. Similarly, being exposed to a disaster causes 30-40 % of people to suffer from PTSD (Javidi & Yadollahie, 2012). Severity level of these negative consequences of hazards depends on the interaction of various factors such as the type, urgency and magnitude of the disaster, the level of exposure of disaster victims, the degree of loss and a number of other personal, social and economic factors (Riad & Norris, 1996). Nevertheless, it can be stated that the high frequency of negative consequences experienced by individuals as a result of traumas, the rapid appearance of negative consequences immediately after the trauma, and the negative nature of traumas lead to a focus mostly on the negative aspects of trauma experiences (Chen et al., 2015; Glicken, 2006; Tedeschi & Calhoun, 1996). On the other hand, it is also indicated that traumatic events have produced favourable changes for individuals and could also have a possible positive effect on traumatic events (Tedeschi & Calhoun, 1998). In recent years, researchers have increasingly shifted away from their special interests on adverse aftereffects of traumatic incidents and the amount of research have been documenting favorable outcomes following such traumatic incidents (McElheran et al., 2012; Tedeschi & Calhoun, 2005; Updegraff & Taylor, 2000). Tedeschi and Calhoun (2005) conceptualised this concept and named it as "Post-traumatic growth (PTG)". It highlights the potentially transforming nature of what an individual experience after traumatic events. Growth includes favourable transformations regarding life philosophy, the self, and interpersonal relationships (Tedeschi et al., 1998).

Concepts of PTS and PTG are recognised like separate conditions. Even there are two opposite perspectives in the literature regarding these two psychological phenomena (Dekel et al., 2012). However, PTS and PTG are not completely unrelated constructs and should not be seen as alternatives to each other. For this reason, it is possible to claim that negative (PTS) and positive (PTG) results of trauma can coexist in individuals (Chen et al., 2015; Helgeson et al., 2006). The studies indicate the existence of an association among PTS and PTG, and also, several investigators have examined this subject by reviewing the relevant research (Chen et al., 2015; Helgeson et al., 2006; Zoellner & Maercker, 2006).

Nevertheless, the findings show inconsistency: whereas some of the research suggest that relationship among PTS and PTG is not meaningful (Ho et al., 2005; Joseph et al., 1993) others claim that there is positively significant correlation (Bluvstein et al., 2013; Chen et al., 2015) or negative direction (Frazier et al., 2001). At this point, considering that the findings on these two different trauma outcomes are not consistent, investigating association among the PTS and PTG for individuals who have experienced Kahramanmaraş-centred earthquakes will be an essential addition to the relevant literature.

Furthermore, although posttraumatic stress and growth are generally regarded as separate independent constructs, even there are shared variables (e.g., personality traits, disruption in core beliefs, coping strategies, and centrality of events) that affect both psychological states in similar ways (Kashdan & Kane, 2011; Schuettler & Boals, 2011; Wang et al., 2023). Event centrality, which one of the factor explored in this thesis is a relatively new concept that has been frequently addressed in the trauma literature in recent years, also has similar results (Groleau et al., 2013; Schuettler & Boals, 2011; Wamser-Nanney, 2019). The centrality of events is used in order to describe the degree to that traumatic experiences/events are an integral component of an individual's life or whether the person considers this event such a landmark of their lives (Berntsen & Rubin, 2006). Within the trauma literature, there are numerous studies and findings that event centrality predicts and is related to posttraumatic stress (Berntsen & Rubin, 2007; Boals & Ruggero, 2016; Rubin et al., 2011). However, recent studies indicate that event centrality is not only related to PTS but also a strong predictor variable for PTG (Groleau et al., 2013; Helgeson et al., 2006; Lancaster et al., 2013). Since the notion of centrality of events is related with both favorable outcomes like the PTG as well negative outcomes like the PTSD, it is depicted like a ‘double-edged sword’ in the literature (Boals & Schuettler, 2011). This double-edgedness in the literature is noteworthy and emphasizes the necessity of conducting more studies in this field.

Furthermore, although the dominant literature suggests that event centrality predicts PTS, these studies are mainly cross-sectional and lack a detailed assessment of the direction of the relationship between event centrality and PTS (e.g. Berntsen & Rubin, 2007; George et al., 2016; Reiland, 2017). However, the most recent studies reveal new findings regarding this relationship. In these studies, it is reported that PTS predicts event centrality even in longitudinal analyses, but in contrast to the dominant literature, the reverse relationship was

not detected (Blix et al., 2013; Glad et al., 2020; Stevens et al., 2022). These results are based on the assumptions underlying the concept of event centrality (Berntsen & Rubin, 2006). Accordingly, although the frequency of traumatic events is low, the probability of remembering them is higher due to their greater emotional intensity and high stress content. Emotional intensity and high stress increase the degree of centrality of the event in one's life. Put differently, posttraumatic stress symptoms that emerge as a result of traumatic events can predict the centrality of the event by increasing the recall and accessibility of the event in memory (Berntsen & Rubin, 2006; Tversky & Kahneman, 1973). These explanations support the relationship that PTS increases the event centrality in the main model of the current study. In addition, the second part of the model, event centrality predicting PTG, is also explained within the framework of the posttraumatic growth model (Tedeschi & Calhoun, 2004). According to the model, an event with high centrality is required for growth initiation. At this point, the centrality of the event increases through PTS and increased event centrality acts as an initiating force for PTG (Tedeschi & Calhoun, 2004). In this context, while there are relatively more studies examining the direct correlation among the event centrality and both PTSS and PTG (Schuettler & Boals, 2011; Wamser-Nanney, 2019), there are limited studies exploring the mediator effect of event centrality in the relation among the PTS and PTG. In this context, this current study would significantly contribute to the literature both by providing a clearer pattern for the inconsistent findings regarding the association among PTS and growth as well as by investigating the possible mediating effects of the event centrality on this relationship.

After natural disasters, especially earthquakes, individuals of all ages are affected by this traumatic experience in many different ways (Bates et al., 1963). However, it appears that individuals in emerging adulthood, which is an important period of transition and uncertainty in their lives, are one of the more sensitive to stressful life experiences (Arnett et al., 2014; Hassan, 2008). For most people, moving from adolescent to adulthood stage symbolizes a major developmental milestone. And emerging adulthood is accepted as a time of critical life transition and one of the most instable phases of the life span (Arnett et al., 2016). ‘Emerging adulthood’ (among the ages of 18-29) is a critical stage for self-discovery, identity formation, and also making important life decisions. Although emerging adulthood experiences of young people vary according to national, cultural and socioeconomic variables, the characteristics of emerging adulthood are a well-recognised phenomenon (Arnett, 2016). Significant changes experienced during this period can create instability and

uncertainty, and thus create a significant mental health risk for emerging adults (Arnett et al., 2014; Kessler et al., 2005; Lane, 2014). Considering all these information, it is believed that it is considerably important to investigate the posttraumatic growth and stress states of emerging adults who are victims of the earthquake as well as who are in a sensitive developmental process. In addition, the moderator effect of emerging adulthood characteristics between event centrality and PTG can also be explained within the framework of reminiscence bumb and cultural life script concepts in the literature. Reminiscence bumb is a psychological phenomenon in which people tend to recall more memories during certain periods of their lives (early adulthood between the ages of 15-30). The reason for this might be that major events (e.g. first love, graduation, etc.) have a stronger emotional impact on people during these periods (Janssen & Murre, 2008). Accordingly, it is stated that people experience the majority of the events that are referred to as "the most important events" in their lives between the ages of 15-30. During this period, individuals have memories (e.g., marriage, graduation, etc.) in accordance with their cultural life scripts (Rubin, Wetzler & Nebes, 1986). For this reason, individuals recall their memories of this period more frequently and the centrality of these events in their lives is higher (Berntsen & Rubin, 2004; Janssen & Murre, 2008). In the light of this information in the literature, it can be stated that for individuals in emerging adulthood, in the context of their developmental period, the earthquake experience may have a more important place in their lives. This strengthens the assumption that the centrality of the earthquake event is higher especially in this period.

In literature, studies examining the emerging adulthood period often focus on this period just as 'age-oriented' (Barton et al., 2013; Kashdan & Kane, 2011). However, there are not many studies explaining to what extent the person who has this age period have the characteristics of emerging adulthood. It is believed that it is more valuable to make an assessment of to what extent the individuals in this period reflect the characteristics of their developmental period rather than just making an assessment according to their age (Atak & Çok, 2008). In order to assess the study from a more specific developmental perspective, it was focused on to what extent emerging adults can reflect the characteristics of the developmental period they are in. For this reason, it is considered that this point will make a more unique contribution to the literature. In addition, studies specifically examining the concept of PTG in terms of emerging adulthood are very limited. According to one of the rare studies, stronger engagement with the characteristics of the emerging adulthood developmental stage is linked to higher degrees of posttraumatic growth (Arpawong et al.,

2016). Thus, it is significant that the sample of this study consists of emerging adults in order to fill the gap in the literature on the subject.

Consequently, this study aims to achieve several goals: i) first, to investigate the association between the PTS and PTG; ii) explore how event centrality was related with PTS and PTG; iii) to test the possible moderated mediation model which event centrality as a mediator role and emerging adulthood dimension as a moderator role in the association between PTS and PTG; iv) to assess relationships among demographic characteristics, factors including earthquake experiences (city where the earthquake occurred, loss of life and property, where they lived after the earthquake, whether they moved out of the city after the earthquake, etc.) and emerging adulthood level with PTS and PTG. In the following sections of the introduction, PTS, PTG, event centrality and emerging adulthood are explained from a psychological perspective. Afterwards, a review of the relevant literature is presented to explore how the concepts of posttraumatic stress and growth are being related, as well as how event centrality and emerging adulthood level might influence this relationship.

2. LITERATURE REVIEW

2.1. Definition of Trauma

The concept of trauma is conceptualised like incidents which poses a threat to their physical, psychological as well as behavioural wholeness of the person, create a feeling of intense helplessness in the person, destroy the existing control and meaning-making systems of people, and disrupt the functions of emotion, thought, memory and behaviour that are normally functioning in an integrated manner (Briere & Scott, 2014). The definition of events that can have traumatic effects is defined such as 'severe injury, exposure to sexual violence, death, threat of sexual violence, exposure to war as a civilian or soldier, a real physical assault or threat, real sexual assault or threat, kidnapping, hostage-taking, terrorist attacks, torture, natural or man-made disasters, severe accidents, child abuse, sudden medical conditions' (APA, 2013). In addition, Briere and Scott (2014) state that highly distressing events that will cause the emergence of long-term psychological symptoms where the coping resources of the person are insufficient can also be considered traumatic; because the threat to psychological integrity can cause at least as much pain and have traumatic effects as the threat to physical integrity. However, in the literature, three points are emphasised in considering an event as a trauma. These are the suddenness of the event, its uncontrollability, and the evaluation of the event by the person as largely negative (Carlson & Dalenberg, 2000). In terms of the types of traumatic events with these characteristics, they are generally divided into two groups as man-made events such as war, torture, accidents and natural events such as earthquakes and floods; and man-made events are divided into two groups as intentional and accidental (Dürü, 2006). In this study, one of the types of traumatic experiences, earthquakes, is discussed.

2.1.1. Natural Disaster and Earthquake

Natural or human-induced disasters or hazards occur in various parts of the world every day (Briere & Scott, 2014). The disasters are naturally occurring conditions, such as earthquakes, floods, landslides, etc., that are associated with detrimental impact to people's lives, property, or physical and psychological health (Van der Kolk, 2003). In the course of

each year, hundreds millions of humans are destructively impacted from disasters that create loss of life and property. Although earthquakes affect only 3% of people, it is the most potentially lethal of all natural disasters. Of total deaths, 55% were caused by earthquakes (Daniell, 2014). Earthquake, which is a type of natural disasters, is generated by the releasing of the energy of seismic waves. According to the criteria used in the classification of disasters, earthquakes are considered as natural, sudden, unpredictable, uncontrollable and short-term natural events with devastating effects (Şakiroğlu, 2011). In addition to injuries, loss of life and property; severe earthquakes cause serious economic damage, job loss and shelter loss rates in the country; cause disruptions in transportation and communication, and cause negative psychological effects on a social and individual basis (Erdur-Baker, 2014).

Due to its location, Türkiye is ranked in the fourth place among the countries with the highest earthquake risk (Bıçakçı & Karakayalı, 2022). In relation to its tectonic substructure, Türkiye has many active fault lines where the most destructive earthquakes are experienced (Kasapoğlu, 2007). The Kahramanmaraş-centred earthquakes of 6 February 2023, experienced in many cities, are remembered as one of the biggest disasters in the history of the Turkish Republic. Two major earthquakes were experienced in two different provinces on the same day (Kartal et al., 2014). Based on AFAD database of 13 March 2023, the earthquake disaster caused nearly 17,000 aftershocks, killing more than 50,000 people. In addition, an estimated 301,000 houses and business centres collapsed or suffered moderate to severe damage, with an estimated economic impact of $104 billion (AFAD, 2023; Marangoz & İzci, 2023).

2.1.2. Psychological Effects of Earthquake as a Disaster

During the time period or after the disasters, psychological effects can arise both in the individuals directly affected and in other members of the society as a result of the destructive effects of the disaster (Van der Kolk, 2003). Extensive studies in the disaster literature demonstrate that following disasters, victims are highly vulnerable to suffering from psychological difficulty like posttraumatic stress as onset of PTSD, anxiety, non-specific distress and among these the most prevalent problem is PTSD (Norris, et al 2002). For instance, after the 1985 Puerto Rico disaster in which floods and landslides have caused 180 deaths, Canino et al. (1990) conducted a study. Two years after the disaster, 375

participants who survived the disaster and 500 participants who did not experience the disaster as a control group participated in the study. Results revealed that depression level, generalised anxiety symptoms as well as PTSD cases were higher in the survivors who participated in the study. Factors affecting the extent of these negative consequences of disasters are as follows: the type of disaster, its unexpectedness and severity, exposure level, amount of loss (Riad & Norris, 1996). Moreover, the effects of these factors may have focused trauma responses on the mainly negative consequences (Glicken, 2006). However, the impact of traumatic events on victims is not always negative. When the incident seriously affects people's daily lives and threatens their lives, it is possible that it may lead to positive changes in some individuals' thoughts and relationships with themselves, other people as well as the world outside (Updegraff & Taylor, 2000). After the trauma, the individual's development and increase in functionality in various areas of life is called posttraumatic growth (Tedeschi & Calhoun, 2004).

As the current research primarily centers on the factors associated with PTS and PTG, further chapters will extensively discuss the concepts, relevant models, and predictions of PTS and PTG. As mentioned before, in this study, all posttraumatic stress reactions that may arise after traumatic experiences were investigated, not specifically reactions at the level of PTSD diagnosis. However, it is known that posttraumatic stress symptoms could be the onset of PTSD (Bonde et al., 2022). Also, in the literature, studies investigating the variables of the present study have generally evaluated the stress dimension in terms of PTSD (e.g. Chen et al., 2015; Groleau et al., 2013; Wang et al., 2018). Moreover, even though most studies did not measure PTSD in their own studies, they derived their theoretical foundations from PTSD study (e.g. Glad et al., 2020; Stevens et al., 2022). For this reason, even though posttraumatic stress (PTS) is assessed in this study, PTSD terms are also mentioned since the literature on posttraumatic stress disorder is also referenced in this study.

2.2. Post-Traumatic Stress (PTS)

Psychological stress includes the emotional, cognitive, physiological and behavioural reactions that occur in order to survive and maintain homeostasis when a person is faced with a real or perceived threat that (Cash, 2006). In everyday life, most people may face situations that cause psychological stress. These can be 'common' stressors of relatively low

severity, such as getting a new job, moving, getting married, becoming a parent. While many people face 'extreme' stressors, such as natural disasters, violence, war, migration, widespread illness, which occur less frequently but are more severe (Cash, 2006; Goldberger & Breznitz, 2010). The emotional, cognitive, physiological and behavioural responses triggered by exposure to such stressors are often adaptive ones that activate coping mechanisms (Cash, 2006). In other words, a person's optimal experience of stress responses when faced with such situations is normal, even desirable, and supports survival mechanisms (Janoff-Bulman, 1989). However, in times when the level of stress becomes excessive, and 'normal' stress reactions are insufficient to prevent danger or exceed the individual's coping mechanisms, 'abnormal' stress reactions may emerge (Cash, 2006). In this case, stress reactions are experienced more intensely, uncontrollable and persistent (APA, 2013).

In the literature, it is stated that some types of events lead to more 'abnormal' stress reactions (Janoff-Bulman, 1989). These events, which are also called 'traumatic stressors', are generally considered as extreme stressors and involve threats to physical integrity. These events can be natural (earthquakes, volcanic eruptions, etc.) or man-made disasters (e.g. traffic accidents, work accidents, etc.), as well as experiences such as violence, crime and terror (robbery, domestic violence, abuse, etc.) (Herbert, 2016). Briefly, stress, which is functional in terms of adaptation and coping, can become traumatic in the case of certain events. Exposure to traumatic stressors greatly affects people's emotions, thoughts and behaviours (Calhoun & Tedeschi, 1999). This exposure is functional for survival when it is short-term, as in acute stress, however, it causes disruptive effects on the brain and body in cases of prolonged and severe stress, as in traumatic experiences (Goldberger & Breznitz, 2010). When these reactions are short-term, they are considered as normal reactions to high levels of stress and disappear after a while (APA, 2013). However, the effects of traumatic stress can sometimes be long-lasting due to personal, situational or environmental characteristics In this case, it predisposes to trauma-related problems such as PTSD, depression, aggression, anxiety disorders, physical illnesses, self-harming behaviors, and substance abuse (Brown et al., 2001; Carlson & Dalenberg, 2000; Torchalla et al., 2014). The most common of these is reported to be PTSD (APA, 2013). As mentioned before, the present study did not specifically examine stress reactions at a level that would lead to a diagnosis of PTSD, but detailed information about PTSD was provided for a better understanding of posttraumatic stress reactions.

2.2.1. Posttraumatic Stress Disorder and Diagnostic Criteria

Posttraumatic Stress Disorder (PTSD) is defined as a diagnosis that includes a group of intense symptoms as a result of exposure to one or more traumatic events, or learning that it happened to a relative, or being repeatedly and intensely confronted with the details of the event (Van der Kolk, 2003). Although it has been known for many years that people exposed to traumatic events experience severe and long-lasting symptoms, PTSD was recognized as a diagnosis after with DSM- III (APA, 1980; Spitzer et al., 2007). The main clinical features of this diagnosis are a state of hyperarousal lasting more than 1 month (e.g. outbursts of anger, exaggerated startle reactions, difficulties in focusing), involuntary symptoms related to the stressful event (e.g. memories, dreams, dissociative reactions in which the event is experienced as if it is happening again), avoidance of reminders of the event, cognitions about the event that started or worsened after the event, and negative changes in mood (e.g. exaggerated negative beliefs and expectations about the self and the world, persistent negative mood, decreased interest in activities, feelings of alienation) (APA, 2013).

Ever since DSM-III, it is seen that many adjustments have been made in the diagnostic criteria of PTSD (Spitzer et al., 2007). According to the latest revision, in DSM-V, as different from DSM-IV, "accompanied by emotional reactions such as fear, helplessness and terror" to the traumatic event was removed from the absolute diagnostic criteria; the group of symptoms, which was previously 3, was increased to 4; the condition of "must begin or worsen after exposure to the traumatic event" was expanded to include all symptoms; different diagnostic criteria were determined for children before the age of 6; and the dissociative subtype was defined (Miller et al., 2012). Furthermore, in DSM-V, PTSD was removed from the category of anxiety disorders and addressed as a separate category. Accordingly, adjustment disorder, reactive attachment disorder, unrestricted social participation, PTSD and ASD were added under the heading of "Trauma and Stressor-Related Disorders" (APA, 2013). Furthermore, in DSM-V, trauma experience is more clearly defined and described as "something that happened to the person, witnessed directly, learned about through another means (media, hearing from someone else, etc.), or happened to a close friend or relative". It is also stated that in order for the event experienced/witnessed/learned to be a trauma, there must be a real threat of death or a threat to the integrity of life. In DSM-V, reactions to trauma were diversified as emotional, cognitive, behavioral and physiological; avoidance of the traumatic event and stimuli

evoking the event was added to the diagnostic criteria (APA, 2013). PTSD usually occurs within three months after the traumatic event, and although symptoms may improve after a while, it is reported that symptoms sometimes persist from twelve months to fifty years (APA, 2013). As a result, Posttraumatic Stress Disorder (PTSD) is defined as persistent and/or worsening symptoms of re-experiencing, avoidance and hyperarousal following a traumatic experience and persistent and/or worsening deterioration in cognition, mood and reaction to the event (APA, 2013).

2.2.2. Epidemiology of Posttraumatic Stress Disorder

Although it is known that people exposed to a traumatic life event develop PTSD at a considerable rate, different prevalence rates have been reported in studies (Helzer et al., 1987). For example, there are studies showing that PTSD is commonly seen in such different sample groups as traffic accidents and terrorist attacks (Shalev & Freedman, 2005), earthquake survivors (Başoğlu et al., 2004), and victims of sexual and physical assault (Phillips et al., 2006). However, there are also studies revealing that many people do not develop PTSD even if they experience a traumatic life event (Mc Laughlin et al., 2013). Some variables such as individual biological factors, the developmental stage of the experienced trauma, the severity of the trauma, the social context in which the person experiencing the trauma is located before and after the trauma, and the life events experienced before and after the trauma have an impact on the extent to which people will be affected by trauma (Van Der Kolk, 2003). These factors may increase or decrease the severity of the reactions and symptoms given to the traumatic event by shaping people's perceptions of the value, controllability and suddenness of the event (Goldberger & Breznitz, 2010).

Since DSM-III, PTSD has been included in the literature as a diagnostic category, epidemiologic studies have been conducted. Accordingly, the lifetime prevalence was found to be 1.3% in women and 0.5% in men (Helzer et al., 1987). In another study, the lifetime prevalence of PTSD in young adults was found to be 9.2% (Breslau et al., 1991). Research shows that women are more likely to be diagnosed with PTSD compared to men (Kessler et al., 2005; Breslau et al., 1991; Haden et al., 2007). However, considering that women's higher exposure to sexual abuse and violence may lead to the possibility of developing PTSD

when other traumatic experiences are added, researchers examined the prevalence of PTSD between men and women by controlling for a history of sexual assault and found that they were close to each other (Breslau et al., 2004; Tolin & Foa, 2006).

