PREVALENCE OF TRAUMATIC EVENTS AND DETERMINANTS OF POSTTRAUMATIC GROWTH IN UNIVERSITY STUDENTS

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PREVALENCE OF TRAUMATIC EVENTS AND DETERMINANTS OF POSTTRAUMATIC GROWTH IN UNIVERSITY STUDENTS

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_____

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I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science.

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This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

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ABSTRACT

PREVALENCE OF TRAUMATIC EVENTS AND DETERMINANTS OF POSTTRAUMATIC GROWTH IN UNIVERSITY STUDENTS

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This study aims to examine the prevalence of traumatic events among university students and to evaluate the predictive values of socio-demographic variables, trauma characteristics, attachment styles and coping styles in posttraumatic growth. 321 students from the Middle East Technical University and Hacettepe University participated in the study. A trauma checklist, Posttraumatic Growth Inventory, Relationship Scales Questionnaire, Attachment Style Questionnaire and Ways of Coping Inventory were administered. The results showed that living a disaster, death of a family member, living a serious accident or a serious health problem, a suicidal attempt or the suicide of a significant other or a friend and losing a significant other in an accident or in an act of violence are the traumas which were reported by the participants. In the regression analysis, gender, felt horror and helplessness during the traumatic event, optimistic coping style and fatalistic coping style are found to be significant predictors of posttraumatic growth. The results are discussed within the existing literature findings. The clinical implications are offered.

Keywords: Trauma, attachment styles, coping styles, posttraumatic growth

ÖZ

ÜNİVERSİTE ÖĞRENCİLERİNDE TRAVMATİK OLAYLARIN RASTLANMA SIKLIĞI VE TRAVMA SONRASI GELİŞİMİN BELİRLEYİCİLERİ

Arıkan, Gizem

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Bu çalışmanın amacı, üniversite öğrencilerinin yaşadıkları travmatik olayların incelenmesi ve sosyo-demografik değişkenlerin, travma özelliklerinin, bağlanma stillerinin ve başetme stillerinin travma sonrası gelişimi yordayıcılığını ortaya koymaktır. Çalışmaya Orta Doğu Teknik Üniversitesi'nden ve Hacettepe Üniversitesi'nden 321 öğrenci katılmıştır. Katılımcılara travmatik yaşam olayları listesi, Travma Sonrası Gelişim Ölçeği, İlişki Ölçekleri Anketi, Bağlanma Stili Ölçeği ve Başetme Yolları Ölçeği uygulanmıştır. Sonuç olarak, en çok bir afet yaşamak, aileden birinin ölümü, ciddi bir kaza geçirmek ya da ciddi bir sağlık sorunu yaşamak, bir yakının ya da bir arkadaşın kendini öldürmesi veya intihar girişimi ve bir kaza ya da şiddet olayında bir yakınını kaybetme katılımcılar tarafından rapor edilmiştir. Regresyon analizine göre ise, cinsiyet, duyulan dehşet ve çaresizlik, iyimser başetme stili ve kaderci başetme stilinin travma sonrası gelişimi belirgin şekilde yordadığı görülmüştür. Sonuçlar varolan literatür kapsamında tartışılmıştır. Klinik uygulamalara yönelik öneriler sunulmuştur.

Anahtar Kelimeler: Travma, bağlanma stilleri, başetme stilleri, travma sonrası gelişim

To my unique attachment figures;
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CHAPTER 1

1. INTRODUCTION

In daily life, individual faces with different stressors but some of them carry unique characteristics which affects individual's current status and future. Traumatic events are the ones that acquire the both negative and positive qualities that reflect to person's life. The negative side includes psychopathologies and positive side includes transformation in lifestyle. A wide spectrum of factors contributes to the development of these changes.

1.1 Trauma and Trauma Related Psychological Problems

1.1.1 Trauma and Psychopathology

Trauma is an ancient Greek word having the meaning of 'wound' or 'pierce' which was used for the warriors in fire line (Spier, 2001). Before 1970s people who suffer after a life threatening event were considered to have a mental illness predispostionally related to childhood experiences, and the traumatic event was viewed as a triggering factor. Post Traumatic Stress Disorder originates from 'post Vietnam syndrome' or 'delayed stress syndrome' in DSM III (Jones & Wesseley, 2007). Today, in DSM IV (2000), trauma is defined as follows: "(1) The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or a serious injury, or a threat to the physical integrity of self or others. (2) The person's response involved in intense fear, helplessness, or horror." (p. 200). Some of the traumas are; a sudden injury/serious accident, a physical assault, an abuse, observing the death or serious injury of another person, news of a sudden death or a serious injury to a relative or a friend, a rape, natural disasters and others (Joseph, Williams, & Yule, 1997).

Stressful life events may lead to problems in the individual's health. Traumatic experiences in earlier life are associated with worse health conditions in

older population (Krause, Shaw, & Cairney, 2004). When an individual fails to modulate a normal adaptive response, symptoms of dissociation, re-experiencing of the event, avoidance, hyperarousal, anxiety, depression, substance abuse and even psychotic breaks with reality may be observed (Cristopher, 2004). Moreover, a traumatic event may also increase the risk of suicidal attempts of the trauma survivors (Eskin, Akoğlu, & Uygur, 2006). The aftermath of trauma, problems may lead to psychological disorders. In the study of Turner and Lloyd (1995), major life events represent a crucial dimension for mental health risk of adults. According to this study, there is a relationship between the number of traumas experienced before the age of 18 and the life time risk of major depression, substance abuse or potential problematic levels of depressive symptomatology. The specific adverse life events are the inner causes for Adjustment Disorder, Acute Stress Disorders (ASD) and Post Traumatic Stress Disorder (PTSD).

First, in DSM IV (2000), adjustment disorder is defined as an inability or a maladaptive reaction to an identifiable stressful life event / stressor such as a divorce, or a family crisis. Symptoms must occur within the three months of the event / stressor and persist for no longer than six months. To deserve clinical attention, an individual with adjustment disorder must exhibit behavioral and emotional symptoms more excessively than expected or there must be a significant social dysfunction or occupational impairment (p. 263-264).

Second, in DSM IV (2000), acute stress reaction is a transient, and an abrupt condition that may develop after an overwhelming traumatic event. The symptoms must last 2 days to 4 weeks. The diagnosis of acute stress disorder requires three or more of the following dissociative symptoms that developed during or after the event or the experience. These are loss of emotion, numbing, or detachment; diminished awareness of surroundings; depersonalization; derealization**;** and dissociative amnesia. Furthermore, the event or experience must be re-experienced in at least one of the following ways. These are distressing recollections of the event or the experience; dreams that are reoccurring and distressful; reliving the event or experience in the form of flashbacks, hallucinations, images, illusions, or thoughts; and reacting in a physiological manner to any aspect of the event or the experience (p. 202-203).

Third, according to DSM IV (2000) traumatic events lead to a great distress which may cause Post Traumatic Stress Disorder (PTSD) (p. 200-202). PTSD consists of three major symptom clusters (Joseph & Linley, 2005). These are re-experiencing symptoms (e.g., nightmares, flashbacks, and intrusive thoughts and images), avoidance and numbing symptoms (e.g., behavioral attempts to avoid remainders of the event) and arousal symptoms (e.g., irritability and difficulty in concentrating). PTSD can be differentiated with respect to its duration. In Acute PTSD, symptoms continue less than 3 months. However, in chronic PTSD symptoms lasts for more than 3 months and delayed onset PTSD is characterized with a 6-months delay of occurrence following the traumatic event.

1.1.2 Prevalence of Traumatic Events and PTSD

The life-time occurrence of traumatic events varies from place to place. The results from different countries can provide a framework about frequency and kinds of traumatic events. According to the study of Perkonigg, Kessler, Storz, & Wittchen (2000) which conducted in a sample between 14-24 ages in Munich/Germany, 21.4 % of the respondents out of 3021 people reported that they experienced a traumatic event and 17 % of them reported that the event caused horror and anxiety. In a adult representative sample from four cities in Mexico, the lifetime prevalence of a traumatic event was found to be % 76, and % 24 of the respondents reported two traumatic events, 19 % of the respondents reported three and % 27 of the respondents reported four traumatic events (Norris, Murphy, Baker, Perilla, Rodriguez, & Rodriguez, 2003). In Sweden, among 1824 people which represents general population, 80.8 % of the participants experienced at least one traumatic event (Frans, Rimmö, Aberg, & Frederikson, 2005). Another study conducted in Los Angeles with 2364 respondents, the traumatic events in life time were revealed as 16 % (Ullman & Siegel, 1994). For university student sample, the reported rates also varied. In the study of Amir and Sol (1999), out of 983 Israeli undergraduates, 67 % of them reported one event while 37 % of them reported more than one trauma. In a similar sample size of US undergraduate students, the reported rate of traumatic events was 67 % (Bernat, Ronfeldt, Calhoun, & Arias, 1998). For details see Tabel 1.

Table 1. The Prevalance Rates of Traumatic Events & PTSD in Studies

Sample & Age Ranges	City/ Country	Prevalence Rates of Traumatic Event	Most Frequent Events	PTSD
1. 3021 Young adults (14-24)	Munich/ Germany	17 %	Physical attack, serious accident, witnessing traumatic events of others	1.3 %
2. 2509 Adults (18-92)	Mexico	76 %	Bereavement, witnessing someone injured or killed, life threatening accident and physical assault	11 %
3. 1824 Adults (18-70)	Sweden	80.8 %	Traffic road accidents, robbery, physical assault	5.6 %
4[a]. 2364 Adults (18- above)	USA	16 %	Seeing persons hurt or killed, sexual assault, natural disasters,	26 % having 5- more PTSD symptoms
5. 983 University students	Israel	67 %	All military operations, motor accidents, sudden death of other	4 %
6. 937 University students (18-49)	USA	67 %	Natural disaster, serious accident, witnessing serious injury or death	4 %
7. 883 College students (18-29)	Japan	80 %	Natural disaster	-

1. Perkonigg, Kessler, Storz, Wittchen, (2000); 2. Norris, Murphy, Baker, Perilla, Rodriguez, & Rodriguez, (2003); 3. Frans, Rimmö, Aberg, & Fredrikson, (2005); 4. Ullman & Siegel, (1994); 5. Amir & Sol, (1999); 6. Bernat, Ronfeldt, Calhoun, & Arias, (1998); 7. Mizuta, Ikuno, Shimai, Hirotsune, Ogawa, Honaga, & Inoue, (2005).

[a] In the study DSM III-R was used for PTSD criterion and diagnosis.

In a study from Japanese which only focused on a female college students, the rate of one traumatic event in life time was 80 % (Mizuta, Ikuno, Shimai, Hirotsune, Ogawa, Honaga, & Inoue, 2005) and 65 % for the students from Washington DC (Green, Goodman, Krupnick, Corcoran, Petty, Stockton, & Stern, 2000).

In general, traumatic events were reported more by men than by women (Frans, et al., 2005; Amir & Sol, 1999). However, it is obvious that PTSD symptomatology was more prevelant among women (Perkoningg, et al., 2000; Norris, et al., 2003; Frans, et al., 2005; Olff, Laneland, Draijer, & Gerson, 2007). The most commonly reported traumatic events showed variations in different sample groups. In the German sample, the most frequently reported traumatic events were physical attacks, serious accidents, witnessing traumatic events experienced by another person and sexual abuse in childhood (Perkonigg, et al., 2000). In Mexico, the most common traumatic event was bereavement, in other words, loss of a loved one due to homicide, suicide or accident (Norris, et al., 2003). In the Swedish sample, the most common traumatic event was traffic road accidents (Frans, et al., 2005) and in the US college sample, the most common traumatic events were nearly being seriously injured or being killed (Bernat, et al., 1998).

Traumatic events generally lead to great distress. This stressful event exposure may sometimes result in psychopathology, specifically PTSD. The life time prevalence of PTSD is 1.3 % in German adult sample (Perkonigg, et al., 2000), 11 % in Mexican adult representative sample (Norris, et al., 2003), % 5.6 in Swedish adult sample (Frans, et al., 2005), and 4 % in Israeli undergraduate sample and US undergraduate sample (Amir & Sol, 1999; Bernat, et al., 1998). Other lifetime psychological disorders were also found to be associated with the experienced traumatic events (Perkonigg, et al., 2000). Moreover, nicotine and alcohol dependence (Perkonigg, et al., 2000) and suicidal attempts were found to be associateed with effects of the traumatic event (Eskin, et al., 2006).