It is difficult to give a definite rate about the prevalence of PTSD in the world. The prevalence of PTSD varies according to the countries' level of development, cultural characteristics and the frequency of traumatic experiences (Aker, 2006). Besides, studies have shown that the prevalence rate in the United States varies between 6.8% and 9.2% (Breslau et al., 2004; Kessler et al., 2005). Similarly, the prevalence rate of PTSD is 7.4% in the Netherlands (De Vries & Olff, 2009); 2.5% in Italy (Carmassi et al., 2014); 1.33% in Australia (Creamer et al., 2001); 1.3% in Germany (Perkonigg et al., 2000) and Japan (Kawakami et al., 2014). Considering the studies conducted in Türkiye, while the prevalence of PTSD was found to be 9.9-10.8% in the general population (Karancı et al., 2012), higher prevalence rates were reported in studies conducted with sample groups who were exposed to a specific traumatic event. For example, it was found that the prevalence of Posttraumatic Stress Disorder varied between 43% and 63% within the first year in people who were exposed to the 1999 Marmara Earthquake (Başoğlu et al., 2004; Livanou et al., 2002), and moreover, even three and four years after the event, the prevalence was still around 25% (Kılıç et al., 2006; Tural et al., 2004). Similar results have been reported in the world, for example, in a study conducted 6 and 17 months after the explosion in Oklahoma City, USA in 1995, PTSD rates were found to be 34% and 31% (North et al., 1999). Furthermore, in a study conducted in a volcanic region of Napoli, Italy, after a landslide in 1998, the PTSD rate was found to be 27.6% (Catapano, 2001).

2.2.3. Psychiatric Disorders Comorbid with PTSD

PTSD is also highly likely to be associated with other psychiatric disorders. It is considered that people diagnosed with Posttraumatic Stress Disorder are 80% more likely to receive a second psychiatric diagnosis than people who have not received this diagnosis (APA, 2013). The most common diagnosis accompanying PTSD is depression (Armenian et al., 2000; Başoglu et al., 2004; Tural et al., 2004). In addition, substance-alcohol use disorder, anxiety disorders, eating disorders, psychotic disorders, sleep disorders, sexual dysfunction, obsessive-compulsive disorder, conversion disorders, grief and suicide are

also observed (Armenian et al., 2000; Perkonigg, 2000; Tural et al., 2004). Accordingly, it is noted that exposure to a trauma or stressful event brings along various other psychological problems along with Posttraumatic stress disorder.

2.2.4. PTS After the Earthquake: Associated Predictors and Related Studies

Although the PTS correlates after earthquakes are not significantly different from other type of traumatic events, they are discussed in more detail in this study because the subject of current study is the earthquake survivors' psychological reactions. For understanding the risk factors for PTS, these variables grouped into pre-traumatic factors and peri-traumatic factors (Norris et al., 2002; Özer et al., 2003). As a result of meta-analysis studies, some of the pre-trauma factors predicting PTS are listed as previous trauma history, previous adjustment problems, family psychopathology, being female, lower age, lower the educational status, being single, and low economic level (Kılıç, 2005). One of the studies after the 1999 Marmara earthquake, it was found that being a female earthquake survivor was one of the prominent predictors for both PTS and major depressive episodes (Şalcıoğlu et al., 2003). Furthermore, in another study carried out with Marmara earthquake victims, findings revealed that low educational level, losing a beloved one, property losses as well as gender (being female) are meaningful predictors of PTS (Kılıç & Ulusoy, 2003; Başoğlu et al., 2004). As for age, mixed results have been reported. While some studies indicated that older age has a predictive effect on PTS (Lewin et al., 1998), some other studies reported that the younger age is an associated major risk factor for PTS (Epstein et al., 1998). Based on earthquake studies, important peritraumatic ("during-trauma factors") risk elements for the occurrence of PTS include losing a significant loved one, a higher level of property losses, trapped under rubble, distance to earthquake epicenter, physical injury, and displacement after the earthquake (Başoğlu et al., 2002; Riad & Norris, 1996). In addition, the findings regarding the risk indicators for PTS in earthquake victims from one of the studies carried out after the 1999 Marmara earthquake were as follows; factors such as being physically injured (both the individual and his/her relative), damage to the house, mortality of a family member or loved one had a negative impact on PTS (Turan et al., 2004).

2.3. Post-Traumatic Growth (PTG)

The idea that confronting challenging events and suffering can lead people to search for meaning and at the same time enable them to grow has been recognized for many years among religious, philosophical approaches and psychological approaches (Tedeschi & Calhoun, 2004). This concept has become particularly central to existential and positive psychology approaches (Cowen & Kilmer, 2002). Moreover, although approaches focusing on the positive effects of difficult life events have a long history, the systematic study of these effects dates back to the last 30 years (Tedeschi & Calhoun, 1996). In more recent years, it is seen that not only psychopathologies but also the strengths of individuals have become the focus of research (Cowen & Kilmer, 2002). These studies support the idea that while experiencing a traumatic incident may have negative effects, this traumatic experience may also bring about positive changes (Linley & Joseph, 2004). In this context, there is an expanding focus on research about the positive changes resulting from traumatic life events (Dekel etl al., 2012). This perspective, which emerged to understand the impact of trauma in a more holistic way, is called the salutogenic (focusing on health and well-being) perspective (Dekel etl al., 2012). According to this salutogenic perspective, trauma victims can experience positive personal changes beyond their pre-trauma level of functionality (Dekel etl al., 2012; Tedeschi & Calhoun, 1996). Referred to as posttraumatic growth (PTG), this phenomenon occurs as a result of reevaluating and reframing one's beliefs, goals and the way of making sense of one's life after the trauma, rather than a direct reaction to the traumatic event (Tedeschi & Calhoun, 2004).

Tedeschi and Calhoun (1996) were among the first to conceptualize the idea that traumatic events can generate positive changes as well as negative psychological reactions in individuals. The concept of " Posttraumatic Growth (PTG)" is described as the favourable psychological changes that emerge as a consequence of the process of struggling with life events that create serious difficulties in a person's life (Calhoun & Tedeschi, 1999). However, this concept is different from returning to one's previous state after a traumatic experience or life crisis or coping with these stressors. Instead, it refers to experiencing positive development in certain life domains when compared to the pre-event situation (Tedeschi & Calhoun, 2004). The positive changes in psychological aspects that occur in response to struggling with difficult life incidents are frequently mentioned in the literature as “posttraumatic growth” (Tedeschi & Calhoun, 2004). In addition, this concept can also

be termed as stress-related development (Park, 1998), finding benefits (Helgeson et al., 2006), positive change after trauma (Linley & Joseph, 2004) and resource acquisition (Hobfoll, 1989). Meanwhile, studies conducted in Türkiye generally use the term posttraumatic growth (e.g. Dürü, 2006; Karancı et al., 2012; Haselden, 2014). For this reason, in this study, the concept is addressed as posttraumatic growth. Although all these concepts refer to the positive transformations that occur in the person after facing the difficulties, Tedeschi and Calhoun (2004) state that PTG is distinguished from them in some aspects. First of all, PTG does not occur at all levels of stress. To be able to talk about PTG, it is necessary to mention the existence of a life crisis that creates a high level of stress. Moreover, the acquisition of new resources to balance the negative effects and loss of resources caused by the traumatic event cannot be considered as PTG. Because in each condition where PTG is observed, adverse impact of traumatic experiences have not completely disappeared (Tedeschi et al., 2007). The fact that, in the presence of PTG, posttraumatic stress may be present at the same time (Taku et al., 2008). It is even suggested that some level of manageable negative emotion may fuel the experience of PTG (Tedeschi & Calhoun, 2004). PTG involves changes in several areas. Theoretically, it has been suggested that PTG emerges in three areas: changes in sense of self, changes in relationships with others and changes in life perspective (Tedeschi & Calhoun, 1996). Furthermore, Tedeschi and Calhoun (2004) state that there are five different developmental domains of the PTG model. These domains are named as encountering new opportunities, realization of personal power, improving relationships with others, spiritual changes, and greater realized value of life. However, not all individuals are expected to experience the same level of development in each of the sub-domains, and development in sub-domains may vary according to personal differences such as their developmental stage, previous trauma experience, level of perceived social support (Tedeschi & Calhoun, 2004).

2.3.1. The Domains of PTG

The Changes in Sense of Self

The changes in sense of self includes positive changes such as emotional development after trauma and increased self-confidence and sense of competence due to having acquired experience (Tedeschi and Calhoun, 2004). Being able to cope with sudden

and unexpected life crises, in which a sense of control is lost, increases people's confidence in their ability to cope with life (Calhoun & Tedeschi, 1999). At the same time, after a traumatic experience, people have the opportunity to reveal or test their capabilities in different areas, thereby encountering new opportunities or giving a new direction to their lives, which also indicate changes in self-concept (Calhoun & Tedeschi, 2006; Tedeschi & Calhoun, 2004).

The Changes in the View of Interpersonal Relationship

Increased feelings of closeness, especially towards family members, as well as the tendency to disclose their feelings and thoughts more to others are among the developments that may occur in interpersonal relationships after a traumatic experience (Tedeschi & Calhoun, 1996). Traumatic experiences both test the quality of existing relationships and strengthen these relationships (Calhoun & Tedeschi, 2013). Despite the possibility that relationships may be damaged in the post-traumatic process, many people state that their relationships with others are strengthened after such an experience (Chun & Lee, 2008). Individuals who realize that they need others in this difficult process both accept help from others more easily and are more willing to help others (Tedeschi & Calhoun, 2004; Chun & Lee, 2008). Moreover, after a difficult process, these individuals show a willingness to express how they really feel more freely and honestly (Calhoun & Tedeschi, 1999). People, who have experienced high levels of stressful events, feel that they have a deeper connection with others and understand them better (Calhoun & Tedeschi, 1999).

The Changes of the Life Philosophy

Lastly, challenging the difficulties may initiate favourable alterations in a person's philosophy of life. People who realize the fact that life is mortal, reconsider their priorities in life (Calhoun & Tedeschi, 2006). In this way, they give more importance to seemingly simple things in their lives and the relationships they have (Calhoun & Tedeschi, 2013). These changes in people's priorities may lead to increased feelings of gratitude for what they have and increased life satisfaction (Chun & Lee, 2008; Tedeschi & Calhoun, 2004). The change in life philosophy also covers changes in religious and spiritual beliefs. In this context, religious beliefs refer to the faith towards the God, while spiritual beliefs indicate a

state of transcendence or an existential belief system (Calhoun & Tedeschi, 2013). Although these beliefs may weaken immediately after the traumatic event, the process of reasoning about the meaning of the traumatic incidents leading to the strengthening of religious and spiritual beliefs in the long run (Tedeschi & Calhoun, 2015).

2.3.2. The PTG Process and Related Studies

Considering PTS as both a process and a result is regarded to be more appropriate. In this context, the question of when posttraumatic growth emerges or develops after the trauma comes to mind. Linley and Joseph (2004) state that even if some aspects of posttraumatic growth can be seen immediately after the event, growth should be considered as a process that takes months or even years. Moreover, research has been conducted on whether posttraumatic growth is a process that occurs over time or a result that emerges suddenly after the trauma. Accordingly, Tennen and Affleck (1998) state that concepts such as the reconstruction of disrupted beliefs over time, which are factors that are effective in posttraumatic growth, reveal that growth is a concept that develops through time (as cited in Dürü, 2006). Similarly, Tedeschi and Calhoun (2004) emphasize that, according to the basic posttraumatic growth model, positive developments after trauma may begin in the first few months, but it takes 1 or 2 years to reach a complete growth stage. Based on this information, in this study, to be able to examine posttraumatic growth more accurately, it was aimed to ensure that at least 1 year had passed since the 2023 Kahramanmaraş earthquakes during the data collection process.

The PTG variable was investigated across a diverse group of samples up to now. According to the results of these studies, it is thought that PTG is not a definite outcome that occurs in everyone who has experienced trauma (Tedeschi & Calhoun, 2004). Nevertheless, numerous studies revealed that the emergence of PTG is quite common following traumatic events that cause high levels of stress (Haselden, 2014; Wu et al., 2016). Many of the individuals with traumatic experiences state that they experienced positive changes in at least one area of their lives (Linley & Joseph, 2004). The results of some studies investigating posttraumatic growth in the world and in Türkiye are as follows: posttraumatic growth is observed following diseases such as cancer (Wilson et al., 2014), diabetes (Dirik & Göcek-Yorulmaz, 2018); disasters such as motor vehicle accidents (Wu et al., 2016), earthquakes (Taku et al., 2015); interpersonal difficulties such as spousal violence (Danışman et al.,

2018), marriage and relationship breakdown (Haselden, 2014), and loss of a relative (Yılmaz & Zara, 2016). For a better understanding of how PTG occurs, Tedeschi and Calhoun's Functional Descriptive Model (2013), which is the main model among the posttraumatic growth models that emphasize the concept of event centrality, will be mentioned.

2.3.3. The Posttraumatic Growth Model: The Functional Descriptive Model

Tedeschi and Calhoun (1996) designed The Functional Descriptive Model in order to explain posttraumatic growth, on the basis of the existing literature and the observations of the researchers in their own clinical experiences. The model emphasizes the various elements of posttraumatic growth and the processes following the traumatic event in order to understand the growth process. The model emphasizes the importance about impact of the event in the initiation of the PTG process (Tedeschi & Calhoun, 2015). The model includes variables such as the characteristics of the individual experiencing trauma, social support systems, cognitive structures and self-expression desires in order to understand the growth process (Tedeschi & Calhoun, 2004). The model's basic assumption is that the beliefs developed by individuals to guide their behaviour and facilitate their understanding of the world are disrupted by specific life events involving serious threats (Tedeschi &Calhoun, 2004). Calhoun and Tedeschi (1999) define such events as “seismic events” and explain the growth following a traumatic event with the metaphor of “earthquake”. According to the model, after experiencing traumatic events having devastating effect on the hypothetical world, the cognitive structure needs to be reconstructed just like rebuilding after an earthquake (Tedeschi & Calhoun, 2004). This reconstruction process leads individuals to consciously think about the trauma experience and ruminative thoughts create awareness in the individual. Thus, these changes are called “growth” (Calhoun Tedeschi, 2006).

Tedeschi et al. (2018) updated the posttraumatic growth model by expanding the scope of the model in line with the research findings and aspects highlighted by the literature. This study focuses on the most updated version of the model. Please see Table 2 for the schema of the updated model. The latest version of the PTG model (Tedeschi et al. 2018) includes the same principles as all TSB models created to date (Tedeschi & Calhoun, 1996; 1998; 2004), however, it includes more comprehensive, circular and multiple relationships (Dursun & Söylemez, 2020). Moreover, the updated theoretical model of PTG emphasizes the major significance of the event's centrality in posttraumatic outcomes (Tedeschi et al.,

2018). According to the revised version, although not all events have the same impact on each individual, it reveals that only traumatic events that have seismic effects can lead to growth. At this point, if the centrality of the traumatic event creates a turning point for the individual's identity, then the individual will engage in the process of PTG (Tedeschi et al., 2018). This means that the more central the traumatic incident is in an individual's life history, the higher the likelihood of engaging in the cognitive processes fundamental to achieving growth in the PTG model. The model states that the individual's engagement in the necessary cognitive restructuring process towards the traumatic event and the deliberate thinking process towards the event is actually what brings about growth. In this context, the centrality of the event serves as a kind of initiating power for the individual to engage in this cognitive restructuring process necessary for growth (Berntsen & Rubin, 2006; Tedeschi et al., 2018). At this point, it is possible to say that the centrality of the event is one of the key factors for PTG. Additionally, the model also mentions many important factors that have an influence on the PTG process, for instance, social support, self-disclosure, cultural and individual differences.

2.3.4. The Variables Affecting Posttraumatic Growth

The phenomenon of PTG reflects the positive changes that occur after traumatic events and has been one of the topics that many researchers have been focusing on in recent years. However, despite this increasing focus, studies in this field are still limited (Acet, 2019). When the literature is examined, it is evident that PTG is affected by many different variables. Regarding demographic variables, women have reported more growth than men (Kim & Oh, 2019; Laufer & Solomon, 2006; Yılmaz & Zara, 2016). As for the relationship among the age and PTG, there are different results. Within this context, some studies showing that the association among the age and PTG is positive (Haspolat, 2019; Vishnevsky et al., 2010), but others showing that the relationship is negative (Helgeson et al., 2006; Laufer & Solomon, 2006). On the other hand, there are also studies indicating that the correlation of age and PTG is not statistically significant (Arpawong et al., 2016; Patrick & Henrie, 2016). In addition to all these findings, Roberts et al. (2019) found that PTG is higher during early and middle adulthood but lower in adolescence. Furthermore, studies have revealed that individuals with higher socioeconomic status, higher education level, and

individuals who are married tend to experience higher levels of PTG (Helgeson et al., 2006; Kim & Oh, 2019).

When the variables associated with the event are examined, there are studies demonstrating that the stress level of the event has a significant and positive relationship with PTG (Chen et al., 2015), besides there are also studies indicating that the stress level experienced during the event is negatively associated to PTG (Arpawong et al., 2016). In addition to these findings, there are also studies that reported that the level of stress experienced during the event is not a meaningful indicator of growth (Cann et al., 2010). In this regard, various factors related to the level of PTS, such as the type of trauma, the severity of the trauma, and cognitions about the trauma experience, also have considerable effects on the process of PTG. The inference from this point is that PTS and PTG processes are not independent from each other but rather associated with each other.

2.4. The Association Between PTS and PTG

In the literature, there are two fundamentally different views about the consequences of trauma. One of them is also the widespread view suggesting that trauma has a pathogenic effect. This means that any traumatic event has only an adverse impact on the health of individuals (Dekel et al., 2012). In that respect, a remarkable body of research demonstrating increased rates of issues like depression, anxiety, and PTSD in individuals after traumas are supporting the pathogenic view (Brown et al., 2001; Carlson & Dalenberg, 2000). In contrast, an alternative view to the pathological view of the consequences of trauma is that trauma also has a salutogenic effect. According to this view, people may experience positive changes after traumatic events (Dekel et al., 2012). Posttraumatic growth is defended by researchers who support this view (Tedeschi & Calhoun, 2004). Despite the fact that studies supporting the salutogenic effect of the consequences of trauma have gained importance in recent years, generally trauma studies have focused on investigating the pathogenic effect (Dekel et al., 2012). However, studies that document both pathogenic and salutogenic effects reveal that individuals not just have to experience one of these two different outcomes as a result of trauma. That is, a person not only has to experience negative trauma outcomes or positive trauma outcomes. On the contrary, both negative and positive outcomes can be observed together after trauma (Chen et al., 2015). In fact, there is evidence that adverse

consequences including PTS are required for favourable outcomes like PTG (Tedeschi & Calhoun, 2004). As stated in the posttraumatic growth model, ongoing psychological distress at a survivable level is necessary for growth. Therefore, it is stated that negative and positive reactions to severe stress can appear together as well as there is an association among growth and stress experiences (Chen et al., 2015; Schuettler and Boals, 2011). In light of the studies showing that negative and positive consequences of trauma are related to each other, examining only one aspect of trauma can be considered as a shortcoming for trauma studies (Dekel et al., 2012). Therefore, in this thesis, both positive and negative effects of trauma outcomes are examined together, and moreover, the relationships between these two seemingly opposite trauma outcomes are investigated. It is believed that this will provide a more comprehensive addition for the literature.

As was previously mentioned, studies exploring the association among PTS and PTG have presented inconsistent results (Helgeson et al., 2006). In this regard, Shakespeare-Finch and Lurie-Beck (2014) established a systematic review, which provided a comprehensive overview of the connections among PTS and PTG. According to the review, studies have been focused on examining this relationship for the last 16 years, but there is still no consensus as to the nature of this relationship. Moreover, these inconsistent results regarding the nature of the relationship between stress and growth are not directly related to the type of trauma or culture. Based on this finding, three types of inconsistent findings could be identified. First of all, some studies have revealed a significant correlation among PTS and PTG in positive ways. For instance, one research carried out with Japanese undergraduates who were in a grieving process, reported significantly positive correlations among their PTS and PTG levels (Taku et al., 2008). A similar finding of a positive relationship between PTG and PTS was found in the research conducted by child survivors after a disaster in the US (Kilmer et al., 2009). With this, the comprehensive review (Shakespeare-Finch and Lurie-Beck, 2014) previously mentioned is in accordance with growth theory of the functional-descriptive model, which suggests that some degree of stress is necessary for growth (Tedeschi and Calhoun, 2015). In contrast with, secondly, posttraumatic stress and growth were found to be negatively correlated in some study such as in the study carried out with female sexual assault survivors in the US. Another study, which achieved similar findings in a very different culture, found a negative relationship between posttraumatic growth and stress among adult former refugees in Yugoslavia (Powell et al., 2003). In addition to these results, some study reporting no relationship between traumatic stress and growth such as a

study conducted with people undergoing cancer treatment in the US (Cordova et al., 2001). The similar finding that there was no significant relationship was found in a study conducted in China with healthcare workers suffering from severe acute respiratory syndrome (Ho et al., 2005). Due to these inconsistent results, examining the factors affecting this relation is valuable.

2.4.1. The Studies about PTS and PTG in the Context of Earthquake

To the extent of our knowledge, there are limited works on the association among stress and growth in the context of earthquakes, which is the subject of this study. Moreover, when these studies are analysed, it is observed that there are similar inconsistent results between stress and growth. For instance, a study related to earthquake in Wenchuan, China, was conducted with 354 middle school students, who survived the earthquake after 4.5 years. The results demonstrated a strong positive correlation among PTG and PTS (Zhou et al., 2015). Moreover, one other study investigating this relationship involved 173 survivors (88 of which were affected by earthquake) of natural accidents that occurred in Italy in the last 10 years which revealed a positively significant correlation among PTS and PTG (Saccinto et al., 2013). They also reported that being the middle age group, having a low socioeconomic status and living in a temporary house (such as a container) increased the rate of PTS and moderate level of PTG. On the other hand, there are also studies showing that there is no relationship or the relationship is negative. For example, Xie et al. (2020), carried out research with Tibetan college students (among 11-20 years) who experienced the Yushu earthquake in 2010. They reported that the impact of the event, that is, PTS, negatively predicted the level of PTG (Xie et al., 2020). Moreover, based on a longitudinal research carried out with 122 survivors of the earthquake in China, increased PTG 12 months after incident was related to lower rates of PTS (Chen et al. 2015). Hence, findings from this research reveal negative correlation existing among post-traumatic stress and growth.

In addition, among the studies revealing that no relation exists between the variables, one study was conducted with 408 adolescents 4.5 years following the Ya'an earthquake, and no meaningful association between PTG and PTSD was noted (Wang et al., 2020). For another study carried out on the same traumatic experience, no association was detected among stress and growth based on the self-reports of 706 adolescents (Wang et al., 2018). Additionally, in a study conducted 4 months after the 2011 Van earthquake in Türkiye, the

factors that predict PTG and PTS variables were examined. At the end of the study, some significant results were reached for the factors related to posttraumatic growth and stress, for example, a higher rate of loss of life positively predicted both PTS and PTG as traumatic events. In addition, for the gender variable, being female was correlated with greater PTS also with greater PTG. Along with these results, no significant results were reported for the link between PTG and PTS (Elçi, 2021). These inconsistent findings, both in the general literature and in the context of earthquake studies, make it complex to understand the nature of the interaction that exists among posttraumatic growth and stress. However, after traumatic events with large-scale effects such as the Kahramanmaraş earthquake, clearer results on these relationships are needed. Accordingly, the main purpose of this study is to explore the direct association among PTS and PTG as well as to analyse the predictors that indirectly affect this relationship.

2.5. Event Centrality

As noted earlier, it has been reported that posttraumatic stress and posttraumatic growth are not completely independent variables; in fact, there are many common variables associated with these two variables (Boals & Schuettler, 2011). It is indicated that testing different variables is important in order to examine the link between PTS and PTG more comprehensively. Accordingly, concept of event centrality reported to be correlated with both PTS and PTG (Boals & Schuettler, 2011; Groleau et al., 2013).

One of the factors associated with reactions to a traumatic or high-stress incident is the 'centrality of the trauma', which means, the "event centrality". Bentsen and Rubin (2006) developed the concept of "event centrality" based on the effects of negative events on memory and self. Event centrality is a concept that reflects the degree to which the memories of the distressful incident have become the central component of the self, a reference point or a landmark for making sense of life (Berntsen & Rubin, 2006). That concept was developed by utilizing three concepts related to the notions of "autobiographical memory" which involves the recall of remarkable and emotional events in a person's life more clearly than other events, as well as the "availability heuristic" which refers to the frequency and likelihood of occurrence of events in memory (Berntsen & Rubin, 2006). These were defined

as three basic functions: "being a reference point for other experiences", "shaping one's life story and being a turning point" and "defining one's self" (Berntsen & Rubin, 2007).

First of these concepts states that memories that are more salient and more clearly remembered can serve as a reference point for the individual to make sense of other experiences and to shape their expectations about the future (Berntsen & Rubin, 2006). The availability heuristic posits that the frequency of events and the probability of their occurrence affect the availability of memories (Tversky & Kahneman, 1973). According to this perspective, frequently experienced events are more easily remembered and visualized than infrequent events. However, the recall could be affected by variables that are not related to the current frequency (such as stress level) (Tversky & Kahneman, 1973). In this regard, traumatic experiences are among the most clearly remembered memories in most cases because they involve high levels of stress, although they are rarely experienced (Rubin et al., 2004). Therefore, traumatic experiences can also serve as a reference point for the individual to make sense of future expectations and events. In other words, these reference events guide the other experiences of the individual thus the individual's behaviours and expectations can be influenced by them. The individual may feel fear, anxiety or hope for the future or new experiences based on these reference points (Berntsen & Rubin, 2007). Another content of the event centrality is the turning points in the life story. Traumatic events can function as important turning points in people's lives as they are memories that can be accessible for a long time (Berntsen & Rubin, 2007). Therefore, the function of shaping the life story is explained by the fact that the person perceives this reference event as a milestone (Berntsen & Rubin, 2007). Also as a turning point, these events can shape future goals and give direction to the flow of life (Sutherland & Bryant, 2005).

The last concept is that the traumatic experience could be perceived as a component of the self. Accordingly, when an individual considers the traumatic experience as a milestone for their life, it can be reflected in their identity. Especially after traumatic experiences, the individual may assume the roles of being a trauma victim or a trauma survivor, and thus, when the traumatic experience becomes central, these roles may also become a prominent part of the personality (Bernsten & Rubin, 2007). In other words, when an extremely stressful experience has gained a status in a person's life story, over time, it can also become an element of the self, a part of the identity (Boals, 2010). As in conclusion, it can be said that the notion of centrality of event is an essential factor for giving meaning to

one's life, defining one's identity, and shaping one's expectations for new events due to the traumatic experience's characteristics such as being impactful, emotionally intense, and more accessible. Recently, event centrality is a more researched notion in the trauma literature and appears relevant with both adverse consequences, such as PTS, and with positive outcomes, such as PTG (Barton et al., 2013; Groleau et al., 2013). In the following sections, details on the association among centrality of event to PTS and PTG are provided.

2.5.1. The Association Between PTS and Event Centrality

In the scope of trauma literature, an increasing body of research emphasizes the effect of traumatic incidents becoming a part for one's self and a reference point. Based on Bernsten and Rubin (2007), there is a relationship between increasing centrality to a traumatic event experienced by a person and the accessibility and vividness of traumatic memories. Thus, this is connected with PTS symptoms. Along with the arguments of Bernsten and Rubin (2006), many cross-sectional studies in the literature have reported significant relationships between event centrality and posttraumatic stress symptoms (Bernard et al., 2015; Blix et al., 2015; Yanık, 2018). For instance, Berntsen and Rubin (2006) found in their study with university students that the severity of PTSS increased as the centrality level of the negative event increased. Moreover, this relationship persists even when anxiety, depression and dissociation levels are controlled (Berntsen & Rubin, 2007). Another study explored the connection among PTS and event centrality in adult individuals in the US who had experienced at least one DSM-level trauma in their lives. According to the results of the study, event centrality scores had been linked to elevated PTSD scores (George et al., 2016). One similar research was conducted among university students and revealed that increased centrality towards the worst life events in their lives was correlated with increased rates of PTS symptoms and depression (Reiland, 2017). Despite the fact that a number of cross-sectional studies in the literature have documented a strong relation among event centrality and PTSS, the controversy regarding the direction of this relation is still ongoing (Stevens et al., 2022). In spite of the comprehensive literature documenting a strong correlation among event centrality and PTS with a predominance of cross-sectional studies, more recent studies have attempted to clarify the direction of these constructs. According to newer studies, the degree of PTS symptoms within a longitudinal setting affects the person's

perception of the centrality of the incident. Thus, the result emerges as the level of PTSS predicts the centrality of the event (Blix et al., 2013; Glad et al., 2020; Stevens et al., 2022).

As mentioned, the majority of previous studies have explored event centrality as a predictive factor of PTS, however most of these research has cross-sectional designs, and the major limitation of cross-sectional studies is that causal explanations cannot be reached and the directionality of the relationships is not clear (Levin, 2006). Nevertheless, there are limited longitudinally designed research that the event centrality and PTSS are addressed together (Boals & Ruggero, 2015; Boelen, 2012). For instance, in a longitudinal research event centrality reported by the victims of the bombing attack in Oslo ten months after the event positively predicted PTSD even two years later (Blix et al., 2016). However, mentioned longitudinal studies (e.g., Blix et al., 2016; Boelen, 2012) did not investigate the other possible causal aspect of this relationship between event centrality and PTSS, namely whether PTSS predicts event centrality along the longitudinal course (Glad et al., 2020; Stevens et al., 2022). For this reason, most recent studies focus on the causal direction of PTSS and event centrality in a longitudinal setting. Accordingly, Glad et al. (2020) interviewed 484 survivors of the 2011 Oslo bombing, a terrorist attack, in order to examine event centrality longitudinally. The data were collected across two time periods, as 10 months and also 22 months after the event. And the findings reported the positive correlation between PTSS level and event centrality across the two different measures. Namely, PTSS predicts event centrality prospectively. Also, contrary to the widespread literature, they revealed that the opposite relationship, that is, event centrality was not predictive of PTSS. Another recent study concluding that event centrality predicts PTS symptoms was conducted with 191 participants who had a traumatic injury that met the criteria for PTSD as a result of an accident. For this longitudinal study, the participants received three different follow-up measurements at 3 months, 12 months and 18 months. According to the results, it was found that PTSS has a predictor effect on event centrality even after 18 months. However, also revealed that event centrality did not have a predictor effect on the PTSS (Stevens et al., 2022).

As a conclusion, these studies demonstrate that the emergence of PTSS consequent of trauma can result in the development of event centrality over time (Stevens et al., 2022). Put differently, it is suggested that the degree of trauma victims' centrality towards the traumatic incident might be a conclusion, instead of cause, for PTS (Glad et al., 2020).

Theoretical knowledge supporting these findings is explained as follows. This foundation is based on the assumption that events involving more intense stress have higher frequency and likelihood of being remembered, which is one of the arguments used to explain the concept of event centrality (Stevens et al., 2022). Accordingly, although traumatic experiences are rarely experienced, since they cause high levels of stress, the possibility of having a strong effect on memory and moreover, the possibility of being attributed as a landmark for person life increases (Glad et al., 2020). In this context, the excessive stress arising from the nature of the traumatic experience and the resulting posttraumatic stress symptoms affect the person's perception of centrality towards the traumatic event. This supports the view that increased PTSS leads to an increase in the event centrality (Rubin et al., 2004; Glad et al., 2020; Stevens et al., 2022). Based on these new findings, the current study created a mediation model that PTS will increase the level of event centrality and, in turn, event centrality will increase PTG. Since these recent studies represent pioneering findings and provide a basis for the study model, detailed information is disclosed.

2.5.2. The Association Among PTG and Event Centrality

The correlation among the event centrality and PTG is explained within the framework of the previously mentioned functional descriptive model of PTG. In this context, it is suggested that placing the stressful event at the centre of a person 's life story is linked with the processes involved in PTG. Also autobiographical memory, which is the component of growth model and PTG have a particularly close relationship (Roland et al., 2014). Indeed, in posttraumatic growth model (Tedeschi & Calhoun, 2004), internalizing the life event into one's own identity is seen as one of the important phases in the growth process. Therefore, the centralization of the traumatic or stressful event as a defining element of the life story and identity creates a transformative effect on the self, leading to positive growth and development (Pals & McAdams, 2004). In this sense, with increasing EC, the PTG is also supposed to increase. A number of recent studies appear to support this assumption. For instance, the study by Groleau et al. (2013) shows that event centrality continues to make significant effects on explained variance of PTG even when the variables of core beliefs, rumination, and meaning-finding variables, which are found to be related to PTG, are controlled. Similarly, Bernard et al. (2015) reported that event centrality continued to have significant addition to the explained variance of PTG even after controlling for trauma effect.

Moreover, Lancaster et al. (2013) carried out their study to determine the relation trauma cognitions occur after a traumatic experience and whether event centrality has predictive effect on PTG. Among the sub-dimensions of PTG, appreciation of life, interpersonal relationships and spirituality were significantly predicted only by event centrality. Meanwhile, new possibilities and personal power were predicted by both event centrality and negative cognitions. This finding that event centrality is a strong predictor of all sub-dimensions of growth is an important finding (Lancaster et al., 2013). This relationship is also confirmed by longitudinal studies. For example, it was revealed that the centrality of the bombing attack in Oslo predicted the level of PTG both one year and two years after the event (Blix et al., 2015). On the other hand, in Barton et al.'s (2013) cross-sectional study of women who sought treatment for sexual and physical abuse, it was reported that the centrality of the event was strongly correlated with PTSD, however not with PTG. The type of traumatic incident could have an impact on this finding. Apart from these studies, to the extent of our knowledge, there is no research investigating PTSS, PTG and the centrality of the event altogether and within the framework of the earthquake disaster.

These studies show that the centrality of traumatic events is an important variable for understanding PTSS and PTG. Nevertheless, as far as we know, research about the role and importance of the event centrality in the positive and negative outcomes of traumatic events for people in Türkiye are limited. Moreover, we could not encounter any study that examines these relationships in the context of earthquake disaster both in the local literature and in the global literature. Some few studies on the subject in Türkiye can be summarized as follows: Yaman (2018) conducted a study with adults who survived the 2015 terrorist attack in Ankara. As a result of the study, it was found that the event centrality predicted both PTS as well as PTG in a positive way. It also revealed and positive association among PTS and PTG. Another study conducted in Türkiye included participants who had exposed different types of traumatic incidents. It was found that the predictive role of event centrality in PTSS was not significant, but event centrality positively predicted PTG (Acet, 2019). Another study was conducted with university students who had at least one traumatic experience in their lives. According to the results, it was revealed that event centrality did not significantly predict PTG. However, it was found that event centrality showed a positive correlation across all sub-scales of PTG as well as with the total score of PTG, except for the sub-dimension of relationships with others (Doğançay, 2021).

The last study involved adult participants with chronic physical illness. Although the study did not directly measure the posttraumatic stress levels of the participants, instead addressed the stress levels that occurred after the diagnosis of the disease. According to the findings, it was revealed that the mediator effect of event centrality is significant in the association among post-diagnosis stress and growth (Atintaş, 2022). Although this study does not directly measure posttraumatic stress levels and does not examine the mediating effect of event centrality alone, it is the only study similar to the current study that examines the possible mediation role of event centrality in the relations among stress and growth. Contrary to dominant view in the literature (e.g. Boals & Ruggero, 2015; Boelen, 2012), but in line with recent studies (e.g. Glad et al., 2020; Stevens et al., 2022, the current study was designed with the hypothesis that posttraumatic stress symptoms predict the event centrality. Thereby event centrality will have a mediating role on the relation among stress and growth. The justification for the inclusion of event centrality as a mediator role in the main model is presented in the context of the assumptions underlying the concept of event centrality (Berntsen & Rubin, 2006) and the associated growth model (Tedeschi et al., 2018). Detailed explanations are provided in the following sections. Moreover, there are very scarce studies examining that posttraumatic stress predicts event centrality in foreign literature (Boals & Ruggero, 2016; Glad et al., 2020; Stevens et al., 2022) and as far as we know, still there is not a research in the local literature. Under the light of these results, this study is expected to provide a unique addition to the existing literature by investigating the mediator effect of the centrality of events in the relation among posttraumatic stress and growth in individuals after the Kahramanmaraş earthquake, one of the largest earthquakes experienced in our country.

2.6. As a Critical Period in the Life Course: Emerging Adulthood

One of the research areas of developmental psychology is to systematize the studies about individuals by making age-based classifications. Age-based stage classifications provide answers to the effects of various factors on individuals in different age groups and which characteristics individuals exhibit in different age periods (Sigelman et al., 2018). People display different characteristics in different age stages. Besides, individuals who have been the same age at different times in the historical process can also be very different in terms of their characteristics. In this regard, the definition and time period of becoming an

adult is different today compared to fifty years ago (Doğan & Cebioğlu, 2011). Thus, Arnett (2000) states that definitions of adulthood stages were convenient until the mid-20th century, but need to be reorganized due to demographic changes in industrialized societies in the 21st century. In this century, it is observed that people are delayed in assuming adulthood roles due to the increasing importance of education, extending education to older ages, the effects of rapid social changes, changing social expectations, and increasing opportunities for individuals with the development of technology (Arnett, 2016; Atak & Çok, 2010). As a result of these changes, Arnett (2000) stated that it is insufficient to simply define this period as a transition to adulthood and its duration is long enough to be considered as a separate life stage. Therefore, he argued that a new life phase needed to exist between adolescence and young adulthood and introduced the term "Emerging Adulthood".

Emerging adulthood (EA) corresponds to the period between the ages of 18-29 (average 18-25) and is characterized distinctive features (Arnett, 2000). Emerging adulthood is defined as an independent developmental period between adolescence and adulthood, in which individuals have different achievements. They experience many trial and error processes in their careers and romantic relationships. Dependence on the family has largely disappeared in this period, but the responsibilities of adulthood, such as family and work, cannot be completely taken (Arnett, 2000; Doğan & Cebioğlu, 2011). This period, on average between the ages of 18-29, drew attention even before the concept of emerging adulthood was introduced, and previous research provided the basis for this theory (Arnett, 2000). For example, although Erikson (1968), one of the first developmental theorists, did not define a period called emerging adulthood, he reported a period of "prolonged adolescence" that emerges in industrialized societies. Young individuals in this process continue their search for identity roles.

2.6.1. The Features of Emerging Adulthood Stage

Arnett (2004) mentions five key characteristics that differentiate emerging adulthood from other life stages: search for identity, instability, feelings of in-betweenness, self-focus, and the idea of trying possibilities/the plurality of possibilities. According to Arnett (2016), these characteristics are the hallmarks of emerging adulthood, nevertheless they are not

unique to this period. Individuals may experience these characteristics in other periods of their lives, but these are likely more common and dominant in EA.

Identity Exploration

The characteristic of identity exploration signifies that emerging adults seek answers to the question as "Who am I?" in this period (Arnett, 2000). The course of identity formation that begins with adolescence intensifies and deepens during emerging adulthood (Arnett, 2016). According to a study conducted at Clark University, nearly third of the individuals between the ages of 18-29 defined this stage as "a period of life that allows us to find out who we really are" (Arnett, 2016). Emerging adults explore the choices appropriate for them within various areas of their lives, especially in relation to relationships, occupations and worldviews (Arnett, 2000). The exploration of identity in emerging adulthood is not only about romantic relationships, careers, and worldview, but also includes questions about other areas such as relationship with parents, expectations about the future and spiritual or religious meaning (Lefkowitz, 2005). In conclusion, the search for identity is one of the main characteristics of emerging adulthood.

Instability

Instability is another characteristic of emerging adulthood. The fact that emerging adults investigate various areas of life such as their love and career, and make adjustments and changes by considering different options contributes to the instability of this period (Arnett, 2016). Even instability is seen as a normative feature of emerging adulthood (Arnett, 2007). The instability of this period is best exemplified by the apparent changes that emerging adults in their living situations. Especially emerging adults living in Europe are reported to have a high frequency and type of relocation, such as living on their own, changing roommates, sharing a flat with a partner, moving out of the city (Arnett, 2007). This instability in emerging adults' lives and uncertainty about the destination of their explorations can also be very stressful (Arnett, 2007). In addition to the stressful characteristic of this period, Murphy et al. (2010) reported that emerging adults have a positive perspective towards the future despite facing different experiences.

The Self-Focusing

Emerging adulthood is a phase with high self-focus and low responsibility for others (Arnett, 2007). For example, while older adults are under the responsibility of their bosses, spouses and children; emerging adults can mostly focus on themselves and make their own decisions in daily life (Arnett, 2007). However, this period does not mean that emerging adults are egocentric or selfish. The fact that emerging adults are self-oriented means that they have fewer obligations in social responsibilities (Arnett, 2004). Moreover, being self-focused also has a significant purpose. Emerging adults focus on themselves for reaching the aim of self-sufficiency. Because this helps to discover what it means to be an adult (Arnett, 2007).

The Feeling in-Between

Emerging adulthood is also characterized by a feeling of in-betweenness and they feel themselves as neither adolescents nor adults (Arnett, 2007). According to Arnett (2016) this situation caused by the criteria attributed to being an adult. Although these criteria may differ in modern and more traditional societies, according to numerous studies (Arnett, 2004; Cheah & Nelson, 2004), the common view is that the criteria for becoming an adult are "taking responsibility for one's own behaviour", "living a life in line with personal beliefs and values" and "being financially independent". These criteria can be achieved gradually; they cannot be reached all at once. Therefore, for emerging adults to feel themselves completely adult is a process that takes time (Arnett, 2007).

The Possibilities and Optimism

Emerging adulthood presents many opportunities to achieve one's dreams (Arnett, 2004). The optimistic and hopeful nature of emerging adults enables them to benefit from the opportunities (Arnett, 2004). During emerging adulthood, individuals have the opportunity to create healthier environments for themselves before reaching adulthood by separating more easily from their negative family environment (Arnett, 2004; Atak & Çok, 2010). The possibility of trying these opportunities for emerging adults who did not grow up in an adverse environment may have similar patterns (Arnett, 2004).

2.6.2. The Studies Conducted about Emerging Adulthood Dimension

Arnett (2007) state that cultural differentiation has major importance in the context of emerging adulthood research. In this regard, Arnett (2015) refers to emerging adulthood as a period sometimes between the ages of 18-25 and other times between the ages of 18-29. This is explained by the fact that the ending age may vary according to culture. Accordingly, it is specified that the frequency of emerging adulthood is higher in developed, developing or individualistic countries where entering adult roles and responsibilities can be postponed (Arnett, 2000). In Türkiye, there is limited research available related to emerging adulthood. Moreover, studies which investigate the emerging adulthood period both in the global context and in Türkiye generally focus on this period in terms of an age-based (e.g. Uyar, 2019; Yılmaz & Gündüz, 2020; Karabacak, 2017; Tremolada et al. 2016). On the other hand, studies that qualitatively measure and examine the characteristics of the emerging adulthood period along with age are very scarce. However, while investigating this period, making inferences without evaluating the extent to which individuals within the appropriate age range have emerging adulthood characteristics is considered to be inadequate. The importance of using the emerging adulthood dimension assessment is that it enables a more comprehensive testing of whether individuals in the same age range (18-29) have emerging adulthood characteristics (Atak & Çok, 2010). Evaluating according to the emerging adulthood dimension can minimize the effects of individual and cultural factors and provide more accurate evidence regarding the tendencies of individuals in emerging adulthood (Reifman et al., 2007). For this reason, it is believed that evaluations should be made not only in terms of age-based but also according to the degree of having the characteristics of the developmental period (Casper & Bianchi, 2001). In accordance with the mentioned information, for this thesis, it is decided to evaluate the emerging adulthood period according to the scores obtained from the IDEA scale.

In this regard, to assess the dimensions of emerging adulthood, Reifman, Arnett and Colwell (2007) created the Inventory of the Dimensions of Emerging Adulthood (IDEA) and conducted a number of research with various age groups. In their research, they revealed the extent to which individuals experience the main characteristics of emerging adulthood. In one study of the group, the characteristics of emerging adulthood were examined with individuals aged 18-23, 24-29, 30-39, 40-49 and over 50. According to the results, the characteristics of identity exploration, possibilities, instability and self- focusedness are most

prevalent between the ages of 18-23, and the prevalence of these characteristics decreases with increasing age (Reifman et al., 2007). Compared to married adults, single emerging adults aged 18-29 scored higher in the domains of identity exploration, experimentation/possibilities, and self-focusing. These measures show to what extent individuals in emerging adulthood reflect the main characteristics of this stage (Reifman et al., 2007).