The communities exposed traumatic events such as earthquakes changed the rates of traumatic events in Japan and Mexico. Natural disasters increased the lifetime prevalence of traumatic events in these countries. On the other side, in Sweden, the immigrants, who came from difficult homeland conditions, incremented the traumatic event prevalence.

1.1.3 Factors Contributing to the Development of PTSD

Most of the studies showed that gender is a crucial factor for the development of PTSD. The women are more likely to meet the PTSD criteria (Perkonigg, et al., 2000; Norris, et al., 2003; Bernat, et al., 1998; Olff, et al., 2007; Ullman & Siegel, 1994). When we consider demographic characteristics of age, education and income levels, there are contradictory results in risk factors. However, the trauma exposure (Bernat, et al., 1998; Freedy, Monnier, & Shaw, 2002), number of life time traumatic events, perceived life threat during the event, peri-traumatic negative emotions, peri-traumatic physical symptoms and peri-traumatic dissociation are the most critical predictors for PTSD (Olff, et al., 1994). In other words, the most crucial part of the sequele of the trauma and its effect are within event appraisals. Subjective appraisals are important for the course of PTSD. Individual's perceptions of loss, threat, harm, or controllability of the event are explanatory risk factors (Mak, Blewitt, & Heaven, 2004; Ptacek, Smith, & Zanas, 1992). Furthermore, prior psychological adjustment, the family history of psychopathology and post trauma social support play role in the development of -traumatic stress (Ozer, Best, Lipsey, & Weiss, 2003). Another related variable for psychological adjustment aftermath of trauma is coping style.

Israeli students with PTSD, who experienced a terrorist attack, scored higher on emotion-focused coping style before the attack and lower on the problem-focused style after the attack compared to the ones without PTSD. Participants with PTSD scored higher on avoidance before the event and after the attack than those without PTSD (Gil, 2005). Israeli students with PTSD scored higher on trait and avoidance coping styles and emotion focused coping style (Gil, 2005). Coping style is not only a predictor for symptoms of posttraumatic stresss (Güneş, 2001) but also for depression and anxiety (Dirik, 2006). Event

characteristics and appraisals influence individual's reactions and strategies towards the traumatic event.

1.1.4 Models for Cognitive Processing of Trauma

Cognitive processing models extensively contribute to cognitive appraisals of trauma (Joseph, et al., 1997). Some of the crucial models are the Model of Horowitz, Foa and colleagues' The Fear Structures Model, the Social Cognitive Model, and the Integrative Model. Cognitive models focus on processing of the incoming traumatic information and how difficulties lead to symptoms faced in PTSD. First, the Horowitz's Model (1986) deals with memory processes and mental models (schemas). He suggests that schemas contain a motivational component in the form of inquiry for coherently inhabiting various life experiences. The images of every event are registered in an active memory for personal relevance of experiences. Later, they are used in many occasions. In trauma, individual's basic biological and emotional existence are threatened. Such a threat causes a challenge towards typical thinking patterns because no previous schema of trauma exists. Normally, individuals have a positive view of the self, the world and the future in which only predictable events are welcomed (Beck, 1995). However, a traumatic event destroys this triad and leads to psychological defenses. In a detailed analysis, a traumatic event is incompatible information for existing schemas. Therefore, reappraisal and revision of the existing schema take time. To acquire the information that the trauma brings, memory functioning regulates itself with repeating representations of the traumatic event. Unless this repetition takes place, traumatic information remains unprocessed. Consequently, an active memory works on traumatic information and this continuous effort of processing leads to distress for the individual. This distress becomes a burden on the person's life. As a result, inhibition and facilitation mechanisms are both activated to shape information processing. The symptoms of denials, intrusions, flashbacks, nightmares, avoidance and numbing would take place until the person reaches a state of equilibrium. These symptoms appear as a result of a control mechanism. This causes conflict between the challenge of integrating traumatic information and avoiding it. Horowitz (1986) names this conflict as incomplete

processing. When a PTSD patient's memory works through the traumatic experience, the processing phase is completed and symptoms disappear (Joseph, et.al, 1997; Ehlers & Clark, 2000).

Secondly, Fao and colleagues enlighten the cognitive processing in terms of fear structures (Joseph, et al., 1997). According to the Fear Structure Model, memory contains a fear network which is actively responsible for assimilating the fearful traumatic event memory. In the aftermath of trauma, the fear network in memory includes stimulus information about the traumatic event; information about cognitions; behavioral and physical reactions related to the event; and interoceptive information to link these varied kinds of information. To process the information coming from the traumatic experience, activation of the fear network with reminders of the event is needed. This activation eases the entrance of the information into consciousness by re-experiencing symptoms. On the contrary, attempts to suppress the traumatic information bring up avoidance symptoms. In Foa's Model, similar to the Model of Horowitz, successful resolution is only possible with the integration of the new traumatic information into the fear network. For the integration, activation of the fear network and availability of the information for the network are required. Through the means of this activation, modification of the information can take place. Here, it is evident that the Fear Structures Model provides an explanation for why contradictory symptoms like intrusion and avoidance co-exist. The unpredictable and uncontrollable nature of trauma makes it harder to assimilate the information in the network. Then, a disjointed and fragmented fear network may be created. In conclusion, Foa's model gives an explanation for processing information and a model for how erroneous processing as a result of a disjointed and fragmented network can come about (Joseph, et al., 1997; Ehlers & Clark, 2000).

Thirdly, the Social Cognitive perspective explicates PTSD with existing assumptions and incoming assumptions about the traumatic event (Joseph, et al., 1997). The existing assumptions are unique to each individual. When victimization occurs, this shatters the assumption of invulnerability. For individuals there are three core beliefs, such that the self is worthy; the world is meaningful; and the world is benevolent (Beck, 1995). The person views himself

or herself as worthy and existing schemas are mostly established according to that core belief. This meaningful world structure is needed to sustain the environmental information and to integrate the new information. One form of this meaningfulness entails causality representations. However, traumas mostly occur without an apparent reason. In addition to that, for the individual, it is necessary to view the world as benevolent. If the world is unsafe, she/he cannot control and predict events. When these three core beliefs are violated, PTSD is initiated as a result of the trauma. The social support, the quality of social relationships and one's coping style play important roles in the Social Cognitive Perspective. These psychosocial factors vary depending on the individual. This variation creates the differences in coping styles and in challenges of the individual aftermath of trauma. The ways of coping with PTSD are determined according to the characteristics of the trauma victim such as previous psychological problems and the social network (Joseph, et al., 1997).

Lastly, the Integrative Model proposes that a traumatic event brings about extreme emotional arousal and this causes the interference of immediate processing (Joseph, et al., 1997). The trauma victim holds the stimuli information of trauma in terms of representations. These representations lead to event cognitions which can be available for the consciousness. Nonetheless, some information is repressed and not available for the conscious processing. The re-experiencing, intrusive recollections and flashbacks emerge when event cognitions are formed. Traumatic cognitions are not only the event related information but it also contains influences of personality and basic assumptions. All these shape the cognitive activity, appraisals and reappraisals towards the event itself; the sequel of process; consequences of the event; and the coping skills (Joseph, et al., 1997).

1.2 Positive Change Aftermath of Trauma

1.2.1 Posttraumatic Growth

According to Cristopher (2004), there are seven interconnected notions to evaluate traumatic stress (p. 76). First, a traumatic stress is a biospsychosocial stress reaction which is best understood by individual's relationship with his/her environment. Second, the normal result of a traumatic stress is a growth rather

than a continuous stress response. Third, psychopathology stems from a maladaptive modulation of a stress response. Fourth, a trauma leads to a biological and a psychological transformation in the adaptive or maladaptive manner. Fifth, the general biological processes that underlie both psychological and social responses towards stress are a universal phenomenon. Moreover, specific characteristics of a socio-cultural environment and the psychological uniqueness of the individual together alter stress response's content. Sixth, a change in biopathological conditions may not always result in a change in psychopathological symptoms. Seventh, rationality of human is the newest and modified version of the stress-reduction behavioral system.

Traumatic events are seismic challenges for the pre-trauma schemas by shattering previous goals, beliefs and coping. Then ruminative phase takes place and the individual tries to make sense and inhabit traumatic information into cognitive structure (Tedeschi & Calhoun, 2004). A certain kind of rumination appears in the form of revision in the fundamental schemas about self, others and the future (Calhoun & Tedeschi, 1998). At first, this ruminative thinking period is pathogenic in nature causing distressing symptoms of re-experiencing and avoidance. This results in the trauma information to be accommodated or assimilated into existent schema (Joseph & Linley, 2005). Victims of trauma often blame themselves for the events in an attempt to maintain their primary sense of justice. This can be named as an attempt to assimilate the traumatic information into existent just world schema. On the other hand, victims of random events blame the world as unjust and accommodate upcoming traumatic information (Jannoff-Bulman 1992, cited in Joseph & Linley, 2005). Later, search for meaning takes place in an interaction with self identification, and a new thinking style appears (Joseph & Linley, 2005).

The traumatic experiences do not inevitably lead to a life-long aversive perspective towards self and world. The positive changes in the aftermath of an aversive event or trauma are defined with different terms. Those are stress-related growth (Park, Cohen, & Murch, 1996), perceived benefits (McMillen & Fisher, 1998), thriving (Abraido-Lanza, Guier, & Colon, 1998), positive changes in outlook (Joseph, Williams, & Yule, 1993), and positive by products (McMillen,

Howard, Nower, & Chung, 2001). An alternative approach supporting this view is the Post Traumatic Growth Theory.

The posttraumatic growth (PTG) is both a cognitive process of a change which starts with coping and a process of outcome (Tedeschi, Park, & Calhoun, 1998). This transformation takes place in perception of self, changes in interpersonal relationships and change in philosophy of life (Tedeschi & Calhoun, 1996). According to posttraumatic growth, perception of self after occurrence of trauma, transforms the victim into a survivor who entails a special meaning and status in the eyes of the individual (Tedeschi, et al., 1998; Tedeschi, 1999).

One of the most crucial parts of posttraumatic growth is to change the perception of self as a victim to a survivor of the trauma. Moreover, increased self-reliance and self efficacy play role in this process. The traumatic event leads to an acknowledgement of the vulnerability, mortality and preciousness of the individual's life. This causes more appreciation in life, positive change in relationships and changed priorities in the long run (Tedeschi, et al., 1998).

For interpersonal relationships, self disclosure and emotional expressiveness result in more intimate social interactions. This enhances social support network and facilitates compassion and altruistic behaviors (Tedeschi, et al., 1998).

Aftermath of the trauma, regarding the extent of the change in the philosophy of life, an individual adopts new priorities including spending more time with friends, doing activies not engaged in before and getting joy from smaller things. Furthermore, a trauma survivor may deal with existential questioning and bring new answers. By means of these differences, a spiritual development in the form of connectedness to a transcendent being, deeper understanding of one's own religion, and discovery of spirituality may arise. An increased understanding of basic issues in life and acquisition of a new knowledge and skills bring up wisdom to the person's life (Tedeschi, et al., 1998).

The normal metalearning reconstructions of the individual's matrix of self, society and environment may result in positive effects of the trauma. These are; a resilient and stronger conception of self, a closer and altruistic relationship with others, a less dogmatic perspective towards life, an increased willingness to accept

and provide help, and an increased appreciation of life (Christopher, 2004). In other words, trauma has a positive impact apart from distressing aspects by adding special meaning to individual's perspective. The development of an adaptive or maladaptive stress response is determined by the organism's biological health. This enables him/her to use resources, his/her cognitive structure that facilitates the transformation of stress and anxiety into learning, giving meaning and adaptive reactions, and sufficient social interactions (Christopher, 2004). This is an organismic valuing process which focuses on the thought that every individual has an innate tendency to know his/her best direction in life and goes after well-being and the fulfillment of equilibrium (Joseph & Linley, 2005). The individual's environment sometimes facilitates this activity and sometimes misdirects it.