Some of the studies examining the emerging adulthood dimension in Türkiye are as follows. Atak (2005) is the first researcher to comprehensively investigate whether individuals in Türkiye experience emerging adulthood and whether the criteria of adulthood change according to different variables. The study was carried out with a total of 673 participants across the ages of 15-34 who were working or studying at a university. It was stated that emerging adulthood in Türkiye is experienced between the ages of 19-26, as these ages show the characteristics of the period prominently (Atak, 2005). It was found that 62% of individuals in the 19-26 age group reported that they considered themselves to be adults in some ways and not adults in others. Also, it was found that men and women experience emerging adulthood between the same age period. It was also reported women experienced all the characteristics offered by this period more than men (Atak, 2005). Moreover, individuals who continued their education scored higher on emerging adulthood than those who completed their education, and participants who were not working had higher emerging adulthood scores than those who were working (Atak, 2005). In Aydın's (2017) study, comparisons were made according to the subscales of the emerging adulthood dimension scale (IDEA). Accordingly, it was revealed that females reported higher score than male in the dimension of identity exploration - feeling in between, which is in consistent with other studies conducted in Türkiye (e.g. Ergin, 2015; Vural-Yüzbaşı, 2012).

2.6.3. Posttraumatic Stress and Growth in Emerging Adulthood

Emerging adulthood contains variations in terms of PTS and PTG processes due to the effects of the distinctive characteristics of the developmental process (Schwartz et al., 2011). According to the trauma literature, exposure to a traumatic event affects identity exploration processes for individuals in emerging adulthood, and causes questioning and reevaluation of identity choices (Weathers et al., 2013; Schulenberg & Zarrett, 2006). The reassessment of identity issues in the aftermath of trauma has two different consequences,

the first of which is negative, e.g., identity diffusion, PTSD and psychological problems (Schulenberg & Zarrett, 2006). The other consequence is that this process can be a turning point that leads to independence and maturity (Truskauskaite et al., 2020). Namely, the process of identity exploration, which is one of the main distinguishing features of emerging adulthood, may influence responses to trauma and has been linked to PTS (Schulenberg & Zarrett, 2006) or PTG (Arpawong et al., 2017). Besides, since the main topic of the current study is PTG in emerging adulthood, a further discussion mainly on PTG and emerging adults will be provided in the following sections.

As mentioned earlier, in spite of the instability and uncertainty feature of this stage, the emerging adulthood period can be accompanied by plenty of opportunities for growth after a distressing incident (Arnett, 2007; Schmidt, 2019). Considering the features of emerging adulthood, such as possibilities and self-focus, it is expected that emerging adults will develop personal growth during this life stage in normally. However, this situation may not be the case for emerging adults, who have experienced traumatic event (Schmidt, 2024). To give an example, in one research with emerging adults who endured a severe childhood illness, it was found that emerging adults' cognitions about the illness were generally negative. However, when asked particularly if there were any favourable sides of the illness, only one-third of the emerging adults mentioned issues that were consistent with PTG domains, such as increased personal power, having an appreciation for life, and experiencing closeness with loved ones (Devine et al., 2010). In another study, carried out with university students who have not experienced any traumatic events, it was examined how they had changed over the past few years. According to the results, emerging adults reported changes in the areas of personal power and new possibilities (Gottlieb et al., 2007).

In the two aforementioned studies, the area of growth reported by emerging adults was personal power. However, there are differences in terms of other domains. This demonstrates that, as mentioned, there may be differences in the growth experiences of emerging adults in terms of experiencing or not experiencing traumatic incidents (Schmidt, 2024). In this regard, emerging adults who encountered traumatic incidents reported increases in the PTS dimensions of personal power, importance given to life and importance given to relationships with others. On the other hand, those who did not have traumatic experiences showed more growth in new possibilities dimensions (Devine et al., 2010; Gottlieb et al., 2007). According to these results, the development in the area of experiencing

new possibilities can be considered a typical development of emerging adulthood. However, when an emerging adult encounters a traumatic experience, it affects their development, thus their growth in the area of experiencing new possibilities may have been interrupted due to posttraumatic adjustment processes (Schmidt, 2024). Consistent with these findings, a study revealed no difference between emerging adults who were trauma victims and the control group as regard of personal power and relationships with others, whereas significant distinctions were obtained in the domains of new possibilities and valuing life (Schmidt et al., 2019). Accordingly, emerging adults in the control group reported more growth in the area of new possibilities. In this context, it is suggested that traumas may limit the extent to which emerging adults can take advantage of opportunities. In addition, trauma-victim emerging adults reported higher scores in the domain of valuing life. Thus, traumatic events that are life-threatening or involve serious life changes may increase the likelihood of reevaluating worldviews and appreciating life more (Schmidt et al., 2019).

When considering the relationships between age and characteristics of the developmental period, there are results that older age in emerging adulthood is positively linked with PTG (McDonnell et al., 2018; Tremolada et al., 2016). However, when emerging adults and older adults were compared, it was found that PTG scores were not higher in older adults (Schmidt, 2024). In this context, assuming that the level of growth only increases with age is inaccurate. Therefore, we can say that it is important to evaluate the scores obtained from the IDEA scale to examine how growth levels change in emerging adulthood. As a result, developmental difficulties experienced by emerging adults after traumatic events may be effective in initiating the growth process by pushing individuals to reconsider their worldviews and core beliefs, as suggested in the PTG model (Schmidt, 2024). Along with these findings, Schmidt (2024), who conducted a comprehensive review in this field, reported that there is a notable gap in the literature on the posttraumatic growth processes of emerging adults. Moreover, to the extent of our knowledge, just a handful of studies (e.g. Arpawong et al., 2017) have investigated emerging adulthood dimension scores for qualitative measurement of emerging adulthood in the regard of post-traumatic growth and stress. In this respect, Arpawong et al. (2017) examined the predictive role of stressful life events on posttraumatic growth within the scope of the emerging adulthood dimension scale scores. Study sample comprised of only 18-19-year-old students as emerging adults. Participants stated that they experienced positive changes after the most stressful life events in the last 2 years. Nevertheless, there was no significant relation between stressful life

events and PTG; instead, fewer stressful events predicted PTG. Furthermore, individuals with higher emerging adulthood dimension score reported more PTG. However, the study did not analyse the sub-dimensions of the emerging adulthood scale, total scores were used. This outcome is interpreted as being in emerging adulthood and displaying more characteristics of this period will contribute positively to the growth process (Arpawong et al., 2017). Besides, no study was detected in the local literature that examined the association among PTS and PTG in the context of emerging adulthood dimensions.

2.7. The Relationship Among PTS, PTG, Event Centrality and Emerging Adulthood

As mentioned before, we have not reached a specific study that examines PTS, PTG, event centrality and emerging adulthood characteristics together. Nevertheless, in order to provide a clearer understanding of the main model of this study and the basis of the assumed relationships, this section presents the relationships between these variables in a connected manner. According to the main model of present study, posttraumatic stress is expected to increase event centrality and increased event centrality is expected to promote posttraumatic growth. It was also hypothesized that emerging adulthood characteristics may have a moderating effect between event centrality and growth. First of all, contrary to the dominant literature (e.g. Bernard et al., 2015; Berntsen & Rubin, 2007; Blix et al., 2015) and supported by the most recent studies (e.g. Blix et al., 2013; Glad et al., 2020; Stevens et al., 2022), the assumption that PTS increases event centrality is based on formation of event centrality concept. At this point, the concept of event centrality is based on high emotional intensity towards the event (Berntsen & Rubin, 2006). Accordingly, the first condition for high event centrality is the presence of great emotional intensity of the event, such as high stress. If there is high stress towards the event, due to this emotional intensity, the place of the event in the person's life and self, that is, the centrality of the event, is also increased (Berntsen & Rubin, 2006). Thus, the intense posttraumatic stress and symptoms that occur after a traumatic life experience such as an earthquake affect the perception of the centrality of the event in one's life and increase the event's centrality. This is offered as the basic assumption of the first step of the main model of the present study.

For the second part of the model, that is, the centrality of the event that leads to or increases growth, is explained within the scope of the Functional Descriptive model

(Tedeschi & Calhoun, 2004), which is one of the basic growth models. As mentioned, especially in the most recently revised version of the model, the centrality of the traumatic event has a significant effect on the beginning of the growth process (for the process of disruption of core beliefs and rebuilding a belief system) (Tedeschi et al. 2018). At this point, if the degree of centrality level of the traumatic event experienced by the individual is not adequate, the growth process does not proceed as expected. A high event centrality is one of the main requirements that initiates the growth process (Tedeschi et al. 2018). In this context, the importance of the mediator role of event centrality in this relationship can be observed in which posttraumatic stress increases the event centrality and high event centrality increases growth.

In this mediator model, the assumption that emerging adulthood characteristics have a moderating effect on the relationship between event centrality and growth is explained within the framework of reminiscence bump and cultural life script, which are phenomena in the field of memory. Accordingly, reminiscence bump is a phenomenon in which individuals tend to tend to recall more memories between the ages of 10-30, a period that is often marked by significant life events that are critical for identity development, for example, experiences such as first love, graduation, finding a job (Rubin & Schulkind, 1997). This process is shaped by cultural life scripts, which determine individuals' cultural expectations of what events should happen and when (Berntsen & Rubin, 2004). Therefore, the reminiscence bump, combined with the events and cultural contexts that have meaning in individuals' lives, profoundly affects the process of recalling memories and increases the persistence of these memories (Rubin & Schulkind, 1997). At this point, the fact that individuals evaluate the events experienced in these age ranges as more important for their lives and identities is an indication of the high centrality of these events. Emerging adulthood, which covers the age range of 18-30, is in the same period as this mentioned period, which could indicate that the centrality of life events of individuals in emerging adulthood is higher (Arnett, 2004; Rubin & Schulkind, 1997). For this reason, it was assumed that the earthquake experience has a significant place in the individuals' lives during emerging adulthood and has a high centrality. Accordingly, emerging adulthood characteristics are expected to have a moderating effect on the relationship between event centrality and growth by further increasing the centrality of the event.

2.8. The Purposes, Importance and Hypotheses of the Study

The purpose of the current study is to explore the PTS and PTG experiences of emerging adults who experienced the 2023 Kahramanmaraş-centred earthquakes in terms of the event centrality and emerging adulthood dimensions. Researching the effects of the 2023 Kahramanmaraş earthquakes, which had serious devastating effects in our country, is important in terms of interventions that can be developed for the mental health of earthquake victims. Therefore, this study aimed to conduct a research on trauma-related PTS and PTG. In this context, there is still inconsistency in the findings regarding the nature of the association among those variables. Positive, negative or insignificant results have been reported regarding the correlation among PTS and PTG (Helgeson et al., 2006). At this point, the first target of this thesis is exploring the nature of the relation among PTS and PTG, thereby providing a contribution to the existing inconsistent results.

In posttraumatic stress and growth studies, some common variables have been identified as being related to both variables (Boals & Schuettler, 2011). One of these variables, event centrality, has a positive relationship with posttraumatic growth (Groleau et al., 2013), whereas there are some inconsistent findings regarding its relationship with posttraumatic stress (Glad et al., 2020). Accordingly, the direction of the association among PTSS and event centrality has recently become more controversial. At this point, the second target of the research is providing a contribution to the inconsistent findings by examining relationship between PTSS and event centrality. Lastly, emerging adulthood, a comparatively novel developmental period that has been proposed as a result of cultural and social changes in the last 50 years under the influence of globalization, is considered as a critical period due to its developmental characteristics (Arnett, 2004). However, it is acknowledged that there are very limited studies about this period, particularly those in which the characteristics of this period are qualitatively evaluated in terms of PTS and PTSD relationships (Schmidt, 2024). For this reason, it is assumed that investigating how this traumatic earthquake experienced in Türkiye has effects on emerging adults and examining how posttraumatic stress and growth relationships are affected according to the characteristics of emerging adulthood will make an important contribution by filling this gap in the literature. In particular, within the framework of developmental psychology, it is valuable to develop appropriate interventions and supports for emerging adulthood stage. As a result, to the extent of our knowledge, there is no research in the global and local literature

that examines the aforementioned variables of the study simultaneously. Hence, it can be said that analysing these variables together will be a valuable contribution to the trauma and development literature by providing a different perspective.

2.9. Hypotheses

H1: Posttraumatic growth and stress levels of emerging adults will differ significantly according to demographic characteristics and earthquake experiences (i.e., loss of loved one, amount of monetary loss, trapped under rubble, etc.).

H1a: Females will report more posttraumatic stress and growth than males.

H1b: Age will be positively associated with PTS and PTG.

H1c: Individuals who report more adverse earthquake experiences will also report higher levels of PTS and PTG.

H2: PTS is expected to positively predict PTG. Namely, emerging adults with high posttraumatic stress scores are expected to have higher posttraumatic growth.

H3: PTS will positively predict event centrality.

H4: Event centrality will positively predict PTG.

H5: Event centrality is expected to have a mediator role in the relationship between PTS and PTG. In this context, PTS will positively predict event centrality, and event centrality in turn will positively predict PTG.

H6: Emerging adulthood dimension and sub-dimensions will be positively associated with PTG.

H7: The emerging adulthood dimension is expected to have a moderating role in the association between event centrality and PTG. Accordingly, high emerging adulthood dimension score will play a strengthening role in this relation.

3. METHOD

3.1. Participants

The target group of the research was emerging adults who experienced the 6 February Kahramanmaraş earthquakes. Thus, the condition to be a participant was to be located in the following 11 provinces (Kahramanmaraş, Hatay, Gaziantep, Malatya, Osmaniye, Şanlıurfa, Adana, Adıyaman, Diyarbakır, Kilis, Elazığ) affected by the earthquake during the 6 February Kahramanmaraş-centered earthquakes and to be between the ages of 18-29, which covers the emerging adulthood period. With the aim of determining the number of participants that is required for the study the "G*Power 3.1 program" (Faul et al., 2007) was utilized. While determining the number of participants, Hayes PROCESS model was taken as a basis. According to the Hayes Process model 14, there are 4 predictors for one moderator and one mediator (Hayes, 2017), therefore the calculation was performed based on this model. Thus, it was found that the number of participants required for an analysis with a medium (.15) effect size (f^2) (Cohen, 1988), an error (α) ratio of .01 and a power magnitude (1- β) of .95 was 169 in total. The conventional values for power calculations are alpha (α) as .05 and power magnitude (1- β) as .80. However, some views recommend to use a more stringent error rate (as .01) and to design a lower type II error rate (as .90) (Bartlett, 2021). Therefore, in this thesis, these rates were accounted for to determine the required number of participants by calculating the minimum error rates. According to this analysis, it is observed that the current study met the required number of participants. Data were initially collected from a total of 239 participants. The purpose of checking respondents' honesty and to prevent any possible bias, four different control questions were added to the questionnaire (e.g., Please select "strongly disagree" in this question). The 30 respondents who answered even 1 of the 4 control questions incorrectly and did not fit the criteria of the study (above age of 29) were taken out of the data set. Additionally, based on outlier analyses, six participants were also excluded from the sample group. As a result, with a total of 201 respondents, 146 women (72.64%) and 55 men (27.36%), were accepted for the assessment. The age range of the participants is 18-29 (M = 24.33, SD = 3.11). Participants were distributed to the earthquake regions as follows; 9 of them from Adana (%4.48), 6 of them from Osmaniye (%2.99), 10 of them from Adıyaman (%4.98), 20 of them from Hatay (%9.95), 86 of them from Kahramanmaraş (%42.79), 10 of them from Gaziantep (%4.98), 11 of them from

Diyarbakır (%5.47), 42 of them from Malatya (%20.90) ve 7 of them from Şanlıurfa (%3.48). Refer to Table 1 to obtain detailed information about all demographics of the participants.

Table 1. The participant demographics

Variables		***M***	***SD***
Age		24.33	3.11
Variables		***N***	***%***
Age groups	18-20	23	11.44
	21-23	61	30.35
	24-26	61	30.35
	26-29	56	27.86
Gender	Female	146	72.64
	Male	55	27.36
Marital Status	Single	153	76.12
	Married	48	23.88
Education Status	High School Graduate	51	25.37
	Bachelor's Degree	133	66.17
	Master's or Doctoral Degrees	17	8.46
Socioeconomic Status	Low	44	21.89
	Middle	132	65.67
	High	25	12.44
Place of Residence	Village	17	8.46
	Town	46	22.89
	City	59	29.35
	Metropolitan	79	39.30
City of Earthquake	Adana	9	4.48
	Osmaniye	6	2.99
	Adıyaman	10	4.98
	Hatay	20	9.95
	Kahramanmaraş	86	42.79
	Gaziantep	10	4.98
	Diyarbakır	11	5.47
	Malatya	42	20.90
	Şanlıurfa	7	3.48

Table 1. The participant demographics (continued)

Variables		***N***	***%***
Physical Injury	No	185	92.04
	Yes	16	7.96
Physical Injury to Close one	No	97	48.26
	Yes	104	51.74
Stayed Under Rubble	No	193	96.02
	Yes	8	3.98
Loss of Life	No	59	29.35
	Yes	142	70.65
Job Loss	No	170	86.29
	Yes	27	13.71
Monetary Loss	No monetary loss	68	33.83
	A little monetary loss	56	27.86
	Some monetary loss	46	22.89
	Too much monetary loss	31	15.42
Damage to the House	No Damage	18	8.96
	Less Damaged	88	43.78
	Moderately Damaged	31	15.42
	Heavily Damaged	43	21.39
	Collapsed	21	10.45
Staying in a Tent	No	135	67.16
	Yes	66	32.84
Leaving Status	No, did not moved	111	55.20
	Yes, within 1 month I moved	82	40.80

3.2. Measurements

3.2.1. Post Traumatic Growth Inventory (PTGI)

For this thesis, the Posttraumatic Growth Inventory (PTGI) was utilized to determine the favorable changes experienced by individuals after traumatic experiences. It is a 21-item, six-point Likert self-report measure (0 = I have never experienced – 5 = I have experienced a great deal) created by Tedeschi and Calhoun (1996). The scale's scores range from a minimum of 0 to a maximum of 105. The higher total point specified that the person has experienced a high level of growth and development after the traumatic incident. For

participants of this study, instructions were specifically changed from ‘regarding the crisis that you confronted’ to ‘after the earthquakes you experienced’. The scale has five sub-dimensions: “relationships with others” including items 6, 8, 9, 15, 16, 20, 21; “appreciation of life” including items 1, 2, 13; “new opportunities” including items 3, 7, 11, 14, 17; “personal strength” including items 4, 10, 12, 19; “spiritual change” including items 5 and 18. Reverse coded items is not existent in the inventory. In the original study, the internal consistency coefficient of Cronbach's alpha value for the entire instrument was reported to be .90 and also for the sub-dimensions ranging with .67 and .85. Lastly, instrument ’s test-retest reliability was found to be .71.

The first Turkish translation of the PTGI was carried out by Kılıç (2005), and used a 5-point scale with a 4-factor structure. Later, validity and reliability assessment was carried out again by Dürü (2006). In this adaptation study found a five-factor structure that is in accordance with the original version with 21-item and 5-point scale (Dürü, 2006). The Turkish version of the scale's internal consistency coefficient was found as .93. When the construct validity of the instrument was analyzed, reported that the five-factor structure explained 67.84% of the total variance, which is similar to the scale's original form. These results indicate that the adapted scale has satisfactory psychometric properties as well as the ability to assess the positive change that may occur after traumatic life events. In current study, the Turkish version of the instrument, which validated by Dürü (2006) is used (see Appendix A for the scale). For this thesis, Cronbach's alpha reliability of the sub-dimension is analyzed as .85 for relationships with others; .77 for new opportunities; .78 for personal strength; .84 for spiritual change; .78 for appreciation of life. Lastly, the Cronbach’s alpha reliability of total instrument is .93 in this thesis.

3.2.2 Impact of Events Scale-Revised (IES-R)

The first version of the Impact of Events Scale was created by Horowitz et al. (1979). However, this scale includes only intrusion and avoidance dimensions of traumatic stress symptoms. For this reason, the instrument was revised by Weiss and Marmar (1997) by adding the dimension of ‘Hyperarousal’ in order to include the DSM-IV Posttraumatic Stress diagnostic criteria and was named the Event Impact Scale-Revised Form (EIS-R). This version consists of 22 items in 5-point Likert and self-report type. Symptoms in the last 7 days related to the phenomenon to be measured are scored as “0 = not at all, 4 = extremely”.

The revised scale consists of 3 sub-dimensions: Avoidance dimension including items 5, 7,8, 11, 12, 13, 17, 22; Hyperarousal dimension including items 4, 10,15,18,19, 21; Intrusion dimension including items 1, 2, 3, 6, 9, 14, 16, 20. There are no reverse coded item in the inventory. In the original study, the internal consistency coefficient of Cronbach's alpha value was determined as .94 for the whole scale and were calculated 0.94 for the 'Intrusion', 0.97 for the 'Avoidance', and 0.91 for the 'Hyperarousal' sub dimension. The scale has a highest score as 88 and when the scores increase, it is an indicator for an increasing level of posttraumatic stress. It is stated that people with a score of 24 or more on this scale experience PTSD at a subthreshold level; those with a score of 33 or more are probably to be diagnosed with PTSD; and the symptoms of those with a score of 37 or more are strongly suited to be diagnosed with PTSD. However, the current study did not include specific analysis for the diagnosis of PTSD; instead, the overall posttraumatic stress level was evaluated using the total PTS score. A reliability and validity assessment of the Turkish version was conducted by Çorapçıoğlu et al. (2006) and internal consistency coefficient was calculated as 0.93. In addition, Çorapçıoğlu et al. (2006) found that the scale has correlation with the Clinician Administered Posttraumatic Stress Disorder Scale (CAPS), thus, it was shown that the scale is a reliable instrument for detecting PTS level. In this study, the entire scale's internal consistency was detected as.92. also the intrusion subscale is .90, avoidance subscale is .71 and hyperarousal subscale is .86 (see Appendix B for the scale).

3.2.3. Centrality of Event Scale (CES)

The measure was developed by Berntsen and Rubin (2006) for evaluating how important or central a specific positive or negative experience is for an individual's self and story of life. There are two forms of the scale, the brief version which consist of 7 questions and the extended version which contains 20 questions. It is rated according to a 5-point Likert type (1 means "strongly disagree" and 5 means "strongly agree"). The possible scoring extends from 7 to 35 points. The instrument was designed based on three different concepts: (1) perceiving an event as the center of personality, (2) considering the event as a milestone in someone's life and (3) considering the event as a reference point in understanding other experiences. Moreover, the developers of the instrument indicated that the scale consists of a single dimension (Berntsen & Rubin, 2006). The internal consistency coefficients of the instrument were detected as .94 for the extended version and .88 for the brief version. Also,

the brief version of the instrument was retested in a new sample and the internal consistency was calculated as .92.