When trauma survivors consider that they have the capacity to handle further problems, this increases the perception of self efficacy and parallel to that an increase in self esteem is observed. Changes in the philosophy of life and a modification of life priorities take place. There arise existential wisdom and greater interest in life events. Trauma often initiates a consideration of fundamental questions about life; a spiritual life or metaphysical beliefs may be adopted. Recognizing the positive side of trauma may lead to experiencing an emotional relief and a new philosophical view (Calhoun & Tedeschi, 1998). At the same time, finding sympathy and understanding from others improve growth (Calhoun & Tedeschi, 1998).

In posttraumatic growth, the traumatic event brings about positive changes in the life of a victim and people transform as a result of their struggles to a new situation for reaching equilibrium (Tedeschi & Kilmer, 2005). This is not a characteristic that person carries before the traumatic event.

Post traumatic growth may take place in almost all trauma types. Some of them are; health problems (Fortune, Richards, Griffiths, & Main, 2005; Schultz & Mohamed, 2004; McGrath & Linley, 2006; Sheikh, 2004; Cadell, 2003; Kesimci, 2003; Oaksford, Frude, & Cuddihy, 2005), disasters (Güneş, 2001), community violence and terrorist attacks (Laufer & Solomon, 2006; Davis & Mcdonald, 2004; Updegraff & Rand, 2005), loss (Polatinsky & Esprey, 2000; Büchi, Mörgeli, Schnyder, Jenewein, Hepp, Jina, Neuhaus, Freuchere, Bucher,& Sensky, 2007),

childhood traumas (Woodward & Joseph, 2003), and wars (Lev-Wiesel & Amir, 2003; Erbes, Eberly, Dikel, Johensen, Harris, & Engdahl, 2005; Salo, Qouta, & Punamaki, 2005; Maercker & Herrle, 2003; Powell, Rosner, Butollo, Tedeschi, & Calhoun, 2003). Post traumatic growth is observed in different domains and is accompanied with varied correlates. On the other hand, posttraumatic growth can co-exist with traumatic stress, posttraumatic stress symptoms (Güneş, 2001; Powel, et al., 2003; Lew-Wiesel, & Amir, 2003) depressive symptoms and anxiety (Dirik, 2006).

1.2.2 The Factors Influential on PTG

According to the review of Linley and Joseph (2004), growth is associated with many factors related to individual. It is possible to analyze them in three major categories of pre-trauma, within trauma and post-trauma conditions.

For Pre-trauma factors in the review of Linley and Joseph (2004) and Joseph and Linley (2005), parallel to other literature findings, females report more growth than males (Güneş, 2001; Laufer & Solomon, 2006; Helgeson, Reynolds, & Tomich, 2006). The younger ones seem to benefit more from the growth aftermath of adverse life events (Linley & Joseph, 2004; Powell, et al., 2003; Fortune, et al.,2005; Laufer & Solomon, 2006; Helgeson, et al., 2006; Polatinsky & Esprey, 2000). Furthermore there are personality characteristics that are influential in the development of posttraumatic growth such as dimensions of extraversion (Sheikh, 2004), openness to experience, agreeableness and conscientiousness which were found to be positively correlated with growth (Linley & Joseph, 2004). Besides, self-efficacy and hardiness, self esteem and optimism are associated with growth. Another personality factor that contributes to growth is attachment. Secure individuals are found to be affected less from adverse events (Fraley, et al., 2006) and depict more growth (Salo, et al., 2005). Optimism is another factor which contributes to growth (Urcuyo, Boyers, Carver, & Antoni, 2005; Helgeson, et al, 2006). Religious beliefs help to develop the growth aftermath of traumatic event (Maecker & Herrle, 2003; Laufer & Solomon, 2006; Helgeson, et al., 2006; Calhoun, et al., 2000). Furthermore, in most studies,

the factors of income and education are found to be related with the traumatic growth (Linley & Joseph, 2004; Salo, et al., 2005; Bellizi & Blank, 2006).

For trauma related factors, the greater levels of perceived threat and harm are associated with higher levels of growth (Smith & Cook, 2004; Davis & Macdonald, 2004; Morris, Shakespeare-Finch, Rieck, & Newbery, 2005; Armeli, Gaunthert, & Cohen, 2001). Nevertheless, the relationship is not linear but curvilinear (Linley & Joseph, 2004; Powell, et al., 2003). The benefits are at peak in the intermediate level of stress rather than the weakest or the strongest levels. Rumination is one of the important aspects that influence growth to develop. According to Calhoun, Cann, Tedeschi and McMillan (2000) people who reported more event-related rumination develop more growth since cognitive processing in the form rumination eases the shaping of a new perspective in life. Parallel to that study, cognitive appraisals, such as awareness and controllability of the event, were found to be associated with the higher levels of growth (Linley & Joseph, 2004; Park, 1998).

For the post trauma factors, those who adopt coping mechanisms of positive reappraisal and acceptance (Helgeson, et al., 2006), a problem focused coping (Sheikh, 2004), a positive religious coping (Armeli, et al., 2001) and those who obtain social support more easily handle the trauma and have an improvement (Linley & Joseph, 2004). The availability of social support resources and the relationship network carry importance to facilitate growth (Armeli, et al., 2001; Tedeschi & Kilmer, 2005; Schulz & Mohamed, 2004).

The time interval between the traumatic event or the adverse life event and posttraumatic growth is not clear. There are studies which retrospectively analyze positive changes after many years. These studies are related to Halocust experiences (Lev-Wiesel, & Amir, 2003), American former prisoners in the Vietnam War (Erbes, et al., 2005), and the Second World War Dresden bombing (Maercker, & Herrle, 2003). Perceptions of benefit may also develop in the course of time (Polantinsky & Esprey, 2000).

1.2.3 A Model for Factors Influential on PTG

As some personality traits, demographic characteristics, capacities, and conditions seem to be related to facilitate this form of a positive transformation. To analyze these factors Schaefer and Moos (1998) proposed a model of transformation. According to the model environmental system factors (e.g individual's relationships and social support network, economical situation, home and living conditions), and personal system factors (e.g socio-demographic characteristics, self efficacy, resilience, motivation, health status and prior crises experiences) are crucial for the improvement in PTG. These factor groups together initiate transition from trauma related problems to PTG in the aftermath of trauma. Appraisals and coping responses shapes the individual's successful resolution after the event. The coping style with the traumatic event can be compartmentalized as approach and avoidance coping. In the approach coping, individual analyses the event in a logical way, reappraises the crisis in a more positive manner, and takes actions to solve problems. However, in the avoidance coping, individual undervalues the event and chooses to be passive in the face of the adverse event (Moos & Schaefer, 1998). The impact of life crises and the development of PTG may differ in terms of trauma characteristics (Schaefer & Moos, 1998). These are duration and proximity of the event, amount of exposure, extent of loss and the scope. The traumatic event may be an individual exposed event (eg. abuse, accident or illness) or a community exposed (eg. disasters, wars or epidemics). Later, all these form the development of positive outcomes or the personal growth (Schaefer & Moos, 1998). In Figure 1, environmental and personal factors are depicted in Panel I and Panel II. They contribute to the life crises or transition. In Panel III event related factors represented. The influence of coping styles and appraisals are illustrated in Panel IV. Lastly, Panel V includes positive outcomes of life crises and transitions.

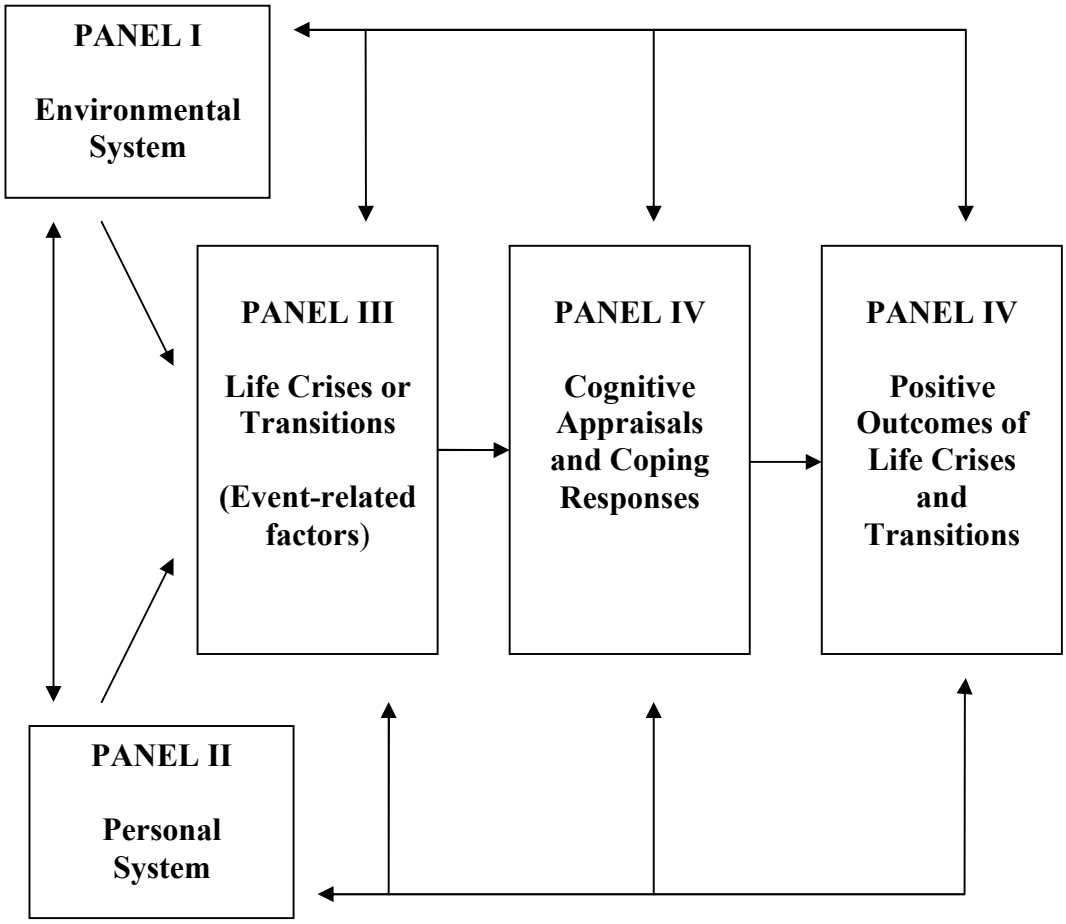

Figure 1. A Conceptual Model for Understanding Positive Outcomes of Life Crises and Transitions (Schaefer & Moos, 1998, p. 100)

A change aftermath of trauma is possible not only negatively but also positively. In the study of Woodward and Joseph (2003), three aspects are significant for the changes encountered in the narratives of childhood abuse victims. These aspects are inner drive toward growth, vehicles of change and psychological change. Inner drive includes the will to live by finding meaning in life. The vehicles of change includes awakening of responsibility by which person

realizes and takes his own position in life; validation and acceptance from others; love and nurturing relationship with others; liberation and freedom by revealing the kept secret of trauma and gaining insight with awareness; mastery and control in different fields of life; belonging and connection to a partner or significant others. Psychological changes take place by self perception in a positive manner and by gaining new perspectives over life, as well as having positive changes in relationships.

1.3 Attachment

1.3.1 Attachment Relationship

An attachment refers to an affectional tie that binds one person or animal to a specific other (Bowlby, 1969). The attachment relationship is a biologically rooted evolutionary behavioral system that functions with innate basic processes. In other words, attachment behavior is a part of genetically programmed and directed mechanism to perform a survival promoting function for the newborn (Bell & Ainsworth, 1972). Starting from the very beginning, an infant displays attachment behaviors such as crying, sucking, rooting and smiling (Bowlby, 1969). By means of that pattern of behaviors an infant is provided with survival needs of food and protection. As time passes, all these signals start to focus to get the attention of a specific individual, the unique attachment figure. After the middle of the infant's first year, with the emergence of locomotion, baby becomes more active and exploratory. To take actions and explore the environment, an infant checks whether caregiver is nearby. This proximity seeking action is an inborn affect- regulation device which is used as a primary attachment strategy to protect them from physical and psychological threats, and distress (Mikulincer, Shaver, & Pereg, 2003). For the development and exploration attempts of infants, feeling secure and affectional bond established with primary caregiver are important notions of the attachment. The felt security facilitates the exploration of a child and the quality of his/her early attachment relationship rooted in the degree to which the infant has come to depend on the attachment figure as a source of security (Bartholomew & Horowitz, 1991). In the development, attachment

relationship includes proximity seeking behaviors, especially in times of distress. An infant may look for an attachment figure as a safe haven (a place where one can find comfort and reassurance) or a secure base (from which one can explore the environment). In other words, Bowlby postulated three main functions of the attachment figure (1969). Firstly, the attachment figure serves to proximity maintenance since humans of all ages tend to seek proximity when the need state is escalated and to avoid the stress after separation from these figures. Second function of the attachment figure is providing a physical and emotional safe haven, a source of support and comfort facilitating the stress to decrease. Thirdly, the attachment figure maintains a secure base to supply the infant with the ability to explore and learn about the environment and to develop their own capacities and personality.

According to Ainsworth and Bell (1970), the attachment behavior may be increased or diminished by environmental cues and internal conditions of the infant but it is a predisposed behavior pattern to seek proximity of the attachment object. The attachment behavior is heightened by the threatening or dangerous occasions and upon separation from the caregiver. In addition, it may override exploratory behavior of the baby in the absence of attachment figure because without the control of the mother the infant feels himself/herself weak. Although the attachment behavior may diminish or disappear in the absence of the attachment object, it takes place in the full extent when mother is present.

Bowlby (1969) proposes that the attachment relationship is shaped by the responsiveness of the caregiver and supplying the infant's needs and expectations. Each individual establishes working models, the states of mind, related to him/her, and the world. Also working models help to perceive events, predict future and make plans. In time, the working models of self and others develop within that reciprocal relationship and influence the whole life. A child is concerned about the attachment figure is around, is responsive for needs, provides protection and exhibits love or not. By means of these basic elements of the relationship, self is judged as valuable to be responded by the primary caregiver. All this interaction is contingent.

Individual differences in attachment styles in childhood have been significantly associated with cognitive and socio-emotional outcomes in later ages (Rothbard & Shaver, 1994). Changes in childhood care may result in a discontinuity of the attachment style and this leads to serve for stress vulnerability later on. In personality development, internal working models play a role between environmental events and behaviors. Internal working models shape social perception, symbolic representations of people and relationship characteristics, social behaviors, affective dispositions, defenses and forms of disclosure (Rothbard & Shaver, 1994). As a result, the formation of adult attachment takes place.

The adult attachment is the stable tendency of an individual to make substantial efforts to seek and maintain proximity to contact to one or a few specific individuals to ensure physical and psychological safety and security (Berman & Sperling, 1994) just like the primary caregiver. This stable inclination is shaped by internal working models of attachment that are cognitive-affective motivational schemata established from the individual's personal experience. The attachment style refers to particular internal working models of attachment that determine people's behavioral responses to a real or an imagined separation and a reunion.

1.3.2 Attachment Styles

Ainsworth described attachment styles in the three domains; secure, avoidant and anxious-ambivalent with respect to 'strange situation' in which she tested 49 to 51-weeks-old infants in terms of attachment relations. After observation of secure and insecure attachments, they were taken in 20 min lab situation; the strange situation. Securely attached babies, whose mothers consistently responded to infant crying at the end of the 1st year, cried relatively less in strange situation. Mothers who were sensitively and appropriately responsive to the infants' signals in general including feeding signals fostered a secure infant-mother attachment. The infants believed that even when the mother was out of touch, she would be available. Therefore, they greeted the mother

positively upon union. In strange situation, a secure child was likely to protest departure. They engaged in an active exploration as long as the mother was present (Ainsworth & Bell, 1970; Ainsworth, 1979). Insecure infants showed frequent separation protest or crying a lot in general. In addition to that, they were indifferent to their mothers' departure in the strange situation and avoided them upon union. The avoidant infants experienced rejecting home condition during the 1st year, especially when they sought contact. Also their mothers were generally insensitive to infant signals. Therefore, the avoidant infants do not accept their mother in the reunion in lab. They were distressed with separations; avoided contact with mother and directed attention towards toys (Ainsworth & Bell, 1970; Ainsworth, 1979). In the case of anxious- ambivalent type the reunion is full of conflicting feelings of seeking proximity and rejecting the mother. Since their earlier experiences are inconsistent in terms of care and responsiveness, attitudes of the anxious-ambivalent sample fluctuate. They become preoccupied with their mother. As a result, three major types of attachment were formed in the theory (Ainsworth, 1989).

Later, another attachment style was described, namely disorganized type (Main, Kaplan, & Cassidy, 1985 cited in Rothbard & Shaver, 1994). In that attachment style, contradictory behaviors are observed in the infants upon reunion such as approaching the caregiver then falling to the floor, suddenly freezing while approaching. This indicates unresolved feelings and incoherent thinking patterns about the caregiver. Traumas and losses would be influential for the development of such an attachment style. On the other hand, the caregiver might be abusive, depressed and disturbed.

Later, the basic model of Barthelomew and Horowitz (1991) specified basic dimensions of the dependence (concerning mental models of self) and avoidance (concerning mental models of others). High dependence involves an externalized self-esteem and a need of approval from others to validate view of self. However, the low dependence involves internalized self-esteem and a little dependence related to approval from others for one's own self worth. The high avoidance is related to a negative view of others and the low avoidance resulting from positive view of others.

The differentiation in the categorization of attachment styles appeared with the study of Barthelemow and Horowitzs (1991) who divided attachment styles into four by means of internal working models. For Bowlby, children in time internalize past experiences with the primary caregiver in the attachment relationship. This constructs a prototype for later social relationships. With respect to that view, two main features of internal representations or so called working models of attachment can be postulated. Two domains of working models are the child's image of other people and his/her image of self. These two domains are branched out as positive and negative. These positive and negative views of both self and others are combined in the theory of Horowitz and Bartholomew to form a model of the adult attachment. The secure attachment type, which results from a positive view of self and others, leads to comfortable relationship full of intimacy and autonomy. The dismissing type containing a positive view of self and a negative view of others, involves elimination of intimacy and looking for counter-dependency. The preoccupied relationship caused by positive view of others and negative view of self, results in the preoccupied attachment style. The fearful type, however, has a negative view for both self and others reflecting fear of intimacy and social avoidance.

Problems in family environment are directly found to be related with the attachment style (Mickelson, Kessler, & Shaver, 1997). These problems are physical abuse, serious neglect, being threatened by a weapon, perceiving parents' marital quality as poor, witnessing violence between parents and having financial adversity. Specifically, interpersonal traumas are related with avoidant attachment style. Moreover, psychological problems of parents such as maternal depression, paternal and maternal suicidal behaviors, may also contribute to the development of the anxious or avoidant attachment style in childhood since these influences the quality of interaction with child.

After years, individuals who developed secure attachment styles describe their mothers as respectful, responsive, caring, accepting, confident, relaxed, humorous, reliable, honest and undemanding. Also the mother figures of the secure individuals are emotionally supportive and warm. However, insecure ones'

description is fairly cold and rejecting in nature and they portray their mothers as depressed, frightened, worried and confused (Hazan & Shaver, 1987).

1.3.3 Impact of Attachment Style throughout Life

Infants and children do form multiple attachments (Hazan & Shaver, 1994b). For them, bonds which satisfy proximity maintenance, safe haven and secure base are adequate. The attachment relationship may be established with other adults, siblings, grandparents, teachers and surrogates (Ainsworth, 1989; Hazan & Shaver, 1994b). In addition, there are similarities in the romantic relationships and the attachment style towards the caregiver. They are seeking and maintaining proximity to one's partner, relying on the partner's continued availability, turning to the partner when there is a threat or an emotional need and they are becoming depressed upon separation (Rothbard & Shaver, 1994). The reproductive system functions to endure the bond between a man and a woman. However, the pairing relationship mostly co-habits the care giving system in the relationship (Ainsworth, 1989) such that in marriages and long term relationships, the caregiving component and the attachment create a give-take relationship style. As this relationship lengthens the importance of the attachment relationship overrides sexual intimacy (Ainsworth, 1989). The relationships formed with others carry mostly similar patterns with the initial attachment. In other words, shaped mental models of self and other's representation continue to influence the characteristics of further interactions. The research indicates that previous experiences with the primary caregiver apt to confirm models of relationship patterns later (Hazan & Shaver, 1994b). However, changes in the attachment styles may be possible either.

In short, impact of attachment styles can be observed in intimate romantic relationships (Hazan & Shaver, 1994a; Hazan & Shaver, 1990) in peer relationships (Lieberman, Doyle, & Markiewicz, 1999; Freeman & Brown, 2001), in attachment to God (Birgegard & Granqvist, 2004; Kirkpatrick, 1999; Brown, Nesse, Hause, & Utz, 2004), relationship in psychotherapy (Biringen, 1994), future family relations (Dallos, 2003; Byng-Hall, 1990), adaptation to new

conditions (Laible, Carlo, & Raffaelli, 2000), school success (Fass & Tumban, 2002), work performance (Hazan & Shaver, 1990) and lastly psychological problems and psychopathology (Keiley & Seery, 2001; Alonso-Arbiol, Shaver & Yarnoz, 2002; Allen, Hauser, & Borman- Spurrell, 1996; Rosentein & Horowitz, 1996; Hankin, 2005; McLewin & Muller, 2006; Pianta, Egeland, & Adami, 1996; Pielage, Gerlsma, & Schaap, 2000; Ward, Lee, & Polan, 2006).

1.3.4 Attachment Styles and Psychopathology

According to Bowlby (1969), the adult personality is shaped by individual's early interactions and key actors during his/her childhood. When an individual is raised in ordinary home conditions with caring and loving parents, his/her perspective towards himself/herself, others and life develop positively. Furthermore, she/he acknowledges where to seek help, comfort and protection. The individuals whose needs were satisfied would similar to parental figures and repeat similar styles adopted in childhood.

Starting from very early years, the insecure attachment style of the child plays a role in the development of psychological problems. In the study of Rosenstein and Horowitz (1996), conduct disorder and narcissistic personality characteristics are found to be related with the dismissing attachment style and affective disorders; and substance abuse problems were found to be related to preoccupied attachment style in the adolescence period. At the same time, criminal behaviors in young adults were found to be associated with dismissing insecure attachment style (Allen, et al., 1996). Furthermore, adverse life events and traumas in early years have an impact in the course of psychopathology which is interconnected with the attachment relationship characteristics. The insecure attachment style and the negative life events such as childhood sexual abuse and emotional abuse (Hankin, 2005) and domestic violence and psychological abuse are strong predictors of depressive symptomatology and psychopathology (McLewin & Muller, 2006).

Later, in adulthood, insecure individuals are more likely to suffer from psychological symptoms and the psychopathology. In general, secure individuals

are significantly less likely to report pathological symptoms than the insecure group (Hazan & Shaver, 1990; Mickelson, et al., 1997; Pielage, et al., 2000; Ward, Lee, & Polan, 2006). The psychological problems observed in insecure group due to the fact that attachment relationship affects the view of self, the view of others, the social interaction, appraisals and management with stressful events. In other words, they acquire a lifestyle which is full of insufficiency repeating itself in the relations of daily living. The positive view of self and the positive view of others are strong predictors for the well psychological functioning (McLewin & Muller, 2006). Adverse previous experiences that result in a fearful attachment style would also affect the perception and interpretation of events as stressful and increase the vulnerability to psychological symptoms (Pielage, et al., 2000). It is shown that individuals with a preoccupied attachment style are prone to record highest ranges of indices of psychiatric symptomatology of psychopathic deviation, paranoia and schizophrenia subscales of MMPI-II as a result of a self-perceived distress and obstacles in the relationship formation (Pianta, et al., 1996). The reason behind this high index is the negative view of self which is the strong predictor for development of psychopathology (McLewin & Muller, 2006). They also exhibit signs of impulsivity, hostility, feelings of persecution, isolation and inferiority which may contribute to the psychological problems (Pianta, et al., 1996). Furthermore, in the study of Ward, Lee and Polan (2006), the preoccupied group is found to be diagnosed with Axis I disorders, mainly affective disorders unlike the dismissing attachment style. Since personality disorders involve dysfunctional patterns of interpersonal assessment, appraisal and relationship, dismissing attachment style was found to be related with Axis II personality disorders mostly.