In the Turkish validity and reliability study conducted by Boyacıoğlu and Aktaş (2018), properties of instruments were evaluated within the scope of autobiographical memories with positive and negative content. In the Turkish adaptation study, it was found that the scale consisted of one factor as the original scale. Explained overall variance for the single-factor construct of the expanded version was 51.01% for positive memories and 36.81% for negative memories. Explained overall variance by the brief version of the CES was 60.32% for positive memories and 47.84% for negative memories. Coefficient of internal consistency calculated over the entire instrument was .91 for negative autobiographical memories and .95 for positive autobiographical memories. The internal consistency of the Turkish brief version of the instrument was determined as higher (Cronbach's alpha: .89-.82). Therefore, the brief form of the instrument was considered a reliable and valid assessment tool in the Turkish population (Boyacıoğlu & Aktaş, 2018). Accordingly, the 7-item brief form of the scale was utilized in this thesis (see Appendix C for the scale). For present study, the internal consistency coefficient of the instrument's Cronbach's alpha was detected as .83.

3.2.4. Views of Life Survey (Inventory of the Dimensions of Emerging Adulthood [IDEA])

The Views of Life scale, also known as the Inventory of the Dimensions of Emerging Adulthood, created by Reifman, Colwell, and Arnett (2007) is a self-report measure including 31 items. The developers of the scale use both of these names together (Reifman et al., 2007). The scale includes statements about how individuals perceive their current life stage (e.g. "I consider this period of my life a time of exploration"). The six different sub-dimensions which are included in the original scale are as follows; identity exploration, negativity-uncertainty; experimentation/possibilities, focus on self, focus on others and feeling in-between. Among these subscales, the other-focus subscale includes statements that are contrary to the characteristics of emerging adulthood. For each item in the scale, it is graded on a four-point scale (1 means “not at all suitable for me”, 4 means “completely suitable for me”). A higher score on the scale indicates that the participants represent the

characteristics of emerging adulthood better. Calculated internal consistency coefficients value of the subscales vary among the .70 to .85 (Reifman et al., 2007).

The adaptation study of the Views of Life instrument to the Turkish sample was conducted by Atak & Çok, 2008. As a result of the factor analysis conducted by Atak and Çok (2008), unlike the original version, the instrument was determined to have a three-factor structure and consisted of 20 items. These factors were named and sorted as "Negativity-Instability", "Identity Exploration-Feeling in Between" and “Experimentation-Self Focus" The negativity-instability dimension includes items 2, 3, 4, 5, 6, 10 and 12 which reflect instability, indecision and negativity experienced during the period. The dimension of identity exploration-feeling in between includes items 7, 16, 17, 18 and 19 which related to people's efforts to get to know themselves and discover their identities, as well as feeling in a transitional period as they approach adulthood. The dimension of experimentation-self-focused includes items 1, 8, 9, 11, 13, 14 and 15 which related to feeling open and independent to try new things and focusing on their own lives during this period. There are no items that need to be reverse coded in the scale and the lowest score obtained is 20 and the highest score is 80. As per the validity and reliability analysis, Cronbach's alpha internal consistency coefficient was .69. It is reported that the test-retest reliability coefficient of the instrument was .78 for the first dimension, .76 for the second dimension, .82 for the third dimension as well as .81 for the total (Atak & Çok, 2008). For this thesis, the Cronbach's alpha values calculated as the negativity - instability subscale was .83, the identity exploration - feeling in between subscale was .73, and experimentation-self focus subscale was .67. Also, Cronbach's alpha value calculated from the entire scale was .78 (see Appendix D for the scale).

3.2.5. Demographic Form

This form includes various questions to learn the demographic characteristics of the respondents (age, gender, education status, marital status, socioeconomic status, etc.) and also to obtain information about their earthquake experiences. Information about the earthquake experience such as in which city the participants experienced the earthquake, if there was any loss of loved one or property, the state of damage to their houses, where they lived after the earthquake, whether they staying under the rubble, whether they or their

relatives suffered any physical injuries, and whether they moved away from the earthquake region is provided (see Appendix E).

3.3. Design

The current study has a correlational design, which is constructed as a cross-sectional online survey. In correlational research designs, the variables are not manipulated but rather the relationship between the variables is investigated (Shaughnessy et al., 2000). Therefore, as indicated in the previous section, the objective of the study was to explore the relationships between the variables. As a clarification, in the model PTS served as the predictor, PTG served as the outcome variable, event centrality served as the moderator variable between the predictor and the outcome, and finally emerging adulthood dimension served as the moderator variable in the relationship between event centrality and PTG.

3.4. Procedure

Before starting the study, ethical consent is received from Ankara Yıldırım Beyazıt University Ethics Committee on 08.03.2024 with document number 2024-347 (see Appendix F). Research participants were recruited via convenient sample technique and the study data were gathered through online Google forms. Different social media tools (WhatsApp, Instagram, Telegram) were used to reach convenient participants and especially earthquake support groups and universities' online groups located in the earthquake region were reached. Prior to answering the questionnaires, it was requested of all participants to carefully review the form for informed consent (see Appendix G) and confirm their voluntary participation in the study. The consent form provided brief details regarding purpose of the study and stated that the participants could voluntarily participate in the study and leave the study at any time they wish. Participants were also assured that the information they shared would be analyzed confidentially. After that, the participants completed the following scales respectively: Demographic information form, Impact of Events Scale-Revised (IES-R), Posttraumatic Growth Inventory (PTGI), Centrality of Event Scale (CES) and Views on Life Questionnaire.

3.5. Data Analysis

To analyze the data of the study, SPSS v26 statistical software and Hayes PROCESS Macro extension were used. Firstly, the entry of the obtained data was checked. Then, as the data cleaning, standardized Z values were examined for outlier detection. According to this method, which is a widely accepted strategy in the literature, the Z values of the data are out of the accepted range of ±3.29 deviate from the normal distribution to a statistically significant extent, therefore considered as outliers (Tabachnick & Fidell, 2013). Based on this assessment, it was concluded that the Z values of the data belonging to 8 participants were outside the range of ±3.29. The decision to remove outliers is due to the risk that these outliers have potentially disturbing effects for normal distribution of the data and misleadingly affect the results. Among the remaining data, observed no missing data exist because the data was collected on the online platform and it was mandatory to respond to all items. Thus the data analysis was performed on the remaining 201 participants. For determining normality of the data, values of skewness and kurtosis were evaluated. In this study, the values of skewness and kurtosis were calculated within -1.34 to 1.81. Since the skewness - kurtosis values were detected within the range of -2.0 to +2.0, as well as the histogram and expected probability graphs show that the data set is close to the normal distribution (Tabachnick & Fidell, 2013), the current dataset is regarded as normally distributed. Therefore, parametric analysis methods suitable for normal distribution were used (Hair et al., 2010; Westfall & Henning, 2013).

When the suitability of the parametric tests used in the current study is evaluated, first of all, one of the basic assumptions of parametric tests such as T-test and ANOVA is that the data are normally distributed. In the literature, it is suggested that in large sample sizes ($n > 30$), the distribution can be considered normal based on the Central Limit Theorem (CLT) (Lumley et al., 2002). In this context, the normality of the data was examined in our study and it was concluded that the data conformed to the normal distribution. In addition, tests such as T-test and ANOVA do not require an equal number of participants between groups. In asymmetric sizes between groups, the appropriateness of these tests can be verified by examining the relevant assumptions (Altman, 1991). For example, the homogeneity assumption in the ANOVA test can be evaluated with tests such as Levene's test and if this assumption is not met, alternative methods such as Welch ANOVA that do not require homogeneity of variance can be used. However, such a situation does not

preclude the inapplicability of parametric tests (Field, 2013). In conclusion, the normal distribution, sample size and homogeneity of variance requirements for parametric tests, which have higher power, were provided in to present study.

For this reason, in order to determine the difference among the mean scores of categorical variables consisting of two groups regarding the dependent variables, employed Independent Samples T-test. Further, One-Way Analysis of Variance (ANOVA) was employed to assess the differences between the mean scores of categorical variables with three or more groups of dependent variables. For evaluating the association among continuous variables, Pearson Correlation analysis and multiple regression analysis were conducted. Finally, for moderated mediation analysis, the effects between variables were analyzed using the Hayes PROCESS (Model 14) with 5000 resampling options. The significance level was accepted as .05 in hypothesis testing.

4. RESULTS

4.1. Descriptive Analysis of the Research Variables

The descriptive statistics of the participants' posttraumatic stress, posttraumatic growth, event centrality and emerging adulthood dimension scores are given in Table 2.

Table 2. Descriptive statistics for research variables

Variable	N	M	SD	Min.	Max.	Skewness	Kurtosis
Posttraumatic Stress	201	51.49	15.53	4.00	86.00	-.35	.02
Avoidance	201	15.09	5.78	.00	30.00	.08	.15
Hyperarousal	201	15.59	5.57	.00	24.00	-.38	-.46
Intrusion	201	20.81	7.33	.00	32.00	-.41	-.35
Posttraumatic Growth	201	64.91	19.45	8.00	105.00	-.53	.12
Relationships with others	201	18.69	7.57	.00	35.00	-.21	-.40
New opportunities	201	14.31	5.27	.00	25.00	-.40	.12
Personal power	201	12.90	4.25	.00	20.00	-.68	.36
Spiritual change	201	7.25	2.79	.00	10.00	-1.10	.32
Appreciation of life	201	11.76	3.03	.00	15.00	-1.33	1.77
Emerging Adulthood	201	54.14	4.96	38.00	68.00	-.40	.76
Negativity-Instability	201	18.48	3.03	7.00	25.00	-1.25	1.27
Identity Exploration-Feeling-in Between	201	16.94	1.83	11.00	21.00	-1.34	1.81
Experimentation-Self-Focus	201	18.73	2.37	10.00	26.00	-.42	1.32
Event Centrality	201	27.29	4.79	12.00	35.00	-.68	.28

4.2. Correlational Analyses for Research Variables

To identify the relationships between the study variables, the Pearson Correlation Analysis was performed. The results of the analysis are given in Table 3. In the correlation analysis, among the demographic variables, age was the only variable included. Other

demographic and earthquake experience variables, which were categorical variables, were not included, and they are reported separately as t-test and ANOVA finding.

Table 3. Correlations between research variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. PTS - Avoidance	-															
2. PTS - Hyperarousal	.37**	-														
3. PTS - Intrusion	.34**	.86**	-													
4. PTS	.67**	.90**	.91**	-												
5. PTG-RWO	.31**	.34**	.33**	.39**	-											
6. PTG-NO	.26**	.30**	.28**	.34**	.72**	-										
7. PTG-PP	.22**	.21**	.17*	.23**	.62**	.78**	-									
8. PTG-SC	.16*	.35**	.31**	.33**	.61**	.58**	.53**	-								
9. PTG-AL	.17*	.30**	.30**	.31**	.53**	.62**	.58**	.64**	-							
10. PTG	.29**	.36**	.33**	.39**	.89**	.90**	.84**	.75**	.75**	-						
11. Event Centrality	.06	.40**	.32**	.32**	.47**	.43**	.36**	.55**	.44**	.53**	-					
12. Emerging Adulthood - NI	-.11	.17*	.07	.05	-.04	-.11	-.13	.07	.03	-.06	.23**	-				
13. Emerging Adulthood - IE/FB	.16*	.15*	.08	.15*	.24**	.23**	.27**	.24**	.26**	.29**	.20**	.14*	-			
14. Emerging Adulthood - E/SF	.06	-.13	-.19**	-.11	.21**	.29**	.21**	.13	.21**	.26**	.12	.03	.51**	-		
15.Emerging Adulthood	.02	.09	-.02	.03	.17*	.16*	.12	.19**	.21**	.20**	.27**	.68**	.70**	.69**		
16. Age	.06	-.00	-.02	.01	.10	.09	.11	.10	.16*	.13	-.03	-.15*	.05	.08	-.03	-

Note. PTS: Posttraumatic stress, PTG: Posttraumatic growth, RWO: Relationships with others, NO: New opportunities, PP: Personal power, SC: Spiritual change, AL: Appreciation of life, NI: Negativity-Instability, IE/FB: Identity Exploration-Feeling in Between, E/SF: Experimentation-Self Focus, * $p < 0.05$, ** $p < 0.01$

When the correlation analyses were examined, firstly, a positive and statistically significant relationship was found between posttraumatic stress with posttraumatic growth (r = .39, p < .001) and event centrality (r = .32, p < .001). Also, posttraumatic growth positively correlated with emerging adulthood (r = .20, p < .001).

In terms of event centrality, a positively significant correlation was observed between event centrality and posttraumatic growth (r = .53, p < .001). In addition to this, a significant and positive relationship was also found between event centrality and PTG sub-dimensions as relationships with others (r = .47, p < 0.01), new opportunities (r = .43, p < 0.01), personal power (r = .36, p < 0.01), spiritual change (r = .55, p < 0.01), appreciation of life (r = .44, p < 0.01). Moreover, positively significant correlation was detected between event centrality and emerging adulthood (r = .27, p < .001).

Regarding the period of emerging adulthood, there was a positively significant correlation between emerging adulthood with posttraumatic growth (r = .20, p = .005) and event centrality (r = .27, p < .001). Lastly, age was not significantly correlated with main variables but it was only correlated with some sub-dimensions. It was positively correlated with PTG sub-dimension appreciation of life (r = .16, p = .023) and emerging adulthood sub-dimension negativity-instability (r = -.15, p =.038).

4.3. Group Differences of the Study Variables According to Demographic and Earthquake Variables

For the purpose of detecting if there is a significant difference between the participants' scores of PTS, PTG, event centrality and emerging adulthood dimension according to demographic and earthquake experiences variables, Independent samples t-test and ANOVA were performed. These analyses were conducted to test hypotheses H1a, H1b and H1c. The results of the analysis are given in Table 4 and Table 5.

Table 4. Group differences according to demographic variables

		Posttraumatic Stress				Posttraumatic Growth				Event Centrality				Emerging Adulthood			
		M	***SD***	***F***	***P***	***M***	***SD***	***F***	***P***	***M***	***SD***	***F***	***P***	***M***	***SD***	***F***	***P***
Gender	Female	53.20	15.51	2.57	.011	65.79	19.02	1.04	.299	27.29	4.79	0.03	.977	54.36	4.79	1.02	.310
	Male	46.96	14.76			62.58	20.53			27.27	4.81			53.56	5.39		
Marital Status	Single	51.04	15.40	-0.74	.461	62.80	20.01	-2.79	.006	27.34	4.92	0.27	.787	54.50	4.53	1.58	.118
	Married	52.94	16.00			71.62	15.91			27.12	4.39			53.00	6.07		
Education Status	High School	49.55	15.10	1.22	.296	61.76	21.22	1.01	.365	26.96	5.31	0.67	.513				
	Bachelor's Degree	52.68	15.79			66.26	19.31			27.54	4.49						
	Master's/ Doctoral Degrees	48.00	14.39			63.82	13.98			26.29	5.52						
Socioeconomic Status	Low	54.59	12.44	1.03	.359	63.93	22.30	1.03	.359	27.66	4.26	2.64	.074				
	Middle	50.47	16.36			64.25	19.10			26.82	4.90						
	High	51.44	15.71			70.12	15.40			29.12	4.71						
Age Group	18-20													53.83	5.16	0.62	.605
	21-23													54.15	3.85		
	24-26													54.79	4.63		
	27-29													53.57	6.22		

Note. t: Independent Samples t Test, F: One-Way Anova

Table 5. Group differences according to earthquake experiences variables

		Posttraumatic Stress				Posttraumatic Growth				Event Centrality			
		M	***SD***	***F***	***P***	***M***	***SD***	***F***	***P***	***M***	***SD***	***F***	***P***
Physical Injury to Close one	No	48.18	14.00	-2.98	.003	65.13	19.31	0.16	.875	26.90	4.24	-1.13	.260
	Yes	54.59	16.29			64.70	19.67			27.65	5.24		
Loss of Life	No	48.51	14.94	-1.77	.079	66.51	18.25	0.75	.454	26.51	4.82	-1.49	.137
	Yes	52.73	15.65			64.25	19.94			27.61	4.75		
Job Loss	No	50.92	15.67	-1.70	.091	63.66	19.28	-2.35	.020	26.86	4.85	-3.39	< .001
	Yes	56.37	14.19			72.85	16.29			30.15	3.38		
Leaving Status	No	51.00	15.04	-0.47	.642	66.70	18.55	2.01	.046	27.70	4.59	1.48	.140
	Yes	52.05	16.05			61.06	20.19			26.66	5.17		
Staying in a Tent	No	48.65	14.68	-3.83	< .001	63.51	18.59	-1.46	.145	27.14	4.90	-0.63	.533
	Yes	57.30	15.69			67.77	20.95			27.59	4.57		
Current Living Location	House	51.67	16.11	0.72	.473	64.28	19.99	-1.00	.317	27.01	4.80	-1.94	.054
	Container	49.89	11.07			68.33	16.05			28.93	4.60		
Financial Loss	None	50.46	13.75	3.58	.015	63.56	17.71	1.37	.254	26.37	5.31	4.75	.003
	A Little	53.05	16.50			62.29	21.96			26.34	4.84		
	Some	46.80	14.99			66.41	19.04			28.30	3.54		
	Too Much	57.90	16.31			70.39	18.45			29.52	4.20		
House Damage	None	52.11	13.86	0.20	.939	64.00	16.73	1.36	.250	25.61	4.90	2.92	.022
	Less	51.40	16.19			62.52	21.89			26.44	5.24		
	Moderately	49.61	12.28			62.81	14.43			27.61	3.85		
	Heavily	51.88	13.86			70.12	17.51			28.65	3.80		
	Collapsed	53.33	21.63			68.14	20.04			29.00	4.89		

Note. t: Independent Samples t Test, F: One-Way Anova

When the differences between groups in terms of demographic variables were examined, firstly, a significant difference was found in the PTS scores according to gender [$t(199) = 2.57$, $p = .011$, $d = .41$]. Female participants' PTS mean score ($M = 53.20$, $SD = 15.51$) was significantly higher than male participants ($M = 46.96$, $SD = 14.76$). According to marital status, a significant difference was observed in PTG scores [$t(199) = -2.79$, $p = .006$, $d = .49$]. Thus, married participants ($M = 71.62$, $SD = 15.91$) reported higher PTG than single participants ($M = 62.80$, $SD = 20.01$). On the other hand, there was no significant difference between PTS, PTG, event centrality according to their educational status and according to their educational status. Also, no significant differences detected in emerging adulthood scores of the participants in terms of age group ($p > .05$).

When analyzed in terms of earthquake experiences of the participants, PTS scores significantly differed according to having a relative who suffered from a physical injury [$t(199) = -2.98$, $p = .003$, d = .42]. Accordingly, participants whose relatives were physically injured ($M = 54.59$, $SD = 16.29$) reported higher PTS scores than those who were not ($M = 48.18$, $SD = 14.00$). In addition, when analyzed according to job loss, a significant difference was detected in PTG scores [$t(195) = -2.35$, $p = .020$, $d = .51$] and event centrality scores [$t(195) = -3.39$, $p < .001$, $d = .79$]. In this regard, the PTG scores of those who experienced job loss after the earthquake ($M = 72.85$, $SD = 16.29$) were higher than those who did not ($M = 63.66$, $SD = 19.28$). Similarly, people who experienced job loss had higher event centrality scores ($M = 30.15$, $SD = 3.38$) than those who did not ($M = 26.86$, $SD = 4.85$).

Moreover, a significant difference was found in the PTS levels of the participants according to whether they stayed in a tent after the earthquake [$t(199) = -3.83$, $p < .001$, $d = .57$]. Thus, participants who stayed in tents ($M = 57.30$, $SD = 15.69$) reported higher levels of PTS than those who did not ($M = 48.65$, $SD = 14.68$).

The participants' status of leaving the city after the earthquake was analyzed as either "left the city" (people who moved within the first 1 month after earthquake) or "did not leave the city". Accordingly, a significant difference was detected in the PTG scores of the participants according to their status of leaving the city [$t(191) = 2.01$, $p = .046$, $d = .29$]. In this context, those who did not leave the city ($M = 66.70$, $SD = 18.55$) reported higher PTG scores than those who left ($M = 61.06$, $SD = 20.19$).

Considering the level of financial loss, it was detected that there were significant differences in participants' PTS scores [$F(3, 197) = 3.58$, $p = .015$, $\eta 2 = .05$] and event centrality scores [$F(3, 197) = 4.75$, $p = .003$, $\eta 2 = 0.07$]. To identify between which groups the difference was present, the Bonferroni multiple comparison test was applied. At this point, since homogeneity of variances for ANOVA was confirmed, Benforroni, one of the applicable post-hoc tests, was employed. Benforroni is a widely used multiple comparison test and was preferred because it does not require an equivalent sample size condition (Field, 2013). According to the results, firstly, the PTS scores of participants with too much financial loss ($M = 57.90$, $SD = 14.99$) were higher than participants with some financial loss ($M = 46.80$, $SD = 14.99$). In addition, event centrality scores of participants with too much financial loss ($M = 29.52$, $SD = 4.20$) were higher than those with no financial loss ($M = 26.37$, $SD = 5.31$) and some financial loss ($M = 26.34$, $SD = 4.84$).

Finally, when analyzed according to the level of house damage caused by the earthquake, a significant difference was detected between the event centrality scores of the participants [$F(4, 196) = 2.92$, $p = .022$, $\eta 2 = .06$]. As a result of the Bonferroni multiple comparison test, the event centrality mean scores of the participants whose houses were collapsed ($M = 29.00$, $SD = 4.89$) and heavily damaged ($M = 28.65$, $SD = 3.80$) were significantly higher than the participants whose houses were not damaged ($M = 25.65$, $SD = 4.90$) and less damaged ($M = 26.44$, $SD = 5.24$).

4.4. The Findings from the Regression Analysis

In this part, multiple linear regression analysis was conducted to examine the predictive effects of the study main variables (PTS, event centrality, emerging adulthood) on PTG and also to test the hypotheses number 2 and 3. Firstly, regression analysis was performed according to the total scores of all scales (see Table 6) and then a separate analysis was conducted according to the sub-dimensions of the scales (see Table 7).

As a result of the linear regression analysis, the variables of the age, PTS and event centrality positively predicted the PTG variable ($F(3,197) = 33.29$, $p < .001$, $R^2 = .33$). This model explains 33% (R-squared) of the variation in the posttraumatic growth variable. According to the detailed analysis, posttraumatic stress total score ($B = .32$, $t(197) = 4.13$, p

< .001) and event centrality total score (B = 1.73, t(197) = 6.67, p < .001) appeared to be significant predictors of posttraumatic growth. However, in contrast to expectations, emerging adulthood total score was not a significant predictor of posttraumatic growth (p = .226).

Table 6. Results for linear regression with posttraumatic stress, event centrality, and emerging adulthood predicting posttraumatic growth

Variable	*B*	*SE*	β	*t*	*p*
(Intercept)	-14.07	13.01	.00	-1.08	.281
Posttraumatic Stress	.32	.08	.25	4.13	< .001
Event Centrality	1.73	.26	.43	6.67	< .001
Emerging Adulthood	.29	.24	.07	1.21	.226

Note. Results: F(3,197) = 33.29, p < .001, R^2 = .33

As mentioned in following, multiple linear regression analysis conducted to examine whether posttraumatic stress subscales, event centrality, and emerging adulthood subscales predicted posttraumatic growth scores. The results of the analysis are presented in Table 7. In accordance with the results of the analysis, the regression model was found to be statistically significant (F(8, 192) = 18.46, p < .001, R^2 = .43). This model explains 43% (R-squared) of the variation in the posttraumatic growth variable. In this context, the PTS sub-dimension "avoidance" had a positive significant predictive effect on posttraumatic growth (B = .48, t(192) = 2.37, p = .019). Similarly, the emerging adulthood sub-dimension "experimentation-self-focus" (B = 1.49, t(192) = 2.73, p = .007) also positively predicted posttraumatic growth. meanwhile, the emerging adulthood sub-dimension "negativity-instability" was detected to have a negative predictive effect on posttraumatic growth (B = -1.06, t(192) = -2.83, p = .005).

Table 7. Results of linear regression analysis: PTS subscales, event centrality, and emerging adulthood subscales as predictors of PTG respectively.

Variable	*B*	*SE*	β	*t*	*p*
(Intercept)	-40.83	15.35	.00	-2.66	.008
Avoidance	.48	.20	.14	2.37	.019
Hyperarousal	.15	.39	.04	.37	.710
Intrusion	.37	.28	.14	1.31	.193
Event Centrality	1.85	.25	.46	7.41	< .001
Negativity-Instability	-1.06	.37	-.17	-2.83	.005
Identity Exploration-Feeling in Between	.90	.70	.08	1.28	.202
Experimentation-Self-Focus	1.49	.55	.18	2.73	.007

Note. Results: $F(8,192) = 18.46$, $p < .001$, $R^2 = .41$

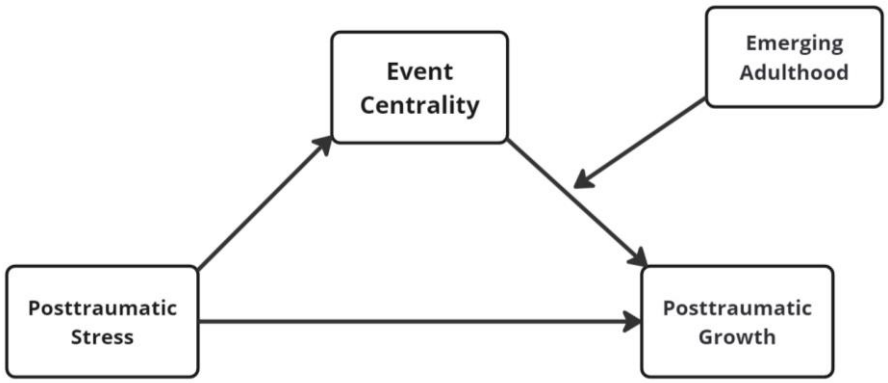
4.5. The Mediator Role of Event Centrality and the Moderator Role of Emerging Adulthood

A moderated mediation analysis was conducted using Hayes' PROCESS macro (Model 14) to investigate the relationships between the posttraumatic stress, event centrality, emerging adulthood, and posttraumatic growth (see Figure 1). In this model, event centrality was examined as a mediator of the relationship between posttraumatic stress and posttraumatic growth. Also, the moderator effect of emerging adulthood dimension total score and all sub-scales of emerging adulthood dimension on the relationship between event centrality and posttraumatic growth was examined.

Firstly, in the analysis conducted according to the total score of emerging adulthood, the results indicated that the first regression model, which predicted event centrality from posttraumatic stress, was significant ($F(1,199) = 22.39$, $p < .001$, $R^2 = .10$. Posttraumatic stress was found to be a significant positive predictor of event centrality ($b = .098$, $SE = .021$, $t(199) = 4.73$, $p < .001$, 95% *CI* [.057, .139]). The second regression model, which predicted posttraumatic growth from posttraumatic stress, event centrality, emerging adulthood, and their interaction (event centrality × emerging adulthood), was also significant ($F(4,196) = 25.82$, $p < .001$, $R^2 = .35$). Posttraumatic stress ($b = .332$, $SE = .077$, $t(196) = 4.31$, $p < .001$)

and event centrality (b = 1.7985, SE = .261, $t(196)$ = 6.88, p < .001) were significant predictors of posttraumatic growth. However, the main effect of emerging adulthood (p = .152) and the interaction term (event centrality × emerging adulthood) (p = .110) were not significant. Furthermore, the indirect effect of posttraumatic stress on posttraumatic growth through event centrality was significant (b = .176, 95% CI [.085, .282]). Namely, event centrality has a mediator effect on the relationship between PTS and PTG. However, the moderating effect of emerging adulthood total score on the relationship between event centrality and posttraumatic growth was not significant (b = .070, 95% CI [-.016, .157]).

Figure 1. Moderated mediation model



After the initial moderated mediation model, additional analysis was designed according to the sub-dimensions of the emerging adulthood. This was because the emerging adulthood scale can be analyzed both by total score and sub-dimensions (Reifman et al., 2007). Accordingly, the analysis was performed again with the negativity-instability, identity exploration-feeling in between and experimentation/self-focus sub dimensions respectively.

Primarily, for model with the negativity-instability dimension, the first regression model, which predicted event centrality from post-traumatic stress, was significant ($F(1,199)$ = 22.39, p < .001, R^2 = .10). The second regression model, which predicted post-traumatic growth from post-traumatic stress, event centrality, negativity-instability, and their

interaction (event centrality × negativity-instability), was also significant ($F(4,196) = 27.96$, $p < .001$, $R^2 = .36$). However, the main effect of negativity-instability ($p = .987$) and the interaction term (event centrality × negativity-instability) ($p = .541$) were not significant. Furthermore, the indirect effect of post-traumatic stress on post-traumatic growth through event centrality was significant at different levels of negativity-instability. However, the index of moderated mediation was not significant (b = -0.004, 95% *CI* [-0.023, 0.009]), indicating that negativity-instability did not significantly moderate the indirect effect of post-traumatic stress on post-traumatic growth through event centrality.

Secondly, for model with the identity exploration-feeling in between dimension, the first regression model, which predicted event centrality from post-traumatic stress, was significant ($F(1,199) = 22.39$, $p < .001$, $R^2 = .10$). The second regression model, which predicted post-traumatic growth from post-traumatic stress, event centrality, identity exploration-feeling in between, and their interaction (event centrality × identity exploration-feeling in between), was also significant ($F(4,196) = 28.06$, $p < .001$, $R^2 = .36$). However, event centrality ($p = .761$), identity exploration-feeling in between ($p = .557$), and the interaction term (event centrality × identity exploration-feeling in between) ($p = .228$) were not significant. Furthermore, the indirect effect of post-traumatic stress on post-traumatic growth through event centrality was significant at different levels of identity exploration-feeling in between. However, the index of moderated mediation was not significant (b = 0.013, 95% *CI* [-0.006, 0.046]), indicating that identity exploration-feeling in between did not significantly moderate the indirect effect of post-traumatic stress on post-traumatic growth through event centrality.

Lastly, for model with experimentation/self-focus dimension, event centrality was examined as a mediator of the relationship between PTS and PTG, and also experimentation/self-focus moderate the effect of event centrality on PTG (see Figure 2 and 3). The hypotheses of the study are elaborated in detail through this model.

Figure 2. Moderated mediation model with experimentation/self-focus sub-dimension

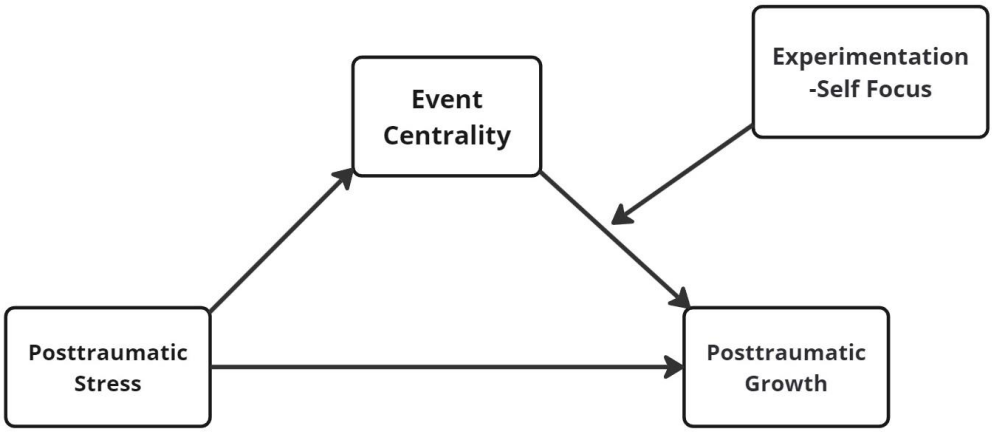
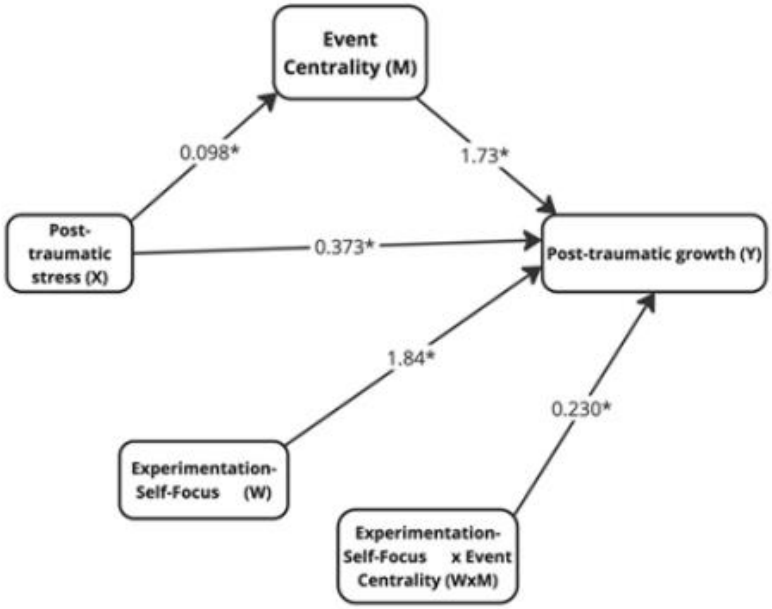


Figure 3. Statistical model of moderated mediation model with experimentation/self-focus sub-dimension



The first regression model assessed the direct effect of posttraumatic stress on event centrality. This model was statistically significant, R^2 = .101, F(1, 199) = 22.39, p < .001, indicating that posttraumatic stress explained approximately 10.11% of the variance in event centrality. The unstandardized regression coefficient for posttraumatic stress was positive and significant, b = .098, SE = .021, t(199) = 4.73, p < .001, 95% CI [.057, .139], indicating that higher levels of posttraumatic stress are associated with higher levels of event centrality. The second regression model examined the effects of posttraumatic stress, event centrality, experimentation/self-focus and the interaction term (event centrality x experimentation/self-focus) on posttraumatic growth. This model was also statistically significant, R^2 = .403, F(4, 196) = 33.11, p < .001, indicating that the predictors collectively accounted for 40.32% of the variance in posttraumatic growth. The analysis revealed significant positive effects of posttraumatic stress (b = .373, SE = .074, t(196) = 5.04, p < .001), event centrality (b = 1.734, SE = .244, t(196) = 7.11, p < .001), and experimentation/self-focus (b = 1.844, SE = .466, t(196) = 3.96, p < .001) on posttraumatic growth. Moreover, the interaction between event centrality and experimentation/self-focus was significant (b = .230, SE = .103, t(196) = 2.23, p = .027), suggesting that the relationship between event centrality and posttraumatic growth is moderated by experimentation/self-focus dimension. The regression model results are presented in Table 8.

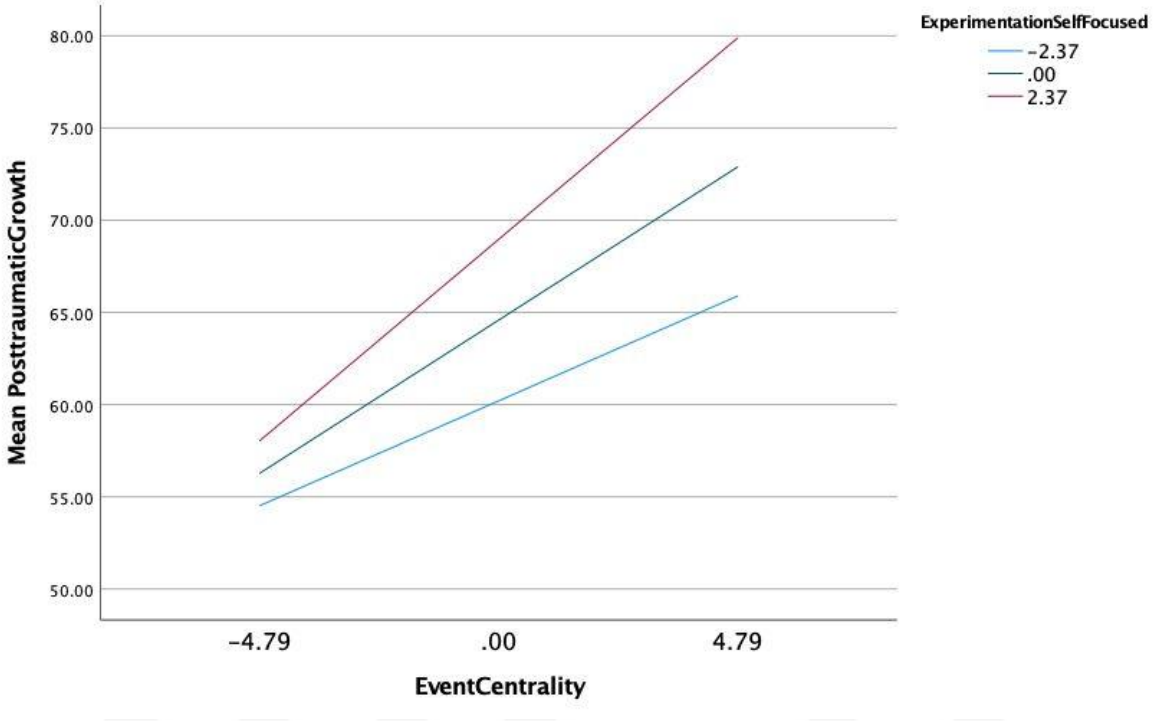
Table 8. Moderated mediation analysis results for the effect of PTS on PTG through event centrality moderated by experimentation/self-focus dimension

Outcome Variable	**Predictor**	***b***	***SE***	***t***	***p***	**95% CI [LL, UL]**
Event Centrality	Constant	-5.049	1.114	-4.53	<.001	[-7.247, -2.852]
	Posttraumatic Stress	.098	.021	4.73	<.001	[0.057, 0.138]
Posttraumatic Growth	Constant	45.384	3.969	11.44	<.001	[37.557, 53.210]
	Posttraumatic Stress	.373	.074	5.04	<.001	[0.227, 0.519]

Event Centrality	1.734	.244	7.11	<.001	[1.254, 2.215]
Experimentation/Self Focus	1.844	.466	3.96	<.001	[0.925, 2.763]
Event Centrality × Experimentation/Self Focus	.230	.103	2.23	.027	[0.026, 0.434]

The index of moderated mediation was significant, Index = 0.023, BootSE = .012, 95% CI [.001, .048], indicating that the indirect effect of posttraumatic stress on posttraumatic growth through event centrality varies depending on the level of experimentation/self-focus. This supports the hypothesis that as a sub-dimension of emerging adulthood, experimentation/self-focus moderates the indirect effect of posttraumatic stress on posttraumatic growth via event centrality. To explore the nature of the moderation, the conditional effects of event centrality on posttraumatic growth at different levels of experimentation/self-focus (low: 1 SD below average, medium: average, and high: 1 SD above average) were analyzed. The conditional effect of event centrality on posttraumatic growth was significant across all levels of experimentation/self-focus dimension: Low experimentation/self-focus (-1 SD): $b = 1.188$, $SE = .313$, $t = 3.79$, $p < .001$. Medium experimentation/self-focus: $b = 1.734$, $SE = .244$, $t = 7.11$, $p < .001$. High experimentation/self-focus (+1 SD): $b = 2.281$, $SE = .376$, $t = 6.07$, $p < .001$ (see in Figure 4).

Figure 4. Conditional effects on event centrality on PTG at different level of experimentation/self-focus dimension



These results indicate that posttraumatic stress positively predicts event centrality, which in turn predicts posttraumatic growth. This indirect relationship is moderated by experimentation/self-focus, with the effect of event centrality on posttraumatic growth becoming stronger as experimentation/self-focus increases. In general, a summary of study hypotheses according to the findings is presented in Table 9.

Table 9. Summary of hypotheses

Hypotheses	**Results**
H1. Posttraumatic growth and stress levels of emerging adults will differ significantly according to demographic characteristics and earthquake experiences	partly supported
H2. There will a significant positive association between PTS and PTG.	supported
H3. PTS will positively predict event centrality.	supported
H4. Event centrality will positively predict PTG.	supported
H5. Event centrality is expected to have a mediator role in the relationship between PTS and PTG.	supported
H6. Emerging adulthood dimension will positively associate with PTG.	partly supported
H7. The emerging adulthood dimension is expected to have a moderating role in the association between event centrality and PTG.	partly supported

5. DISCUSSION

The overall objective of this thesis was to explore the factors affecting the link between posttraumatic stress and posttraumatic growth in emerging adults who experienced Kahramanmaraş-centered earthquakes. In this regard, the impacts of demographic variables, earthquake experience variables, event centrality and emerging adulthood dimension on the association between PTS and PTG status of emerging adults following the earthquake were investigated. Accordingly, it was anticipated that significant differences would exist in the study variables according to demographic and earthquake experience variables. Moreover, it was hypothesized that the event centrality would have a mediator role in the link between PTS and PTG and also the emerging adulthood dimension would have a moderator role. Within this section, the findings of the study are evaluated based on the relevant and current literature. Firstly, the relations of demographic and earthquake experience variables with the main variables and group differences are being discussed. Then, the findings of the study regarding the associations of the main variables are evaluated. Finally, the results of the moderated mediation analysis, which constitutes the main model of the study, will be reviewed.

Prior to the main evaluations, the internal consistency coefficients of the instruments utilized in the study were determined to be above .75. Since this value represents good reliability (Kalaycı, 2010), it can be considered sufficient and acceptable for analyses. Considering the scores obtained from the main variables according to the scales and studies, it is noted that the total PTS scores of the participants (M = 51.49) are high. This indicates that although time has passed since the earthquake, stress symptoms are still evident. The total PTG mean score of the participants (M = 64.91) is higher than the average and is consistent with many studies (Barton et al., 2013) and even higher (Yaman, 2018). Event centrality mean score (M = 27.29) was also determined to be high. This finding signifies that the earthquake acts as a turning point for these individuals. Also, the total mean score of emerging adulthood dimension (M = 54.14) was high and indicated that the sample exhibited emerging adulthood characteristics at a high rate (Atak, 2005).

5.1. Demographic and Earthquake Experience Variables

For this study, demographic variables were handled within the scope of age, gender, marital status, educational status and socio-economic status. Age showed no significant correlation with the main variables but only positively correlated with the PTS sub-dimension appreciation of life and the emerging adulthood sub-dimension negativity-instability. The fact that age was not correlated with the other variables might be due to the emerging adulthood dimension having a stronger correlation than age with other variables, as well as possibly because the age range of the emerging adulthood period is quite narrow.

Moreover, these results regarding the association of age with appreciation of life are in accordance with the relevant literature (Kadri & Leddy, 2022; Mostarac & Brajković, 2022; Tedeschi & Calhoun, 2004). These studies reported that with age, individuals formed deeper meanings about life and gained a better understanding of life's value; therefore, as age increases, appreciation of life dimension of growth increases. However, these results are generally obtained from studies carried out with older people (Kadri & Leddy, 2022). The presence of this finding for young individuals who are in emerging adulthood in the present study can be interpreted within the scope of traumatic experiences. The awareness of the temporariness of life and mortality may have been observed in emerging adults after the Kahramanmaraş earthquake, which was a highly traumatic experience. Namely, since the temporality of life was realized after a traumatic experience, the value attached to life increased (Mostarac & Brajković, 2022). These results are also related to and compatible with a study by Schmidt et al. (2019) in which the emerging adults exposed to trauma had higher scores in the sub-dimension of valuing life. Furthermore, the presence of a negative link between the emerging adulthood sub-dimension negativity-instability and age in this study is consisted with the results of the general literature. Within this context, studies conducted about emerging adulthood period mostly conclude that there is a decrease in negativity - instability dimension with age. Accordingly, it is emphasized that this feature of the emerging adulthood period is expected to decrease with the tendency to gain a more stable and mature perspective at later ages (Arnett, 2000; Boardman, 2017; Reifman et al., 2007). At this point, it can be said that this study's finding is supported by the general literature.

With respect to gender, a significant difference was detected only for the PTS variable. Accordingly, females in emerging adulthood reported higher levels of PTS than males. This finding is in line with epidemiological studies (Breslau et al., 1991; Haden et al., 2007). Moreover, when we examine it within the scope of earthquake studies, it is also evident that the supporting results are prevalent (Elçi, 2021; Kılıç, 2005). Within the trauma literature, this could be interpreted as being a woman poses a strong risk factor for developing PTSD. In addition, it is also mentioned in the literature that females receive higher scores in terms of PTG and experienced more PTG than males (Elçi, 2021; Vishnevsky et al., 2010). However, in the present study, no gender differentiation was detected in terms of PTG. Regarding PTS, this difference may be explained by the fact that women are more involved in emotional functioning processes than men. Accordingly, women are more oriented to emotional processing such as rumination, which is related to both PTS and PTG processes, which may lead to the traumatic experience being more processed mentally and thereby increase PTS (Olff, 2017). Additionally, women who are in emerging adulthood might be subjected to more stress factors than men. To illustrate, during this period, women may face difficulties in their identity discovery process due to the social pressures and expectations (i.e. the emphasis on the age of marriage) (Conley et al., 2014). They may also be confronted with gender discrimination related to gender roles while trying to explore the appropriate career paths for them. In turn, this might lead to an increased likelihood of experiencing more PTS (Heilman, 2012). In general, it can be concluded that the findings of our study are compatible with the mentioned literature.