1.3.5 Attachment and Traumatic Stress

The research interest in attachment theory and traumatic stress typically focuses on early trauma survivors such as incest (Alexander, Anderson, Schaeffer, Grelling, & Kertz, 1998), abuse (Stalker, Gebtys, & Harper, 2005; Shapiro, &

Levendosky, 1999), neglect (Lundgren, Gerdner, & Lundqvist, 2002,), physical maltreatment (McLewin & Muller, 2006) and focuses on the use of attachment relationship in the course of treatment such as adult psychotherapy (Shilkert, 2005), case formulation (Kellogg & Young, 2006, Young, 1999), family therapy (Ecke, Chope, & Emmelkamp, 2006; Byng-Hall, 1990), and development of new therapy methods (Jellema, 1999).

In the studies concerning attachment style and traumatic stress, insecure individuals remarkably reported more distress and problems than secure ones (Wei, Happner, & Mallinckrodt, 2003; Schottenbauer, Klimes-Dougan, Rodriguez, Arnkoff, Glass, & Lasalle, 2006; Solomon, Ginzburg, Mikulincer, Neria, & Ohry, 1998; Shapiro, & Levendosky, 1999; Mikulincer, Florian, & Weller, 1993; Fraley, et al., 2006). In a retrospective study which concerned effects of war after 18 years, psychological problems due to imprisonment during war were found to be related with attachment styles (Solomon, et al., 1998). In this study, relative to secure individuals, avoidant and ambivalent veterans reported more psychiatric symptomatolgy, war-related intrusions, avoidance tendencies and more problems in functioning. These are similar to findings of Mikulincer, Florian, and Weller (1993). In their study, ambivalent participants reported higher levels of anxiety, depression, hostility and somatization than secure group (Mikulincer, et al., 1993). In addition, ambivalent group reported more war-related intrusions and avoidance than avoidant ones. The avoidant individuals reported more somatization, hostility and trauma-related avoidance than secure participants. In another study which focused on the effects of September 11, secure individuals reported less traumatic and depressive symptoms than insecure ones. On the other hand, dismissing participants had relatively higher levels of PTSD. (Fraley, et al., 2006)

Since mental models of self and other are the crucial dimensions of the attachment styles, their influence on adverse event processing is inevitable. In the study of Cozzarelli, Sumer, and Major, (1998) model of self had an effect on postabortion distress and wellbeing as well. The participants with positive view of self reported more adjustment and less distress than participants with negative view of self.

There is only one study in the literature that mainly inquires the effects of attachment styles on the trauma, the negative emotions resulting from the trauma and the post traumatic growth. In this study, torture and ill treatment experiences were taken as the traumatic events in a Palestinian male sample. The results indicated that, high levels of torture and ill-treatment were associated with both low levels of post traumatic growth and high levels of negative emotions. The secure attachment style appeared as a moderator variable between traumatic event and higher levels of post traumatic growth, whereas insecure-avoidant attachment style was associated with high levels of negative emotions. There was an interaction effect between the ill-treatment and the type of attachment when negative emotions were considered. Participants with high avoidance reported minimal level of negative emotions in the low trauma exposure. However, participants with the high avoidance in the high trauma exposure reported the highest level of negative emotions. For socioeconomic characteristics, high professional position, steady employment and good economic condition were associated with high scores in the post traumatic stress domains. Lastly, the secure participants were found to be more educated than the insecure group (Salo, et al., 2005).

1.4 Coping

1.4.1 Stress and Coping Styles

An unusual, damaging or demanding condition which disturbs or threatens one's own personal and social values and wellbeing is named as stress (Lazarus, 1966). It is extensively related with previous life, experiences and the current status of the individual. However, it is obvious that stress stimulus leads to disequilibrium in the system by producing a kind of burden which alerts and alters the system to reach equilibrium again (Lazarus, 1966). The coping towards the stressful event may vary but the concept of coping is a universal phenamemon. As the system is activated against the stressful occurrence, person tries to overcome it but this may change from culture to culture and from individual to individual

(Lazarus, 1966). This activation system leads to a series of mental and behavioral efforts to reduce and eliminate threat. This is a key element for the initiation of the activation and the psychological stress analysis. The process after the perception of the stress is directed with anticipations related to event, cognitions related to the stressful event, learning, memory, judgement and thought (Lazarus, 1966). All these interact with each other and evaluations are attached to the stress analysis as appraisals.

Lazarus and Folkman (1984) divided appraisals into three basic kinds, namely, primary, secondary and reappraisals. First, primary appraisals, in other words, stress appraisals signal harm/loss and challenge to the system. Primary appraisals principally focus on the evaluation of the degree of stressful event coming from the environment with respect to controllability of the event, the extent to which the event violates one's beliefs, expectations, and goals (Gil, 2005). Second, the appraisals concerning judgments of the event, alternative solutions, strategies, and evaluations of external and internal demands, are called secondary. The secondary appraisals are cognitive processes which take place in the aftermath of a stressful event and targets to examine relationship between the individual and the environment. By means of secondary and primary appraisals, the person changes harmful aspects of the environment and targets to reduce threats induced by the stressful event. Both cognitive and behavioral components facilitate the regulation of internal and external demands, and managing resources. Third, changed appraisals are named as reappraisals that are based on those coming from the environment and/or person. Reappraisals are different because they follow earlier appraisals. Sometimes reappraisals result from cognitive coping efforts. These are called defensive reappraisals and are difficult to discriminate from the reappraisals that are based on new information.

The process of the appraisal depends on two groups of factors (Lazarus, 1966). The first group is related to the stimulus configuration which is shaped by harmfulness of the event and resources. In addition, the imminence of the stressful event and the degree of ambiguity in the appearance of the event are crucial. The second group of factors is psychological makeup of the person including the

motive of strength and general belief patterns in relation to the environment, intellectual resources, the education and knowledge.

There are three features of coping. First concept is being process oriented in which the primary focus is what the person thinks and does in a specific stressful situation. This is a stable point of view. Secondly, the coping concept is contextual. Here, the individual weighs demands and plans management of resources against the stressful condition. Thirdly, there are no assumptions of good or bad coping. The crucial point is whether the individual successfully satisfies the demands by resources (Folkman, Lazarus, Dunken-Schetter, Delongis, & Gruen, 1986).

The coping styles are divided into two: The problem-focused coping style and the emotion-focused coping style (Lazarus & Folkman, 1984). The problem-focused coping style aims to modify or eliminate the effect of the stressor or the related coping activity. In problem focused coping, the situation is viewed as changeable. The problem focused strategies are directed to define the problem, to generate new solutions, to weigh alternatives and cost-benefit determinations and to take actions as a result of these processes. On the other hand, the emotion-focused coping style regulates emotional responses in the aftermath of the stressful event. The emotion focused coping is more likely to take place when there is an appraisal of 'nothing could be done to change the harmful, threatening or challenging environment'. The emotion focused coping entails reducing emotional distress and brings up strategies such as avoidance, minimizing, distancing, selective attention, positive comparisons, and deriving positive value from negative events. Somehow, individuals might choose strategies that increase emotional distress. In addition to the problem-focused and the emotion-focused coping styles, there is the social support coping which is a mixed coping style entailing varied resources of emotional support, tangible support and informational support (Folkman & Lazarus, 1985 cited in Gençöz, Gençöz, & Bozo, 2006).

When a stressful event occurs and viewed as a violation to the individual's life, the person may change aspects of global meaning (eg. differ lifestyle to prevent future possibilities of occurance) or change situational meaning (eg.

identify benefits of the event). Both ways lead to positive outcomes in the life of the person. Attributions, reattributions and making positive reappraisals are some of the other routes for meaning making (Park, 1998). In that aspect coping styles may contribute to the growth aftermath of an adverse event.

1.4.2 Factors Influencing Coping Style in the Aftermath of Trauma

The influence of coping styles in the aftermath of trauma has been considered in many studies (Gil, 2005; Park, 1998; Folkman, et al., 1986; Güneş, 2001; Kesimci, 2003; Dirik, 2006). Coping with trauma is associated with some factors, such as gender (Matud, 2004; Güneş, 2001) and attachment style (Lopez, Mauricio, Gormley, Simko, & Berger, 2001; Schottenbauer, et al., 2006; Greenberg, & McLaughlin, 1998; Turan, Osar, Turan, Ilkova, & Damcı, 2003; Mikulincer, et al., 1993).

In the ways of coping, men were more likely to choose problem-focused coping (Güneş, 2001). In the study of Matud (2004), women scored higher on emotional and avoidance coping styles than men and they scored lower in the rational and detachment coping styles. The difference between genders in the coping styles may be attributed to socialization processes and differences in the development. Also the gender roles might be relevant to understand that difference. In general, females are expected to be more dependent, seeking affiliation, emotionally expressive and less assertive than males. On the other hand, males are more autonomous, self confident, assertive, and focused on instrumentality and goal-oriented (Matud, 2004).

For traumatic stress, it is known that avoidance and ignorance towards traumatic event may lead to the continuation of symptomatology and not enable the cessation of adverse effects. The most crucial part of the trauma coping is facing with the traumatic event to assimilate and accommodate the upcoming traumatic information. It was found that participants with PTSD were more likely to engage in avoidance before and after a terrorist attack than those without PTSD (Gil, 2005). At the same time, participants with PTSD scored higher on the trait and state avoidance coping styles than participants without PTSD. Both the trait

and state coping style were found to be significant predictors for the development of PTSD (Gil, 2005). In the study of Güneş (2001), problem solving/optimistic approach, fatalistic approach and helplessness coping were found to be significant predictors of intrusive symptoms. In addition, escape style coping was found to be a predictor for avoidant symptoms. The problem solving/optimistic coping style, on the other hand, was related to more perceived stress related growth (Güneş, 2001).

The adult attachment mainly shapes the view of self and others. Therefore, the negative or dysfunctional attributions related to these domains may effect coping with adverse life events. It is found that adult attachment and depression were related and also it is found that anxious ambivalent individuals are more likely to engage in stress related drinking and binge eating that can be viewed as a coping strategy (Brennan & Shaver, 1995). Fuendeling (1998) proposes that the avoidant and the anxious ambivalent attachment styles were associated with high levels of distress. In addition, individuals with anxious attachment style are both tentative to and tend to express their distress whereas the avoidant ones favor isolating and repressing disturbing emotions. In the study of Lopez, Mauricio, Gormley, Simko, and Berger (2001) anxious attachment style was found to be related with reactive coping but not with suppressive coping and avoidant attachment was found to be associated with both suppressive and reactive coping. Furthermore, emotion-focused coping strategies were adopted by ambivalent group more than secure and avoidant group (Mikulincer, et al., 1993). Avoidant individuals, on the other hand, reported distancing strategy to cope with adverse events. Moreover, insecure attachment qualities of the individuals were significantly associated with negative religious coping including different appraisals related to belief system such as punishing God appraisal, demonic reappraisal, reappraisal of God's power, passive religious deferral, pleading for intercession, spiritual discontent and interpersonal discontent (Schottenbauer, et al., 2006). Unlike avoidant and anxious individuals, individuals with secure attachment style reported social support and problems-focused coping styles when confronting a negative life event (Schottenbauer, et al., 2006). Besides, attachment dimensions of early felt security were found to be in relation with emotional

support seeking, instrumental support seeking and plan and act oriented coping (Greenberg & McLaughlin, 1998).

1.5 Aim of the Study

The aim of the present study is firstly to investigate the prevalence and type of the traumatic events reported by university students and secondaly to examine the predictor values of demographic variables, trauma related variables, attachment style and ways of coping in post traumatic growth with respect to Schaefer and Moos (1998) model. First, it is hypothesized that PTG will differ with respect to pre-trauma factors demographic characteristics of gender, age, education levels of parents. Second, it is hypothesizes that personality characteristics of attachment style will predict PTG. Third, it is hypothesize felt helplessness and horror, time passed since trauma, frequency of traumatic event and perceived preventability of trauma will predict posttraumatic growth. Lastly, it is hypothesized that coping style will predict PTG.