Furthermore, a significant difference was detected regarding marital status only for the PTG variable. Accordingly, the results revealed that married individuals tend to have more growth score than single individuals. These findings are in line with the studies in the literature (Helgeson et al., 2006; Kim & Oh, 2019). This difference observed by marital status in current study may be an indication of a finding related to social support. In the context of the growth model, Tedeschi and Calhoun (2004) highlight the role of family and partners in terms of self-disclosure and social support. They also suggested that self-disclosure to those closest to the experience assists posttraumatic growth by activating cognitive processing. However, since social support was not one of the main issues of the current study, a detailed examination was not conducted. It may serve as a suggestion for future studies in this context.

Meanwhile, participants' socioeconomic status and education status were not significantly differing according to the variables. The lack of significant differences for both demographic variables in terms of the study variables could be due to the limited nature of the data. Namely, for both variables, the relatively small sample size and the high homogeneity among the groups may have caused this result. In this regard, the distribution of the data for the education status variable is mainly weighted towards bachelor's degree graduates, and for the socioeconomic status variable, the distribution is mostly centered on middle status. At this point, it is noted that finding a significant difference is challenging due to the low variation among the groups (Tabachnick & Fidell, 2013). Also, in our study, differences in the level of emerging adulthood according to socioeconomic and educational status were not analyzed because in most studies related to emerging adulthood, these domains were measured as "being a student or not and having a job or not" (Atak, 2005; Aydın, 2017; Ergin, 2015). However, since the focus of our study is not to specifically investigate whether the emerging adulthood dimension differed according specific features (e.g. staying with parents or not, having or not having children) and as this is a separate study subject, our study does not include questions related to this dimension. This could offer suggestions for future studies.

In this study, the purpose of dividing age into groups is to evaluate the difference of emerging adulthood dimension in terms of age from a developmental perspective. In previous adaptation studies (Atak, 2005; Atak & Çok, 2008) that explored the characteristics of emerging adulthood, it was stated that the age group reflecting the qualities of this period in the Turkish sample was between 18-25. However, global studies accept the age range of 18-29 since their results reveal that the age span has lengthened over time (Gaudet, 2007; Nelson, 2009). At this point, considering the existence of global and cultural changes (Doğan & Cebioğlu, 2011), it was hypothesized that the age range of emerging adulthood in the context of Türkiye could be between 18-29. In order to check this, aside from the overall age average, to make inferences about the emerging adulthood period, age was divided into 4 different groups (1st group = 18-20, 2nd group = 21-23, 3rd group = 24-26, 4th group = 27-29) in parallel with the study in which the validity tests of the emerging adulthood dimension scale were conducted in Türkiye (Atak, 2005). The differences based on age groups were analyzed only in terms of the emerging adulthood variable. The findings of our study were determined to be in line with our expectations and global studies (Gaudet, 2007; Nelson, 2009). Namely, no significant difference was observed among the age groups and it can be

claimed that emerging adulthood characteristics can be observed with the similar rate in the age range of 27-29. In other words, the fact that the age range based on the emerging adulthood score did not differentiate in the 27-29 age range implies that the emerging adulthood period may be inclusive up to 29-30 ages in Türkiye. The reason for this result is considered possible to be the effect of postponing the entrance into adulthood with the increasing rate of pursuing higher education, increasing unemployment and delaying the marriage age in the context of Türkiye (Doğan & Cebioğlu, 2011). In parallel, this conclusion is supported by related studies (Ergin, 2015; Eroğlu, 2020). Along with the main analyses of our study, this analysis is valuable in terms of examining the characteristics of emerging adulthood in the context of Türkiye, since there are limited studies investigating the characteristics of emerging adulthood, specifically in Türkiye. Finally, it can be concluded that the age range that was determined for emerging adulthood stage in this study is also applicable in the context of Türkiye, along with global studies. Along with this result, the fact that the scores obtained from the emerging adulthood scale were similar in all age groups (18-20, 21-23, 24-26 and 27-29), may also indicate that the scale is not very sensitive. This can be interpreted as a limitation of the scale. For this reason, conducting development studies by re-measuring this scale in different samples in Turkey may be a recommendation for future studies.

In terms of the findings related to the earthquake experiences of the participants, the hypothesis of the study was that worsening earthquake experience features would yield increases in PTS, PTG and event centrality levels. This hypothesis was partially confirmed. To begin with, individuals whose relatives were physically injured in the earthquake reported higher levels of PTS. This finding is supported especially by earthquake studies (Başoğlu et al., 2002; Riad & Norris, 1996; Tural et al., 2004). These studies point out that having a close loved one injured is an important risk factor for PTS. On the other hand, no differences were detected in terms of PTG in our study and consistently with some literature (Elçi, 2021).

Significant differences were detected in PTG and event centrality levels of trauma victims according to their job loss after the earthquake. Accordingly, it was revealed that individuals who experienced job loss due to the earthquake reported higher PTG and event centrality. These findings are congruent with the growth model. Tedeschi and Calhoun (2004) indicate that the losses experienced by individuals as a result of stressful and traumatic incidents (such as the loss of a loved one, job loss, financial losses) are an

influential factor in the process of growth and these life experiences increase the person's perception of centrality towards the traumatic incident and enable the initiation of the growth process. Likewise, meaningful differences were identified in event centrality based on the degree of house damage caused by the earthquake and the amount of financial loss. In this respect, respondents with destroyed and heavily damaged houses have higher event centrality scores than those with little or no damage. The increase in the adverse aspects of these traumatic experiences is linked to increasing the centrality of the event (Bernsten & Rubin, 2007). After the earthquake, individuals whose houses were destroyed, heavily damaged and who suffered a lot of financial losses may have had to face the adverse effects of the earthquake at a higher rate, such as forced to move due to damage, not finding accommodation, losing their property, and struggling financially. It is consistent with the literature that the earthquake experience is perceived to be more central because it creates more changes for these individuals (Bernsten & Rubin, 2007; Boals, 2010). In addition, experiencing high levels of financial loss was also associated with high levels of PTS. This is also supported by the findings of many studies that negative earthquake experiences serve as risk factors for increased PTS (Başoğlu et al., 2002; Riad & Norris, 1996; Tural et al., 2004).

Finally, based on the analysis according to the status of leaving the city after the earthquake, it was determined that the PTG scores of individuals who never left the city were higher than those who left the city within the first 1 month. These findings of the study are also compatible with the assumptions in previously mentioned Tedeschi & Calhoun's (2004) growth model. The prolonged experience of stressors related to the traumatic event is associated with cognitive processes that constitute the basis of the growth process. Accordingly, more prolonged exposure to trauma stressors leads individuals to engage in a higher cognitive process towards the experience, namely, they apply more to rumination in order to make meaning about the event. Consequently, they may experience greater growth (Tedeschi & Calhoun, 2004; Tedeschi et al., 2018). In this context, participants who did not leave the region after the earthquake may have been more exposed to stressors related to the traumatic event. For instance, exposure to stressors such as collapsed buildings, aftershocks, and adverse life conditions after the earthquake could have influenced the growth levels of individuals by keeping the meaning-making processes related to the earthquake constantly active (Schaefer & Moos, 1992; Tedeschi & Calhoun, 2004).

5.2. The Associations among the Main Variables of the Study

The main variables of the study constitute PTS, PTG, event centrality and emerging adulthood dimension. First of all, the link between PTS and PTG is evaluated. It was hypothesized that there would be a significant positive correlation between PTS and PTG and this hypothesis was confirmed. Within the literature, two different views (salutogenic and pathogenic) exist regarding trauma outcomes. Especially based on the pathogenic view, only negative outcomes can exist after trauma (Dekel et al., 2012). However, despite this, recent studies have revealed that trauma outcomes are not exclusively negative, but can also be accompanied by positive outcomes (Schuettler & Boals, 2011). The developers of the growth model, Calhoun and Tedeschi (1998), note that growth and stress can coexist and growth is not a process that occurs after the termination of stress. Therefore, it is probable that individuals may continue to exhibit stress symptoms on the one hand and experience the growth process on the other. These views in the literature have created the possibility a positive correlation between PTG and PTS. However, findings regarding the link between PTS and PTG in the relevant literature are still inconsistent (negative, positive and no relationship) and there are different findings (Cordova et al., 2007; Helgeson et al., 2006; Ho et al., 2005). Still, the extensive meta-analyses have presented that this association is positive and strong (Helgeson et al., 2006). For this reason, the present study intended to reach an enlightening evidence regarding the relation between PTS and PTG. It is possible to claim that the findings of the study are supported by the current literature (Dekel et al., 2012; Taku et al., 2008).

Moreover, apart from the general literature, this finding of the study is also in accordance with the earthquake studies. Although a significant association was not detected in the study conducted in Türkiye within the scope of earthquake (Elçi, 2021), the current study reported a positively significant link in line with the prevailing literature (e.g. Saccinto et al., 2013; Zhou et al., 2015). In the aforementioned study (Elçi, 2021), absence of any correlation between PTS and PTG could be related to the duration of time that has passed after the traumatic incident. Regarding this, it is indicated in the literature that the time span after the traumatic incident is an essential factor for the emergence of growth and passing 1-2 years after the trauma will facilitate the complete development of growth (Tedeschi and Calhoun, 2004). Moreover, based on the results of the meta-analysis, it was concluded that the relationship between PTS and PTG gets stronger after 2 years of the event (Helgeson et

al., 2006). Accordingly, the reason for the absence of a significant relationship in the mentioned study might be the fact that the study data were gathered 4 months after the Van earthquake. However, in the current study, the time required for growth was taken into account and thus the data were gathered 1-1.5 years after the earthquake. Presumably, this could be one of the explanations for the strong relationship between PTS and PTG in this study. Subsequent to the results of correlation analyses, linear regression analyses were performed to evaluate the predictive effects on PTG and similarly, it was detected that PTS had a positive predictive role in PTG. Accordingly, it can be stated that the adverse outcomes occurring after the trauma have an initiating power for the formation of favorable outcomes. This finding is also important in terms of bringing a different perspective to the undesirable nature of adverse outcomes.

Another hypothesis of the study was that there would be a positive association between PTS and event centrality. As per the results of correlation and regression analysis, PTS has a significant relation with event centrality and PTS also predicts event centrality. Therefore, the hypothesis of the study was supported by the recent studies (Blix et al., 2013; Glad et al., 2020; Stevens et al., 2022). These results are evaluated in the underlying context of the emergence of the event centrality phenomenon, contrary to the dominant literature but consistent with more recent studies. Thus, the details of the relationship between PTS and event centrality, namely the consistent and inconsistent results in the literature, are evaluated comprehensively through the main model in the next section.

Furthermore, considering the relationship between event centrality and PTG, event centrality had a positive relationship with PTG, and our hypothesis was supported. This result is evaluated within the framework of the centrality of the event as an initiating power in the growth model. Accordingly, having high event centrality regarding the traumatic experience activates the posttraumatic growth process (Tedeschi et al., 2018). The detailed findings of the literature on this result are also discussed in detail within the context of the study's main model.

In terms of the relation between emerging adulthood dimension and PTG, emerging adulthood dimension was positively correlated with PTG, and this finding supports the hypothesis of the study. In other words, an increase in emerging adulthood traits would increase growth. The emerging adulthood dimension's positive link with growth can be evaluated in terms of the characteristics of this period. The period of emerging adulthood

represents a uniquely important time phase in development, as individuals tend to become more optimistic regarding goals, options, and expectations for the future, with the possibility of having greater access to opportunities (Arnett, 2004; 2006). For example, identity seeking and self-awareness processes in emerging adulthood may contribute to individuals to be more adaptive to stressful events and to derive more benefits from these experiences (Schmidt, 2024). In this context, the presence of a positive association between emerging adulthood characteristics and PTG can be interpreted as having the characteristics of this developmental period to the expected extent has a growth-enhancing effect. However, it is very difficult to interpret this finding of the study within the scope of the literature because, to our knowledge, there are very limited studies that measure emerging adulthood characteristics and examine their relationship with PTG in qualitative terms. The only available study concluded that emerging adulthood score was positively correlated with PTG in line with this study (Arpawong et al., 2017). Therefore, thanks to the characteristics of emerging adulthood, emerging adults are more likely to undergo growth after traumatic incidents.

In addition, emerging adulthood and age variables were specifically evaluated in the correlation analysis. As mentioned before, while the age variable was not associated with the main variables, emerging adulthood was observed to have a significant link with PTG. This result supports our assumptions that the studies examining the emerging adulthood period would be inadequate if they investigate this period solely age-based. In general, most of the studies examining emerging adulthood in the literature evaluate the characteristics of this period only by involving participants between the ages of 18-29 in their studies (Yılmaz & Gündüz, 2020; Karabacak, 2017; Tremolada et al., 2016). In other words, they assume that the mentioned age range absolutely reflects the characteristics of emerging adulthood. However, only an age-based examination of the emerging adulthood period raises the possibility of incomplete evaluation of the findings. Within this context, the importance of cultural influences on the developmental period of emerging adulthood is highlighted. Arnett (2000) stated that the age range of emerging adulthood may even differ according to culture. For this reason, considering age only as a criterion for emerging adulthood may not be an accurate approach for the evaluation of emerging adulthood. Hence, in this study, emerging adulthood characteristics were measured utilizing the IDEA scale and its impact on growth was assessed. A higher score on the scale points to the presence of more emerging adulthood characteristics (Reifman et al., 2007). The fact that age was not associated with PTG in our

results, but the scores received from the emerging adulthood dimension were significant supports the purpose of the study.

After the significant relation detected in the correlation analysis, with the regression analysis the predictive effect of emerging adulthood dimension on growth together with other variables was tested. According to this analysis, contrary to expectations, the total score of emerging adulthood dimension score did not have a predictive effect on PTG. The fact that the total score of emerging adulthood dimension was not significant in the regression model can be interpreted as that other variables (PTS, event centrality) have effects on emerging adulthood dimension in the regression analysis. However, since the main subject of the study was not to elaborately analyze the interactions among emerging adulthood, PTS and PTG, it may not be possible to make a clear interpretation of this effect. This may serve as a suggestion for future studies. Subsequent to this result for the total score of emerging adulthood, when sub-dimensions were analyzed, it was detected that experimentation-self focus subdimension had a positive predictive role on PTG, whereas negativity-instability subdimension had a negative predictive role on PTG. That is, when experimentation-self focus dimension increases, PTG increase and when negativity-instability dimension increases, PTG decrease. These findings are assumed to be valuable in terms of evaluation. In this regard, the experimentation-self focus dimension, one of the characteristics of emerging adulthood, includes features such as discovering one's identity, increasing independence, being open to new experiences and focusing more on themselves (Arnett, 2000). It stands to reason that this dimension has positive outcomes in terms of PTG by enabling the individual to develop new perspectives after the trauma and to achieve personal development by focusing on themselves. On the other hand, the negativity-instability dimension includes emotional instability, uncertainty about life and choices, and negative thoughts during this period (Arnett, 2000). Although the instability feature of this dimension carries the potential to find new meanings and growth opportunities from crisis situations, ongoing uncertainties and instabilities may worsen the effects of the traumatic incident and may lead to PTS. It is possible to argue that the findings of the study regarding the sub-dimensions can be supported within the scope of the literature.

5.3. The Moderated Mediation Model

At last, moderated mediation analysis was carried out to investigate the direct, indirect, and conditional effects among the variables as the main model of the study. In this context, the study hypothesis was firstly that event centrality would have a significant mediation role in the association between PTS and PTG, and this hypothesis was supported. In other words, PTS has a predictive effect on event centrality and as stress level increases, event centrality also increases. At this point, as mentioned before, novel controversies exist in the literature regarding the direction of the link between PTS and event centrality (Stevens et al., 2022). Prevailing literature suggests that event centrality predicts PTS (Bernard et al., 2015; George et al., 2016). However, recent studies have provided enlightening results in terms of this inconsistency. (Blix et al., 2013; Glad et al., 2020; Stevens et al., 2022). Accordingly, the majority of the studies suggesting that event centrality predicts PTS are cross-sectional and the limitation of cross-sectional studies is that they prevent a clear interpretation of the causal relation (Levin, 2006). Moreover, within the limited longitudinal studies in which the predictive power of event centrality was investigated, the mentioned association was analyzed in a bidirectional manner (Boals & Ruggero, 2015; Boelen, 2012). This means that they did not check whether PTS has an effect on event centrality. However, recent longitudinal studies have examined the relationship between PTS and event centrality in both directions and reached the conclusion that PTS has predictive power on event centrality while event centrality has no predictive power on PTS (Glad et al., 2020; Stevens et al., 2022). These results demonstrate that, contrary to the prevailing view, it is necessary to examine the effect of PTS on event centrality. Along with this, the aim of this study is to explore the predictive effect of PTS on event centrality in the light of the newest findings. Since our study is not longitudinal, it is not possible to interpret the direction between the mentioned variables, however, the predictive direction that was detected in our study is an encouraging finding in terms of supporting the recent studies.

Furthermore, according to causal explanations for the existence of this relationship, it is actually in accordance with the theoretical model of event centrality (Bernsten & Rubin, 2006). Namely, the emotional intensity of traumatic incidents enhances the integrated power of the event in the individual's identity and life, that is, the event centrality. Post-traumatic negative emotions and perceptions can emerge as PTSS, and high levels of PTS contribute to vivid and emotional recollection of the traumatic event. This reinforces the central role of

the event by increasing its importance for individuals (Bernsten & Rubin, 2006). Accordingly, it is possible to conclude that the findings of our study are supported in terms of the theoretical framework. Another important aspect related to the effects of PTS on event centrality is its power to influence intervention research to be applied to trauma victims. If we consider that mentioned association may exist in accordance with the findings of recent studies and the current study, it is noted that intervention methods intended to reduce the centrality of the event in order to reduce PTSS will not be beneficial (Johanβen et al., 2021). In this context, the findings of new research should be taken into account and more studies should be conducted on this issue to improve the appropriate intervention methods for trauma victims. Therefore, these findings can be considered as valuable in terms of contributing to the newly emerging perspective on the relationship between PTS and event centrality. In addition, since the mainstream literature is generally oriented towards event centrality predicting PTS and more recent studies have presented the opposite direction (i.e., PTS predicts event centrality), the number of studies examining the mediator effect of event centrality in this association is very limited. Accordingly, the results of similar studies support the findings of our study and confirm the mediator effect of event centrality (Atintaş, 2022; Glad et al., 2020). This result can be concluded as follows; the emotionally intense stress symptoms that occur after the trauma affect the individual's perceptions of the event and increase the degree of event centrality, while the increased event centrality regarding the earthquake memory plays the role of trigger in the posttraumatic growth model and thus promotes growth. Besides, no study has been encountered to explore the mediator effect of event centrality within the framework of earthquake trauma and emerging adulthood characteristics. Therefore, it is considered that the findings of our study provide a meaningful contribution to the literature.

When the impact of the mediator role of event centrality on PTG was examined, it was found that event centrality had a positive significant predictive effect on PTG. Accordingly, the increase in the centrality of the event leads to an increase in the growth level of the individual. In this respect, the identification of the traumatic incident as critical and central to the life story and identity enhances the likelihood of growth. This could be interpreted as the earthquake experience, which is considered serious and central for the survivor, shapes their life, affects their decisions, and leads to a positive transformation such as psychological growth (Tedeschi & Calhoun, 2004). Moreover, the integration of the individual's experience into their identity and assigning meaning to it is essential for the

process of “embracing the new narrative created and integrating it with their life story”, which is an important step in the growth model. As mentioned earlier, especially in the revised version of the growth model, the centrality of the event serves as the step that enables the growth to be initiated (Tedeschi et al., 2018). In this regard, the findings of our study are consistent with and supported by the prevailing literature (Boals et al., 2010; Groleau et al., 2013; Lancaster et al., 2013). Also, our study reported that event centrality is positively correlated with all the dimensions of PTG. This result is in line with the result of Lancaster et al. (2013). Aside from the fact that this finding confirms the argument that event centrality could be a key to positive outcomes as well as being associated with many negative outcomes, it is also valuable in terms of being addressed for the first time in the context of earthquakes in Türkiye.

For the second part of the model, it was hypothesized that emerging adulthood dimension would serve as a moderator in the relationship between PTS and PTG through event centrality. It can be stated that this hypothesis of the study was partially confirmed. At this point, the total score of emerging adulthood dimension did not have a significant moderator effect similar to the regression. This result can be interpreted as that the total emerging adulthood dimensions do not have a strengthening effect on the link between event centrality and PTG. The assumption that emerging adulthood has a moderating role between event centrality and PTG is evaluated in terms of the reminiscence bumb and cultural life script phenomena that arise within the scope of memory studies. At this point, it is explained by the assumption that individuals experience major life events between the ages of 10-30, which are generally critical for identity development, and that these events are likely to be remembered and have a high centrality in people's lives. Accordingly, the experiences of individuals in emerging adulthood are expected to be characterized by higher event centrality when examined within the framework of their developmental period (Berntsen & Rubin, 2004). Based on the results of the study, it can be said that this assumption is partially supported within the scope of the literature. The reason for this could be that the emerging adulthood period was not considered only on the basis of age in this study and the moderator effect of emerging adulthood characteristics was examined. In this regard, the absence of a significant effect of the total score of emerging adulthood traits may be due to the fact that the emerging adulthood characteristics have opposite features between them. Namely, emerging adulthood has both positive characteristics such as self-focus and negative characteristics such as negativity (Reifman et al., 2007). For this reason, it is understandable

that there is no significant effect in terms of total score. However, studies examining the effect of emerging adulthood characteristics in the literature are very scarce and these studies generally evaluated the effect of total score (e.g. Arpawong et al., 2017). Nevertheless, in this study, the absence of the moderator effect of total score and the presence of significant results in sub-dimensions can be interpreted as indicating that emerging adulthood characteristics should be analysed through sub-dimensions.