CHAPTER 2

2. METHOD

2.1 Participants

The study was conducted with undergraduate and post-graduate students from the Middle East Technical University and Hacettepe University (N = 321). 55 % of the students were from Middle East Technical University (N = 177) and 45 % of the students were from Hacettepe University (N = 144). The females represented 72 % (N = 230) and males represent 29 % (N = 91) of the sample. Participants' ages ranged between 15 to 32, with a mean of 21.24 (SD = 2.34). Detailed information related to demographic characteristics of the participants is given in Table 2.

2.2 Instruments

The study consists of a demographic information sheet, Traumatic Events checklist and questions of trauma appraisals, Post Traumatic Growth Inventory, Relationships Scales Questionnaire, Attachment Style Questionnaire and Ways of Coping Questionnaire (see appendices, for the battery listed).

2.2.1 Demographic Information Sheet

The demographic information sheet had questions on age, gender, faculty, department, class, and education level of parents.

Table 2. Descriptive Statistics for Demographic Variables

Variables	N	Percentages	Mean	SD	Min-Max.
Age	321		21.24	2.34	15-33
Gender					
Female	230	71.7			
Male	91	28.3			
University					
Middle East Technical University	177	55.1			
Hacettepe University	144	44.9			
Faculty					
Engineering	67	20.9			
Science and Arts	238	74.1			
Administration	9	2.8			
Education	6	1.9			
Architectuer	1	0.3			
Class					
Freshmen	86	26.8			
Sophomores	98	30.5			
Juniors	54	16.8			
Seniors	43	13.4			
Graduate Students	40	12.5			
Education Level of Mother					
Primary School	67	20.9			
Secondary School	32	10.0			
High School	92	28.7			
University or College	130	40.5			
Education Level of Father					
Primary School	34	10.6			
Secondary School	29	9.0			
High School	74	23.1			
University or College	184	57.3			

2.2.2 Traumatic Events Checklist

The Traumatic Events Checklist consisted of 30 traumatic events. The list of events was collected from studies in which varied traumatic events were inquired (Widom, Dutton, Czaja, & DuMont, 2005; Krause, Shaw, & Cairney, 2004; Turner & Lloyd, 1995; Bremner, Vermetten, & Mazure, 2000; Eskin, Akoğlu, & Uygur, 2006). Participants were asked to mark the events that occurred in their life. More than one event could be reported in the checklist. Then they were required to specify one traumatic event which had the greatest impact in their life. Related to that trauma, 5 additional questions regarding time passed since traumatic event experienced, frequency of the traumatic event, the felt horror and helplessness due to traumatic event and perceived preventability of the event were asked. They stated time passed since the event occurred by responding a 4-point scale ("1 = 6 months-1 year ago", "2 = 2-4 years ago", "3 = 5-7 years ago" and "4 = 8-10 years ago"). How many times the traumatic event happened was evaluated with a 5-point scale ("1 = once", "2 = 2-3 times", "3 = 4-5 times", "4 = 6-10 times" and "5 = more than 10"). Moreover, the terror and helplessness that the participants felt during the event was questioned with a 3-point scale ("1 = least", "2 = moderate" and "3 = a lot"). Finally, the participant believed that she/he could avoid the occurance of the traumatic event was asked with a yes or no answer format.

2.2.3 Post Traumatic Growth Inventory (PTGI)

The Post Traumatic Growth Inventory assesses perceived positive changes in the aftermath of traumatic event. The Post Traumatic Growth Inventory was developed by Tedeschi and Calhoun (1996). It consists of 21 items and five subscales that measures new possibilities, relating to others, personal strength, spiritual change and appreciation of life. In PTGI, 6-point Likert type scale ranging from 0 (I did not experience this change as a result of trauma) to 5 (I experienced this change to a very great extend) is used. Tedeschi and Calhoun (1996) conducted reliability study of the PTGI in a university sample. In their

study, PTGI had an acceptable construct validity, internal consistency coefficient (.90) and test-retest reliability over a two months time interval (.71). In the current study same factor solution was used and reliability coefficient of the scale was (.93). Reliability coefficients for subscale of 'changes in relationship with other' was (.83), 'changes in philosophy of life' was (.81) and 'changes in self perception' was (.86) in the present study.

The Turkish translation of PTGI was done by Kılıç (2005). In the study of Kılıç, a different wording for the response format from the original version was used (cited in Dirik, 2006). Furthermore, a 5-point scale instead of a 6-point original scale was used which ended with a four factor solution. Later, Dirik (2006) also translated and back translated the scale. In addition some modifications in wording applied and the original response format was adopted. In the current study that format is adopted and same factors of changes in relationship with others, changes in philosophy of life, and changes in self perception was used in the present study.

2.2.4 The Relationships Scales Questionnaire

The Relationships Scales Questionnaire was developed by Griffin and Bartholomew (1994) (cited in Sümer & Güngör, 1999). It consists of 30 items which ends with four prototypes of attachment styles. The paragraphs of Hazan and Shaver (1987), The Relationships Questionnaire of Barthelomew and Horowitz (1991) and the study of Collins and Read (1990) are sources of the items of The Relationships Scales Questionnaire. Participants are required to evaluate their relationship styles with respect to 7-point Likert type scale (1= totally does not describe me, 7= totally describes me). The scale produces four attachment style groups, namely, secure, fearful, preoccupied and dismissing. In the study of Griffin and Bartholomew (1994), the alpha values of the scale varied between .41 and .71 and the test-retest reliability was .53 for female subjects and .49 for male subjects (cited in Sümer & Güngör, 1999). Sümer and Güngör (1999) conducted the reliability and validity study of The Relationship Scales Questionnaire in the Turkish sample. The reliability values varied between .27 to .61 in Turkish

sample. The scale also proved to have test-retest reliability in the Turkish sample. In the present study, the Relationship Scales Questionnaire was used to examine the validity of the Attachment Style Questionnaire.

2.2.5 Attachment Style Questionnaire

Feeney, Noller, and Hanrahan, (1994) developed the Attachment Style Questionnaire in order to measure basic dimensions and number of attachment styles with respect to individual differences, to have a tool that is adequate to be used with young adolescents, and to have a measure for those who did have little or no romantic affairs. The scale consists of 40 items to be rated in a 6-point scale (1 = totally disagree, 2 = strongly disagree, 3 = slightly agree, 4 = slightly agree, 5 = strongly agree, 6 = totally agree). The scale was potent to produce both five factor solution and three factor solution. In the five factor solution confidence, discomfort with closeness, need for approval, preoccupation with relationships and relationship as secondary dimensions were revealed (Feeney, et al., 1994). The reliability coefficients of the five factors, namely, confidence, discomfort with closeness, need for approval, preoccupation with relationships, and relationship as secondary vary .76 to .84. On the other hand, in the three factor solution security, avoidance and anxiety dimensions of attachment style characteristics were found with alpha values of .83, .83 and .85 (Feeney, et al., 1994). Both factor solutions have acceptable test-retest reliability ranges from .67 to .80 over a period of ten weeks in US college sample.

In the present study, the scale was translated into Turkish by two different people, a professional translator and a psychologist, and checked by an experienced psychologist. Then back-translation was completed after applying the Turkish form to several university students to reveal problems in understanding. The final version of the Turkish translation of the scale was used in this study. The 6-point Likert type scale was used for scoring as in original format. To examine test-retest reliability, two administrations to Middle East Technical University students were completed in two weeks interval. The Attachment Style Questionnaire has acceptable test-retest reliability. The five factor solution of

Feeney, Noller and Hanrahan (1994) was not found in Turkish university sample. However, four factor solutions were successfully maintained, namely security, anxiety, avoidance and relationship as secondary. Details about the factors, their reliability and validity will be given in the result section.

2.2.6 Ways of Coping Questionnaire

Initially, Folkman and Lazarus developed a 68-item checklist including problem-focused and emotion-focused coping strategies. In the revised Ways of Coping Checklist, there are 66 items with questions on cognitive and behavioral strategies in stressful situations using a 4-point response scale (0= not used, 4= used a great deal) (Folkman & Lazarus, 1985). According to the study of Folkman and Lazarus (1985), the Ways of Coping Checklist have eight subscales. In that version, 8 factors are grouped under problem-focused, emotion-focused and social support coping style.

In the Turkish sample, Siva (cited in Uçman, 1990) added Ways of Coping Questionnaire with six additional items and obtained an internal consistency of .91. In the study of Siva (1991) 7 factors are produced. These are planned behavior, fatalism, mood regulation, being reserved, acceptance, maturation, and helplessness-seeking help. Later, Karanci, Alkan, Akşit and Sucuoğlu (1999) used Ways of Coping Questionnaire with modifications with 61 items format in a sample of earthquake survivors. In that version, the instructions and rating of Ways of Coping Questionnaire is changed to inquire general style of responding to events. The response format changed from 4-point scale to a 3-point scale (1 = never, 2 = sometimes, 3 = always) as a result of preliminary study. The present study adopted the 42-item format which was used in Dirik (2006) adopted from Karanci et al., 1999. In the study of Dirik (2006), four factors were found, namely, fatalistic coping (Cronbach alpha of .80), optimistic/seeking social support (Cronbach alpha of .73), problem solving coping (Cronbach alpha of .73) and helplessness coping (Cronbach alpha of .77). The overall reliability of the scale was found to be .88. In the current the study four factors solution found by Dirik (2006) was used. The Cronbach alpha values of factors for the present study were

as follows: Fatalistic coping (.76), optimistic/seeking social support coping (.70), problem solving coping (.79), and helplessness coping (.79).

2.3 Procedure

The battery was administered after getting approval of the Ethics Committee of the Middle East Technical University. The instruments were administered to university students at classes of sociology, psychology, geology, and civil engineering departments. It took participant about 25 minutes to fill out the battery. The sociodemographic form, Traumatic Events Checklist and Posttraumatic Growth Inventory were the first to appear in the battery and the rest of the questionnaires were presented in random order.

2.4 Statistical Analysis

Before conducting main analysis, all variables were examined for the accuracy of data entry, missing values, and univariate and multivariate outliers. The missing values were less than 5 % and replaced for every variable.

Statistical Package for the Social Sciences (SPSS) version 10.0 was used for statistical analysis. Reliability analyses of Post Traumatic Growth Inventory, Relationships Scales Questionnaires and Ways of Coping questionnaire were conducted prior to main analysis. Factor analysis and reliability analysis was conducted for Attachment Style Questionnaire. The correlations of variables are analyzed in the correlation matrix before conducting regression analysis.

CHAPTER 3

3. RESULTS

3.1 Overview

First, the qualitative data for trauma checklist and trauma related variables will be provided. Then internal consistency, validity and item total correlations of Adult Attachment Questionnaire are calculated. In addition, internal consistencies of Post Traumatic Growth and subscales of Ways of Coping questionnaires are analyzed. Before demonstrating the results of regression analysis to reveal factors contributing posttraumatic growth, descriptives of variables and correlations will be presented.

3.2 Descriptive Statistics for Traumas

The trauma checklist includes 30 traumatic events. Participants were asked to mark the trauma that they have experienced. The percentages and number of participants who choose the different traumas are given in Table 3. Students may mark more than one event. The participants were asked to choose the trauma which has affected them the most. Then they answered the questions about trauma characteristics regarding that specific trauma. The most effected traumas and characteristics of traumas are given in Table 4. The answers for the most important trauma were also considered. 20 % (n = 52) of the participants experienced the chosen trauma 6 months- 1 year ago, 27 % (n = 70) of the participants experienced 2-4 years ago. 22 % (n = 56) of the participants experienced 5-7 years ago, and 31 % (n = 80) of the participants experienced 8-10 years ago.

Table 3. Traumatic Events

Traumatic Events	N	%
Living a disaster (earthquake, flood, landslide, and explosion)	125	46.3
Death of a family member	88	32.6
A serious accident, illness or a health problem of a family member	85	31.5
Witnessing a physical attack or a physical act of violence	80	29.6
Being rubbed (robbery of house, car or bag)	72	26.7
Suicidal attempt or suicide of a significant other or friend	64	23.7
Witnessing a serious accident	56	20.7
To lose a significant other in an accident or in an act of violence	48	17.8
A serious accident, illness or a health problem of a close friend	42	15.6
Living a serious accident or a serious health problem	39	14.4
Witnessing a significant other being harmed from violence	35	13
Witnessing an unknown person being exposed to a physical or sexual violence	31	11.5
Divorce of parents	28	10.4
Drug or alcohol problem of parents	24	8.9
Physical abuse from parents or a relative	24	8.9
To lose a significant other in a disaster	22	8.1
Being exposed to a physical or an armed attack	22	8.1
Sexual harassment or being forced to sex	16	5.9
Living in the fire line or in the place where fighting and terrorist actions occur	13	4.8
Witnessing a terrorist act	9	3.3
Fight under fire	8	3
Sexual abuse in family	6	2.2
Witnessing someone's being killed	6	2.2
Having an abortion	6	2.2
Others	5	1.9
Getting harm in a terrorist act	3	1.1
Being tortured	3	1.1
Being accused or being jailed	3	1.1
Being raped	2	0.7

Characteristics

Traumatic Event	N	Percentages	Time since the traumatic event (Range 1- 4)*		Felt Helplessness and Horror (Range 1-3)**		Frequency of the event (Range 1-5)***	
			Mean	SD	Mean	SD	Mean	SD
Living a disaster (earthquake,flood, land slide and burst)	44	17.1	3.25	0.83	2.22	0.92	1.72	0.92
Death of a family member	33	12.8	2.13	0.99	2.27	0.62	1.30	0.46
A serious accident or a serious health problem of a family member	28	10.9	2.35	1.19	2.64	0.55	1.39	0.56
Living a serious accident or a health problem	20	7.8	2.85	0.98	2.35	0.67	1.25	0.55
Suicidal attempt or suicide of a significant other or a friend	18	7.4	2.47	0.84	2.52	0.61	1.42	0.66
To lose a significant other in an accident or in an act of violance	18	7	2.66	1.23	2.44	0.78	1.11	0.32
Being rubbed (robbery of house, car or bag)	15	5.8	2.13	1.06	2.27	0.80	1.07	0.26
Witnessing a significant other or a family member being harmed from violence	9	3.5	3.00	1.12	3.00	0.00	2.67	1.66
Witnessing a physical attack or a physical act of violance	9	3.5	2.33	1.00	2.33	0.71	1.67	0.87
Living in the fire line or in the place where fighting and terrorist actions occur	7	2.7	2.71	1.38	2.26	0.76	3.71	1.70

Table 4. Continued

Traumatic Event	N	Percentages	Time since the traumatic event (Range 1- 4)*		Felt Helplessness and Horror (Range 1-3)**		Frequency of the event (Range 1-5)***	
			Mean	SD	Mean	SD	Mean	SD
Witnessing a serious accident	6	2.3	2.33	1.36	2.17	0.98	1.33	0.82
Divorce of parents	6	2.3	3.33	1.21	2.83	0.41	1.00	0.00
Physical abuse from parents or a relative	5	1.9	2.60	1.34	2.40	0.89	2.80	1.64
Sexual harassment or being forced to sex	5	1.9	2.80	1.30	2.40	0.55	1.80	1.30
Witnessing an unknown person being exposed to a physical or sexual violance	5	1.9	1.40	0.55	2.80	0.45	1.20	0.45
A serious accident, illness or a health problem of a close friend	5	1.9	2.00	1.22	3.00	0.00	1.40	0.89
Being exposed to a physical or an armed attack	4	1.6	2.50	1.29	1.75	0.50	1.75	1.50
To lose a significant other in a disaster	4	1.6	3.75	0.50	2.00	0.82	1.00	0.00
Drug or alcohol problem of parents	4	1.6	2.75	1.50	3.00	0.00	5.00	0.00

Table 4. Continued

Traumatic Event	N	Percentages	Time since the traumatic event (Range 1- 4)*		Felt Helplessness and Horror (Range 1-3)**		Frequency of the event (Range 1-5)***	
			Mean	SD	Mean	SD	Mean	SD
Others	3	1.2	2.00	1.73	2.33	0.58	2.33	2.31
Fight under fire	2	0.8	2.00	1.41	2.00	0.00	2.00	0.00
Being raped	2	0.8	4.00	0.00	3.00	0.00	1.00	0.00
Having an abortion	2	0.8	1.50	0.70	2.33	0.58	1.00	0.00
Getting harm in a terrorist act	1	0.4	2.00	0.00	2.00	0.00	2.00	0.00
Sexual abuse in family	1	0.4	1.00	0.00	3.00	0.00	5.00	0.00
Witnessing someone's being killed	1	0.4	4.00	0.00	2.00	0.00	1.00	0.00

* 1 = 6months- 1 year ago 2 = 2- 4 years ago, 3 = 5-7 years ago, 4 = 8-10 years ago
** 1 = little, 2 = moderate, 3 = high
*** 1 = once, 2 = 2-3 times, 3 = 4-5 times, 4 = 6- 10 times, 5 = more than 10 times

For the frequency analysis of the most influential chosen event, 65 % (n = 167) of the participants experienced the event once, 23 % (n = 58 of the participants experienced 2-3 times, 5 % (n = 14) of the participants experienced 4-5 times, 2 % (n = 5) of the participants experienced 6-10 times and 5 % (n = 14) of the participants experienced more than 10 times. Percentages of the felt horror and helplessness for the chosen trauma are as follows: 10 % (n = 26) felt little horror and helplessness, 38 % (n = 98) felt moderate level horror and helplessness and 52 % (n = 134) felt high level horror and helplessness. 10 % (n = 27) of the participants reported that they could prevent the occurrence of the event and 90 % (n = 231) of the participants reported that they could not prevent.

3.3 Descriptive Statistics for Trauma Related Variables

The duration passed after the traumatic event was measured by the question 'How long ago did the event happen?' (1 = 6 months- 1 year ago, 2 = 2-4 years ago, 3 = 5-7 years ago, 4 = 8-10 years ago). The mean of duration passed after traumatic event was 2.61 with 1.11 standard deviation. Frequency of traumatic event was questioned by 'How many times did event happen to you?' (1 = once, 2 = 2-3 times, 3 = 4-5 times, 4 = 6-10 times, 5 = more than 10 times) had a mean of 1.60 and 1.05 standard deviation. The question of 'How much did the event cause helplessness and horror?' was measured to investigate the perceived impact of the trauma (1 = little, 2 = moderate, 3 = a lot) and it had a mean of 2. 42 and 0.67 standard deviation. The participants were asked 'whether the event could be prevented by you or not?' with Yes/No answer type. 10 % of the participants replied that question as yes (n = 27) and 90 % of the participants replied as no (n = 231).

3.4 Scales Developed for the Study

3.4.1 Reliability and Validity of Attachment Style Questionnaire

To examine the factor structure of Attachment Style Questionnaire, responses to the scale were first analyzed with principle component analysis with

varimax rotation. The factors above eigenvalue of 1.00 were considered with respect to scree plot. The most adequate solution seemed to be four factors explaining 36.31 % of the variance. A factor loading of .30 was used as a criterion to determine item structure of these four factors. Four factors were named as 'Security', 'Anxiety', 'Avoidance', and 'Relationship as Secondary'. The mean scores were obtained by summing up the responses to the items belonging to the factors and then dividing them by the number of items.

The overall reliability of the scale was (.68). A rating of 6 corresponds to totally agree and 1 point means totally disagree. Two weeks test retest reliability coefficients for the four subscales were (.80) for secure subscale, (.84) for anxious subscale, (.82) for avoidance and (.73) for relationship as secondary. Due to misspelling of the 12th question in the battery given to participants it was eliminated from the reliability analysis. Furthermore, owing to negative loading items 27th and 15th were reversed. Item 20 because of negative loading in factor three, it was included in factor one because it fitted that factor better. Factor loadings and reliability coefficients were depicted in Table 5.

For the validity of the Attachment Style Questionnaire (ASQ), correlations of subscales of Attachment Style Questionnaire and Relationships Scales Questionnaire (RSQ) were examined. Security subscale of ASQ was positively correlated with secure attachment of RSQ (r = .56, p < .01), negatively correlated with dismissing attachment of RSQ (r = -.39, p < .01), and positively correlated with fearful attachment of RSQ (r = .15, p < .01). Anxiety subscale of ASQ was found to be negatively correlated with secure attachment of RSQ (r = -.24, p < .01), positively correlated with dismissing attachment of RSQ (r = .46, p < .01), preoccupied attachment of RSQ (r = .13, p < .05) and fearful attachment of RSQ (r = .33, p < .33). Avoidance subscale of ASQ was found to be negatively correlated with secure attachment of RSQ (r = -.62, p < .01) and positively correlated with dismissing attachment of RSQ (r = .58, p < .01) and preoccupied attachment of RSQ (r = .16, p < .01). For the relationship as secondary subscale of ASQ, secure attachment of RSQ was negatively correlated (r = -.18, p < .01), whereas, dismissing attachment of RSQ was positively correlated (r = .12, p < .01). Security subscale of ASQ negatively correlated with all insecure subscales of

ASQ, namely anxiety, avoidance and relationship as secondary. Subscale correlations of Relationships Scales Questionnaire and Attachment Style Questionnaire were demonstrated in Table 6.

Table 5. Composition of Factors of the Attachment Style Questionnaire with Factor Loadings, Percentages of Variance Explained and Cronbach Alpha Values

Factor and Items	Factors			
	F1	F2	F3	F4
Factor 1				
Security				
(Variance explained 21.25%)				
(Cronbach Alpha .81)				
38. I am confident that other people will like and respect me.	**.73**	-.05	.00	-.02
31. I feel confident about relating to others	**.71**	-.13	-.12	-.14
37. If something is bothering me, others are generally aware and concerned.	**.59**	.00	-.13	-.18
19. I find it relatively easy to get close to people.	**.55**	-.00	.-29	.02
1. Overall, I am a worthwhile person.	**.53**	-.13	.02	-.06
3. I feel confident that people will be there for me when I need them.	**.46**	-.16	-.33	.-15
21. I feel comfortable depending on other people.	**.42**	.20	-.48	-.17
2. I am easier to get to know than most people.	**.40**	.07	-.14	.03
15. Sometimes I think I am no good at all.	**-39**	.28	.19	.10
11. It's important to me that others like me.	**.36**	.25	-.12	-.23
27. I wonder why people would want to be involved with me.	**-.35**	.24	.25	.21

Table 5. Continued

Factor and Items	Factors			
	F1	F2	F3	F4
Factor 2				
Anxiety				
(Variance explained 6.70%)				
(Cronbach Alpha .82)				
22. I worry that others won't care about me as much as I care about them.	-.01	**.66**	.13	.04
29. I worry a lot about my relationships.	-.18	**.62**	.22	.01
24. I worry that I won't measure up to other people.	-.08	**.57**	.19	-.08
30. I wonder how I would cope without someone to love me.	-.13	**.52**	-.23	.04
26. While I want to get close to others, I feel uneasy about it.	-.33	**.49**	.21	.06
35. When I talk over my problems with others, I generally feel ashamed or foolish.	-.25	**.47**	.23	.16
32. I often feel left out or alone.	-.50	**.46**	.14	.19
18. I find that others are reluctant to get as close as I would like.	-.25	**.46**	.17	.26
40. Other people often disappoint me.	-.17	**.43**	.22	.16
28. It's very important to me to have a close relationship.	.30	**.41**	-.22	-.13
39. I get frustrated when others are not available when I need them.	.16	**.40**	-.12	.00
33. I often worry that I do not really fit in with other people.	-.41	**.39**	.18	.19
13. I find it hard to make decision unless I know what other people think.	.10	**.36**	.01	.16

Table 5. Continued

Factors and Items	Factors			
	F1	F2	F3	F4
Factor 3				
Avoidance				
(Variance explained 4.74%)				
(Cronbach Alpha .65)				
16. I find it hard to trust other people.	-.17	.25	**.61**	.01
17. I find it difficult to depend on tohers.	-.05	-.01	**.55**	.00
4. I prefer to depend on myself rather than other people.	.02	.01	**.53**	.09
23. I worry about people getting too close.	-.33	.26	**.40**	.15
25. I have mixed feelings about being close to others.	-.40	.31	**.38**	-.01
5. I prefer to keep to myself.	-.09	.03	**.37**	.22
6. To ask fo help is to admit that you're a failure.	-.26	.10	**.37**	.34
14. My relationships with others are generally superficial.	.-44	.21	**.32**	.29
20. I find it easy to trust others.	.31	-.11	**-.58**	-.01
34. Other people have their own problems so I don't bother them with mine.	-.13	.22	**.31**	.11