In addition, when the analyses conducted within the framework of emerging adulthood sub-dimensions are evaluated, in line with the regression, experimentation-self focus dimension was observed to play a strengthening role in the relationship examined through event centrality. When evaluated in terms of the conditional effects of event centrality on PTG at different level of experimentation/self-focus dimension, it is revealed that a strong relationship exists between event centrality and PTG. Moreover, this strong relationship is also significant at all levels of experimentation/self-focus dimension. In other words, it can be concluded that even at the lowest level of experimentation/self-focus dimension, it has a moderator effect that strengthens this relationship. Although the lack of similar studies within the scope of this model complicates interpretation, it is reasonable to conclude that the findings are partially supported in the light of the available literature. Within this context, Schmidt (2024), who conducted a comprehensive review on PTG in emerging adulthood, highlights that emerging adults are normally expected to achieve positive developments in the course of the natural process thanks to characteristics of their developmental period. However, it may not be the same for emerging adults who have faced traumatic encounters. Results of the studies concluded that emerging adults who faced trauma displayed less development in the area of possibilities (Gottlieb et al., 2007). Based on this, it argued that the key traits that have a stronger link with growth in emerging adulthood are possibilities, self-focus and exploration (Arnett, 2000; 2004). However, traumatic encounters may undermine the likelihood of emerging adults to benefit from these traits. Despite these finding, the significant moderated growth-enhancing effect of experimentation-self-focus dimension in the present study enables us to conclude that this characteristic of emerging adulthood is manifested on PTG even after traumatic encounters. Thus, this feature can be considered as a protective factor for emerging adults. It may be concluded that an important finding has been reached in terms of the interventions designed to support the psychological well-being and personal growth of emerging adults who are earthquake survivors. It would be beneficial to improve the conditions for earthquake

survivors in the emerging adulthood period in order for them to focus on themselves, to continue their search for identity and to utilize opportunities, and to provide psychological support and interventions for this purpose.

Furthermore, in the analyses conducted with negativity-instability and identity exploration-feeling in between sub-dimensions of emerging adulthood, it was found that the moderator effect was not significant for both sub-dimensions. The reason for this result might be that these two sub-dimensions have negative content generally and the respondents had trauma experience. Accordingly, the negativity-instability dimension includes the uncertainties that individuals experience during emerging adulthood and the negative emotional states arising from these uncertainties (Arnett, 2000; Reifman et al., 2007). During normal processes, even though this sub-dimension is negatively oriented, the presence of new opportunities along with uncertainties has a positive effect on the development of individuals. However, this situation might not be the same for emerging adults who have experienced traumatic experiences (Schmidt, 2024). Hence, the recent earthquake experience of the emerging adults in study sample had a traumatic effect, which could be caused them to have more negative effects on these sub-dimensions. The fact that individuals' life routines were disrupted after the earthquake and that they experienced emotional and material losses may have increased the likelihood of individuals experiencing more negativity and instability during this period (Gottlieb et al., 2007; Schmidt, 2024).

Likewise, as shown in studies in the literature, emerging adults who have experienced traumatic experiences have been shown to exhibit less identity exploration than those who have not (Devine et al., 2010; Gottlieb et al., 2007). This may be associated with the fact that individuals who have experienced traumatic experiences are more likely to experience feeling in-between instead of identity exploration in this process, and thus, have no effect on growth (Gottlieb et al., 2007; Schmidt, 2024). At this point, it can be offered as an important suggestion for future studies to evaluate emerging adulthood characteristics in terms of various samples in order to see how the results differ among individuals who have not experienced traumatic events.

5.4. Limitations and Suggestions

There are some potential limitations of the study. First of all, the relatively less number of participants in the study is one of the limitations. At this point, the sample of the study required individuals between the ages of 18-29 who had been exposed to the earthquake, thus the very specific participant criteria made reaching eligible individuals difficult. Nevertheless, the results of the power analysis used to lower type II error rate demonstrated that the number of participants adequate for this study was 169. At this point, the number of participants reached for the study can be concluded as reasonable. Still, further studies are recommended to reach larger numbers of participants to ensure higher accuracy. Additionally, the study group was reached through convenient sampling method in the study and therefore, the study contains the limitations of the sampling method. Another limitation of the study is that the scales were self-report. At this point, there is a risk that the participants may be biased in answering the questionnaires, not giving honest answers and not seriously evaluating questions. In order to prevent these biases, some control questions were added to the questionnaires. Participants who responded incorrectly to the control questions were dropped from the study data. Despite this intervention, the possibility of bias can be considered as a limitation of the study.

Furthermore, the study is also limited by the socio-demographic characteristics of the participants. The majority of the participants were female, with a high level of education and middle socioeconomic status. For this reason, it makes it difficult to generalize to the whole population. Future studies are advised to reach a more equal and expandable population in terms of the demographic characteristics. Similarly, it can also be stated that a more equal and extensive data should be obtained in terms of the earthquake experiences of the participants in the study. At this point, the number of participants who were trapped under the rubble and severely injured in the earthquake was not included in the analyses because it was not distributed evenly. It is suggested that more comprehensive data should be obtained to evaluate these earthquake experiences. Finally, this study was designed cross-sectionally. This limits the ability to make inferences about variables in the long term. For this reason, future studies should examine a similar model longitudinally in order to be able to make inferences about causality and to detect changes in the long term.

Even though it is not counted as a limitation since it is the main focus of this study, it is an important suggestion to conduct studies in which different types and levels of trauma are addressed in order to make a more detailed evaluation of PTS and PTG. In addition, comparing the characteristics of emerging adulthood within the scope of PTS and PTG with other age groups or developmental period could be an inspiration for future studies. Moreover, the finding that emerging adulthood period, which is one of the contributions of this study, can be observed up to the age of 29-30 may be an important suggestion for the inclusion criteria of future studies.

5.5. The Contributions of the Study

Although the key contributions of the study are briefly highlighted in the discussion section, a short summary will be restated. First of all, the adverse effects of the Kahramanmaraş earthquake, which had a devastating impact on our country, can be expected to continue for many years. In this regard, it can be concluded that investigating the effects of earthquakes on individuals' psychological conditions is socially significant. The main contribution of the study is to provide a useful addition for studies related to the psychological well-being of earthquake survivors in emerging adulthood, which is a critical developmental period. Secondly, the study is crucial in terms of providing a more clear pattern to the inconsistent findings in the literature on the association between PTS and PTG. In addition, contrary to the dominant literature regarding the directionality in the relationship between PTS and event centrality and in accordance with recent enlightening studies, this study is considered to be valuable in terms of adding a different perspective on this link. This means that our finding is in accordance with the newest studies that revealed the predictive direction of PTS on event centrality. Furthermore, considering the fact that there are very limited studies in which the characteristics of the period are measured qualitatively and that only age-based evaluations are insufficient, the IDEA scale was utilized in the studies investigating the emerging adulthood period. Thus, discovering that age did not have a significant association with the main variables, whereas emerging adulthood had a significant association with the main variables, reinforces the aims of the study design. Both the qualitative measurement and interpretation of the characteristics of emerging adulthood, which is known to be a critical period, and the findings supporting that analyzing this period with age variable only may be insufficient are considered among the major contributions of the study.

As a conclusion, this study highlighted the roles of the centrality of the event and the characteristics of emerging adulthood in the association between PTS and PTG across emerging adults who experienced earthquakes. Along with the mediator relationship of the event centrality, the effects of emerging adulthood characteristics on growth were underlined. In this regard, it is hoped that future studies will make substantial additions to the existing literature addressing the factors affecting traumatic outcomes by utilizing the findings of this study.

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7. APPENDICES

APPENDIX A. POST TRAUMATIC GROWTH INVENTORY (PTGI)

Travma Sonrası Büyüme Ölçeği

(Dürü, 2006)

Yaşadığınız deprem(ler)i düşünerek, bu olaydan sonra yaşamış olabileceğiniz bazı değişikliklerin ne derece olduğunu aşağıdaki ölçeği kullanarak işaretleyiniz.

0	1	2	3	4	5
Hiç Yaşamadım	**Çok Az Yaşadım**	**Biraz Yaşadım**	**Orta Düzeyde Yaşadım**	**Oldukça Fazla Yaşadım**	**Çok Fazla Yaşadım**

	Hiç Yaşamadım	Çok az yaşadım	Biraz yaşadım	Orta düzeyde yaşadım	Oldukça fazla yaşadım	Çok fazla yaşadım
1. Yaşamımda önem verdiğim şeylerin sırası değişti.	0	1	2	3	4	5
2. Yaşamımın değerini daha iyi anladım.	0	1	2	3	4	5
3. Yeni ilgi alanları geliştirdim.	0	1	2	3	4	5
4. Kendime daha fazla güvenmeye başladım	0	1	2	3	4	5
5. Manevi konuları daha iyi anlamaya başladım	0	1	2	3	4	5
6. Zor zamanlarda insanlara güvenebileceğimi anladım	0	1	2	3	4	5

7. Hayatıma yeni bir yön verdim	0	1	2	3	4	5
8. Başkaları ile daha yakın olma isteğim arttı	0	1	2	3	4	5
9. Duygularımı ifade etme isteğim arttı	0	1	2	3	4	5
10. Zorluklarla başa çıkabileceğimi anladım	0	1	2	3	4	5
11. Hayatta daha iyi şeyler yapabileceğimi anladım	0	1	2	3	4	5
12. Olayların gidişatını kabullenmeyi öğrendim	0	1	2	3	4	5
13. Yaşadığım her güne değer vermeyi öğrendim	0	1	2	3	4	5
14. Önüme daha önce karşılaşmadığım fırsatlar çıktı	0	1	2	3	4	5
15. Başkalarına karşı şefkatli olmayı öğrendim	0	1	2	3	4	5
16. İlişkilerimde gayret göstermeyi öğrendim	0	1	2	3	4	5
17. Değiştirilmesi gerekenleri değiştirmek için daha çok gayret göstermeyi öğrendim.	0	1	2	3	4	5
18. Dini inancım daha güçlendi.	0	1	2	3	4	5
19. Zannettiğimden daha güçlü olduğumu farkettim	0	1	2	3	4	5
20. İnsanların ne kadar iyi olduklarını öğrendim.	0	1	2	3	4	5
21. Başkalarına ihtiyacım olduğunu kabul ettim.	0	1	2	3	4	5

APPENDIX B. IMPACT OF EVENTS SCALE-REVISED (IES-R)

Olayın Etkisi Ölçeği-Revize Edilmiş

(Çorapçıoğlu et al., 2006)

Bu bölümde, stresli bir yaşam olayından sonra insanların yaşayabileceği bazı zorlukların bir listesi bulunmaktadır. Her cümleyi dikkatlice okuyunuz. Geçtiğimiz yedi gün içerisinde, **yaşadığınız depremi düşünerek** bu zorlukların sizi ne kadar rahatsız ettiğini cümlelerin sağındaki beş kutucuktan birini işaretleyerek belirtiniz.

0	1	2	3	4
Hiç	**Biraz**	**Orta Düzeyde**	**Fazla**	**Çok Fazla**

	Hiç 0	Biraz 1	Orta Düzeyde 2	Fazla 3	Çok Fazla 4
1.Olayı hatırlatan her türlü şey, kazayla ilgili duygularımı yeniden ortaya çıkardı.	0	1	2	3	4
2.Uykuyu sürdürmekte güçlük çektim.	0	1	2	3	4
3.Başka şeyler benim olay hakkında düşünmeyi sürdürmeme neden oldu	0	1	2	3	4
4.Alıngan ve kızgın hissettim.	0	1	2	3	4
5. Olayı düşündüğümde ya da hatırladığımda, bu konunun beni üzmesine izin vermedim.	0	1	2	3	4
6. Düşünmek istemediğim halde olayı düşündüm.	0	1	2	3	4
7. Olay hiç olmamış gibi ya da gerçek değilmiş gibi hissettim.	0	1	2	3	4
8. Olayı hatırlatan şeylerden uzak durdum.	0	1	2	3	4
9. Olayla ilgili görüntüler aniden zihnimde canlandı.	0	1	2	3	4
10. Ürkek ve diken üstünde hissettim.	0	1	2	3	4
11. Olay hakkında düşünmemeye çalıştım.	0	1	2	3	4

12. Olayla ilgili olarak hala pek çok duygum vardı, ancak bunlarla hiç ilgilenmedim.	0	1	2	3	4
13. Olayla ilgili hissizleşmiş gibiyim.	0	1	2	3	4
14. Kendimi olayın olduğu andaki gibi davranırken veya hissederken bulduğum oldu.	0	1	2	3	4
15. Uykuya dalmakta güçlük çektim.	0	1	2	3	4
16. Olayla ilgili çok yoğun duygu değişiklikleri yaşadım.	0	1	2	3	4
17. Olayı hafızamdan (belleğimden) silmeye çalıştım.	0	1	2	3	4
18. Dikkatimi toplamakta zorlandım.	0	1	2	3	4
19.Olayı hatırlatan şeyler fiziksel tepkiler göstermeme sebep oldu (örneğin, terleme, nefes almada güçlük, baş dönmesi, kalp çarpıntısı, gibi).	0	1	2	3	4
20. Olayla ilgili rüyalar gördüm.	0	1	2	3	4
21. Kendimi tetikte ve savunma durumunda hissettim.	0	1	2	3	4
22. Olay hakkında konuşmamaya çalıştım.	0	1	2	3	4

APPENDIX C. EVENT CENTRALITY SCALE (ECS)

Olayın Merkeziyeti Ölçeği

(Boyacıoğlu & Aktaş, 2018)

Lütfen 6 Şubat 2023 depreminin olduğu tarihten itibaren yaşadığınız deprem sürecini tekrar düşünün. Aşağıdaki maddelerin her birine ne kadar katıldığınızı maddenin hemen yanında 1' den 5' e kadar sıralanan numaralardan birini daire içine alarak belirtin.

1	2	3	4	5
Kesinlikle Katılmıyorum	**Katılmıyorum**	**Kararsızım**	**Katılıyorum**	**Kesinlikle Katılıyorum**

Bu olayın kimliğimin bir parçası haline geldiğini hissediyorum.	1	2	3	4	5
Bu olay, kendimi ve dünyayı anlamamda bir rehber, bir referans noktası haline geldi.	1	2	3	4	5
Bu olayın, hayat hikâyemin ana unsurlarından biri haline geldiğini hissediyorum.	1	2	3	4	5
Bu olay, benim başka yaşantılara dair hislerimi ve düşüncelerimi etkiledi.	1	2	3	4	5
Bu olay, hayatımı kalıcı olarak değiştirdi.	1	2	3	4	5
Bu olayın geleceğim üzerindeki etkilerini sık sık düşünürüm.	1	2	3	4	5
Bu olay tanısını almak, hayatımda bir dönüm noktasıydı.	1	2	3	4	5

APPENDIX D. VIEWS OF LIFE SCALE

Hayat Görüşü Ölçeği

(Atak & Çok, 2008)

Lütfen en üstteki cümleyi (Yaşamınızın şu sıralar içinde bulunduğunuz dönemi ……) tamamlayarak size uygun olan cümleyi işaretleyiniz.

Yaşamınızın şu sıralar içinde bulunduğunuz dönemi ……	**Bana hiç uygun değil (1)**	**Bana pek uygun değil (2)**	**Bana oldukça uygun (3)**	**Bana tamamen uygun (4)**
1. Keşif zamanıdır.				
2. Kafa karışıklığı zamanıdır.				
3. Kendini kısıtlanmış hissetme zamanıdır.				
4. Stres altında kalmış hissetme zamanıdır.				
5. Kararsızlık zamanıdır.				
6. Büyük baskılar zamanıdır.				
7. Kim olduğunu bulma zamanıdır.				
8. Bağımsızlık zamanıdır.				
9. Açıkça seçimler yapma zamanıdır.				
10. Belirsizlikler zamanıdır				
11. Kendine yetme zamanıdır.				
12. Pek çok kaygının yaşanma zamanıdır.				
13. Yeni şeyler deneme zamanıdır.				
14. Kendine odaklanma zamanıdır.				
15. Anne babadan ayrılma zamanıdır.				
16. Kendini tanımlama zamanıdır.				
.				

17. Bir anlam duygusu arama zamanıdır					
18. Kendi inanç ve değerlerine karar verme zamanıdır.					
19. Kendin için düşünmeyi öğrenme zamanıdır.					
20. Yavaş yavaş yetişkin olma zamanıdır.					

APPENDIX E. DEMOGRAPHIC FORM

Demografik Form

1. Cinsiyetiniz:

 Kadın

 Erkek

 Belirtmek İstemiyorum

2. Yaşınız: ……..
3. Medeni Durum:

 Bekar

 Evli

4. Hayatınızın büyük kısmını geçirdiğiniz yer:

 İl

 İlçe

 Kasaba

 Köy

5. Gelir düzeyiniz:

 Düşük

 Orta

 Yüksek

6. Eğitim Durumunuz:

 İlkokul mezunu

 Ortaokul Mezunu

 Lise Mezunu

 Ön lisans/Lisans Mezunu

 Yüksek lisans/Doktora mezunu

7. 6 Şubat 2023 tarihinde Kahramanmaraş merkezli deprem esnasında neredeydiniz?

Kahramanmaraş	
Hatay	
Gaziantep	
Malatya	
Adana	
Adıyaman	

Osmaniye	
Diyarbakır	
Kilis	
Elazığ	
Şanlıurfa	

8. Bu travmatik olay sırasında aşağıdakilerden her birinin olup olmadığını Evet ya da Hayır'ı işaretleyerek belirtiniz:

A	Fiziksel bir yara aldınız?	E	H
B	Yakınlarından ya da tanıdıklarından bir fiksel bir yara aldı mı?	E	H

9. Göçük altında kaldınız mı? ☐ Evet ☐ Hayır

10. Yakınlarınızdan ya da tanıdıklarınızdan can kaybı var mı? ☐ Evet ☐ Hayır

11. Mal kaybı yaşadınız mı? Yaşadıysanız ne düzeyde mal kaybı yaşadınız?

☐ Hiç mal kaybı olmadı ☐ Biraz mal kaybı
☐ Oldukça mal kaybı ☐ Çok fazla mal kaybı

12. Deprem sonrası çadırda kaldınız mı? ☐ Evet ☐ Hayır

13. Şuan nerede kalmaktasınız?

- ☐ Ev ☐ Konteyner ☐ Çadır

14. Deprem evinize ne derecede hasar oluşturdu?

☐ Ağır hasarlı ☐ Orta hasarlı ☐ Az hasarlı ☐ Hasarsız ☐ Yıkılmış

15. Deprem sonrasında bölgeden ayrıldınız mı/başka şehre taşındınız mı?

☐ 1 ay içinde ayrıldım/taşındım.
☐ Hayır, şehirden ayrılmadım/taşınmadım.

APPENDIX F. ETHICAL APPROVAL FORM

ANKARA YILDIRIM BEYAZIT UNIVERSITY (AYBU)
SOCIAL AND HUMAN SCIENCES ETHICS COMMITTEE
RESEARCH PROJECT APPROVAL DOCUMENT

Ankara Yıldırım Beyazıt University Social Sciences Institute from Psychology Master's student Fatma Gül Pemik's **Investigation of the Factors Related with Posttraumatic Stress and Posttraumatic Growth Among Emerging Adults Who Experienced The 2023 Kahramanmaraş-Centered Earthquakes** titled research was evaluated.

The project was approved in terms of ethics. [X]
The project needs to be re-submitted in terms of ethics. [ ]
The project was rejected in terms of ethics. [ ]

AYBU SOCIAL AND HUMAN SCIENCES ETHICS COMMITTEE DECISION (To be filled by the Ethics Committee)	
Research code (Year – Research order number)	2024-347
The date the application form was received by the Ethics Committee	08.03.2024
Ethics Committee Decision meeting date and decision number	20.03.2024 /03-347
Place	Ankara Yildirim Beyazit University, Esenboga Kulliyesi, Ankara-Turkey
Participants	Members who signed the form attended the meeting.

CHAIRMAN AND MEMBERS OF THE COMMITTEE:

Prof. Dr. Zafer ÇELİK	Chairman
Prof. Dr. Suat ERDEM	Member
Assoc. Dr. Bahar İNKAYA	Member
Assoc. Dr. Bayram SİNKAYA	Member
Assoc. Dr. Hakan DULKADİROĞLU	Member
Assoc. Dr. Halime Şenay GÜZEL	Member
Assoc. Dr. Keziban Büşra KAYNAK EKİCİ	Member
Asst. Prof. Dr. Asuman ÇUKUR	Member
Asst. Prof. Dr. Esin KIVRAK KÖROĞLU	Member
Asst. Prof. Dr. İrem ŞENGÜL	Member
Asst. Prof. Dr. İpek METE	Member

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APPENDIX G. INFORMED CONSENT FORM

Bilgilendirilmiş Onam Formu

LÜTFEN BU DÖKÜMANI DİKKATLİCE OKUMAK İÇİN ZAMAN AYIRINIZ

Değerli Katılımcı,

Sizi Dr. Öğretim Üyesi Nur Elibol Pekaslan danışmanlığında Ankara Yıldırım Beyazıt Üniversitesi Sosyal Bilimler Enstitüsü Psikoloji Programı yüksek lisans öğrencisi Fatma Gül Pemik tarafından yürütülen yüksek lisans tez araştırmasına davet ediyoruz. Araştırmanın amacı Kahramanmaraş merkezli depremleri yaşamış beliren yetişkinlerde travma sonrası büyüme ve stres arasındaki ilişkinin belirli değişkenler açısından incelenmesidir.

Bu çalışmada 18-29 yaş arasındaki, 2023 Kahramanmaraş merkezli depremleri yaşamış, genç yetişkinlere ulaşılması hedeflenmektedir. Çalışma yaklaşık 15 dakika sürmektedir. **Bu çalışmaya katılmak tamamen gönüllülük esaslıdır.** Çalışmaya katılmama veya katıldıktan sonra herhangi bir anda çalışmadan çıkma hakkında sahipsiniz. Çalışmanın amacına ulaşması için, soruları kimsenin baskısı ya da telkini altında olmadan, içtenlikle cevaplamanız beklenmektedir.

Bu formu okuyup onaylamanız, araştırmaya katılmayı kabul ettiğiniz anlamına gelecektir. Çalışmada kimliğinizi açığa çıkaracak herhangi bir bilgi istenmemektedir. Çalışmada elde edilecek bilimsel veriler tamamen gizli tutulacak ve sadece araştırma amacıyla kullanılacaktır. Çalışmada fiziksel ve mental sağlığınızı rahatsız edici herhangi bir olumsuz durum yer almamaktadır. Yine de çalışma esnasında kendinizi rahatsız hissederseniz çalışmadan çıkma hakkına sahipsiniz.

Çalışmayla ilgili daha fazla bilgi almak isterseniz araştırmacı Fatma Gül Pemik'e ulaşabilirsiniz.

Değerli vaktinizi ayırdığınız için teşekkür ederim.

Yukarıda yer alan ve araştırmadan önce katılımcıya/gönüllüye verilmesi gereken bilgileri okudum ve katılmam istenen çalışmanın kapsamını ve amacını, gönüllü olarak üzerime düşen sorumlulukları tamamen anladım. Bu çalışmayı istediğim zaman ve herhangi bir neden belirtmek zorunda kalmadan bırakabileceğimi ve bıraktığım takdirde herhangi bir olumsuzluk ile karşılaşmayacağımı anladım.

Bu koşullarda söz konusu araştırmaya kendi isteğimle, hiçbir baskı ve zorlama olmaksızın gönüllü olarak katılmayı kabul ediyorum ☐