Table 5. Continued

Factors and Items	Factors			
	F1	F2	F3	F4
Factor 4				
Relationship as secondary (Variance explained 3.62%) (Cronbach Alpha .63)				
8. Achieving things is more important than building relationships.	-.07	.05	.21	**.78**
9. Doing your best is more important than getting on with others.	-.06	.08	.22	**.67**
10. If you've got a job to do, you should do it no matter who gets hurt.	-.12	.01	.07	**.62**
7. People's worth should be judged by what they achieve.	.03	.10	-.04	**.57**
12. It's important to me to avoid things that others won't like.	.24	-.05	.02	**-.35**
36. I am too busy with other activities to put much time into relationships.	-.20	.10	.29	**.30**

Table 6. Correlations of Relationships Scales Questionnaire (RSQ) and Attachment Style Questionnaire (ASQ)

Attachment Factors and Questionnaires	2. Dismissing (RSQ)	3. Preoccupied (RSQ)	4. Fearfull (RSQ)	5. Secure (ASQ)	6. Anxious (ASQ)	7. Avoidant (ASQ)	8. Relationship as Secodary (ASQ)
1. Secure (RSQ)	-.52**	-.08	.15**	.56**	-24**	-.62**	-.18**
2. Dismissing (RSQ)		.34**	.27**	-.39**	.46**	.58**	.12**
3. Preoccupied (RSQ)			.14*	.01	.13*	.16**	-.03
4. Fearfull (RSQ)				.15**	.33**	-.08	-.08
5. Secure (ASQ)					-.36**	-.62**	-.33**
6. Anxious (ASQ)						.44**	.28**
7. Avoidant (ASQ)							.41**

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

3.5 Correlations among Variables Used in the Regression Analyses

Table 8 demonstrates the Pearson correlation coefficients among the dependent variable, PTG, and independent variables of time interval aftermath of traumatic event, frequency of traumatic event, perceived impact of trauma, preventability of traumatic event, ways of coping and attachment styles.

Post traumatic growth was positively associated with gender (1 = male, 2 = female) as a demographic characteristic and trauma related variables of frequency, felt helplessness and horror, and preventability of trauma. Post traumatic growth was also positively associated with all coping styles, namely fatalistic, optimistic, problem solving and helplessness coping. Furthermore, post traumatic growth was found to be positively related with anxious attachment style.

As a result of these correlations, steps and variables to be included in the regression analysis were decided regarding to the model of Schaefer and Moos (1998). Table 7 depicts descriptive statistics of the variables used in the regression.

3.6 Predictors of Posttraumatic Growth

A hierarchical regression analysis was conducted to reveal how well post traumatic growth was predicted by demographic variables, trauma related variables and personal resource variables. In the first step, age, gender, mother's education, and father's education were entered into equation. In the second step, trauma related variables, namely time elapsed since the trauma, frequency of experiencing the traumatic event, perceived impact, and preventability of the traumatic event were entered. In the third step, attachment dimensions of security, anxiety, avoidance and relationship as secondary were entered. In the last step, coping styles were entered in the equation. For the steps used in the analysis see Table 9. The regression analysis revealed that gender, felt horror and helplessness, fatalistic and optimistic coping were significant predictors of post traumatic growth.

Table 7. Descriptive statistics of trauma and post traumatic growth related variables

Variable	N	Percent	Mean	SD	Min-Max
Time since traumatic event	258		2.64	1.12	1-4
6 months-1 year ago	52	20.2			
2-4 years ago	70	27.1			
5-7 years ago	56	21.7			
8-10 years ago	80	31.0			
Frequency of traumatic event	258		1.61	1.06	1-5
Once	167	64.7			
2-3 times	58	22.5			
4-5 times	14	5.4			
6-10 times	5	1.9			
More than 10 times	14	5.4			
Felt helplessness and horror	258		2.41	0.66	
Little	26	10.0			
Moderate	98	38.0			
A lot	134	51.9			
Preventability of event	258		1.89	0.30	
Yes	27	10.5			
No	231	89.5			
PTG	258	1.75	1.72	1.06	0-5
Fatalistic coping	321		1.85	0.31	1-3
Optimistic coping	321		2.32	0.33	1-3
Problem solving coping	321		2.37	0.36	1-3
Helplessness coping	321		1.88	0.38	1-3
Secure attachment	321		4.41	0.69	1-6
Anxious attachment	321		2.96	0.76	1-6
Avoidant attachment	321		3.16	0.80	1-6
Relationship as secondary	321		2.26	0.90	1-6

Table 8. Correlations of Variables Used in Regression Analysis

Variables	2	3	4	5	6	7	8	9	10	11
1. Age	-.44**	.07	.10	.14*	-.05	-.13	-.04	-.08	-.01	.01
2. Gender		.05	-.02	-.12	.03	.23**	.07	.22**	.03	.02
3. Mother's education			.63**	-.02	-.12	.01	-.04	.00	-.04	-.09
4.Father's education				.07	-.09	-.06	-.04	-.03	.00	.02
5. Duration of trauma					-.18**	-.09	.06	.04	-.02	.07
6. Frequency of traumatic event						.08	-.02	.12**	.03	-.03
7. Felt helplessness and horror							.06	.31**	-.02	.11
8. Preventability of traumatic event								.14*	.04	.14*
9. PTG									.22**	.26**
10.Fatalistic Coping										.08

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Table 8. Continued

Variables	12	13	14	15	16	17
1. Age	.14	-.05	.10	-.10	-.04	.26**
2. Gender	.22	-.14*	.09	.07	-.09	-.20**
3. Mother's Education	-.10	.03	.08	-.02	-.12	-.05
4. Father's Education	-.05	.09	-.01	.02	-.06	.01
5. Time elapsed since trauma	.09	-.09	-.02	.01	.03	.03
6. Frequency of traumatic event	.03	.09	-.04	.09	.06	.05
7. Felt Helplessness and Horror	.05	.17**	-.01	.18**	.05	.02
8. Preventability of the event	.11	-.04	-.04	.05	.07	.02
9. PTG	.14*	.13*	.06	.20**	.03	-.03
10. Fatalistic coping	-.07	.25**	-.03	.22**	.04	.02
11. Optimistic coping	.70**	-.19**	.44**	-.10	-.22**	-.15*
12. Problem solving coping		-.30**	.35**	-.24**	-.10	-.17**
13. Helplessness coping			-.18**	.52**	.14**	.15*
14. Security				-.34**	-.64**	-.31
15. Anxiety					.43**	.25**
16. Avoidance						.42**
17. Relationship as secondary						

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

In the first step age, gender (1=male, 2=female), mother's education and father's education were entered and explained % 5 of the variance (R^2 = .05), (F (4, 253) = 3, 163, p < .05 . The only significant variable among these demographic variables was gender explaining % 4 of the variance (β = .22; t = 3.19, p < .01). In the second step, trauma related variables, time elapsed since the trauma, frequency of experiencing traumatic event, perceived impact and preventability of the event were entered explaining an additional variance of % 9 variance (R^2 *Change*= .09), (F(4, 249) = 6, 86, p < .001). In that step, gender (β = .16; t = 2, 34, p < .05) explained % 2 of the variance and perceived helplessness and horror explained % 6 variance (β = .26; t = 4, 27, p < .05). Later, in step 3, attachment dimensions were added into the equation and this step was marginally significant explaining an additional 3 % variance (R^2*Change* = .03), (F (4, 245) = 2, 28, p = .06). Gender (β = .14; t = 2.05, p < .05), perceived helplessness and horror (β = .23; t = 3.81, p < .001), anxiety dimension among attachment dimensions (β = .17; t = 2.57, p < .05) were significant predictors. Lastly, fatalistic coping, optimistic coping, problem solving coping, and helplessness coping, were entered explaining an additional variance of 3 % variance (R^2 Change= .03). Among these variables, gender (β = .15; t = 2.55, p < .05), perceived helplessness and horror (β = .21; t = 3.55, p < .001), fatalistic coping (β = .17; t = 2.93, p < .01) and optimistic coping (β = .25; t = 2.88, p < .01) were the significant predictors. All variables explained 25 % (R^2 = .25) of the variance in post traumatic growth (F (4, 241) = 6. 21, p < .001) For the details of regression analysis see Table 10.

Further, analysis of variance and analysis of covariance for variables related to growth could not be performed because of insufficient number of participants in each cell.

3.7 Mediation Analysis of Coping Styles

The significant predictor value of anxiety dimension disappeared in the last step of the regression analysis after adding coping styles into the equation. This

might indicate a possible mediation effect of coping styles between attachment style and posttraumatic growth. Since anxiety dimension of attachment and optimistic coping were negatively and insignificantly correlated, fatalistic coping was taken into consideration as a possible mediator between anxiety dimension of attachment and posttraumatic growth.

Table 9. Variables according to steps in regression analysis

Block	Predictor Variables	Method
	Sociodemographic variables	
	Age, Gender, Mother's education,	
1	Father's education	Enter
	Trauma Related Variables	
	Time passed aftermath of trauma,	
	Frequency, Perceived impact,	
2	Preventability of the event	Enter
	Personal Resources (Attachment dimensions)	
	Security, Anxiety, Avoidance	
3	Relationship as secondary	Enter
	Personal Resources (Coping styles)	
	Fatalistic coping, Optimistic coping,	
	Problem-solving coping, Helplessness coping	
4		Enter

Table 10. Predictors of PTG

Steps	Variables	β	t	R^2	df	F Change
1	Demographic variables			.05	4, 253	3.16*
	Age	.01	.15			
	Gender (1 = male, 2 = female)	.22	3.19**			
	Mother's education	.02	.27			
	Father's education	-.04	-.48			
2	Trauma related variables			.14	4, 249	6.86***
	Time passed aftermath of trauma	.06	1.03			
	Frequency	.09	1.53			
	Perceived impact	.26	4.27***			
	Preventability of the event	.11	1.83			
	Gender (1 = male, 2 = female)	.16	2.34*			
3	Attachment dimensions			.17	4, 245	2.28[a]
	Security	.13	1.72			
	Anxiety	.17	2.57*			
	Avoidance	.05	.61			
	Relationship as secondary	-.04	-.62			
	Gender (1 = male, 2 = female)	.14	2.05*			
	Perceived impact	.23	3.81***			
4	Coping					
	Fatalist coping	.17	2.93**	.25	4,241	6.21***
	Optimistic coping	.25	2.89**			
	Problem solving coping coping	-.02	- 0.26			
	Helplessness coping	.02	- 0.30			
	Gender (1 = male, 2 = female)	.15	2.25*			
	Perceived impact	.21	3.55***			

*** p < .001, ** p < .01, * p < .05, [a] = .06

To test the mediation of coping style between anxious attachment dimension and posttraumatic growth, four conditions of Baron and Kenny (1986) were considered:

1. The predictor (anxiety dimension of attachment) is required to be related to the dependent variable, posttraumatic growth.
2. The predictor is required to be related to the mediator, fatalistic coping.
3. The effect of the predictor on the dependent variable must be decreased after effect of mediator is controlled.
4. When the effect of the predictor is reduced to nonsignificance, this indicates full mediation. When its effect is still significant but reduced, it might indicate a partial mediation.

Firstly, anxiety dimension of attachment was put into regression analysis when posttraumatic growth was the dependent variable. The effect of anxiety dimension on posttraumatic growth was revealed (β = .20, p < .01). In another regression analysis, anxiety dimension of attachment was entered when fatalistic coping was the dependent variable. The effect of anxiety dimension on fatalistic coping was revealed (β = .22, p < .001). Thirdly, in a separate regression analysis, the effect of fatalistic coping on posttraumatic growth was assessed (β = .22, p < .001). Lastly, both anxiety dimension of attachment and fatalistic coping were put into regression on the condition that posttraumatic growth was the dependent variable. The predictor effect of anxiety dimension of attachment was reduced but stayed significant (β = .16, p < .05). As a result, it was found that there was a partial mediation effect of fatalistic coping between anxiety dimension of attachment and posttraumatic growth. According to Sobel test, the partial mediation was found to be significant at the 0.05 level. For the mediation effect see Figure 2.

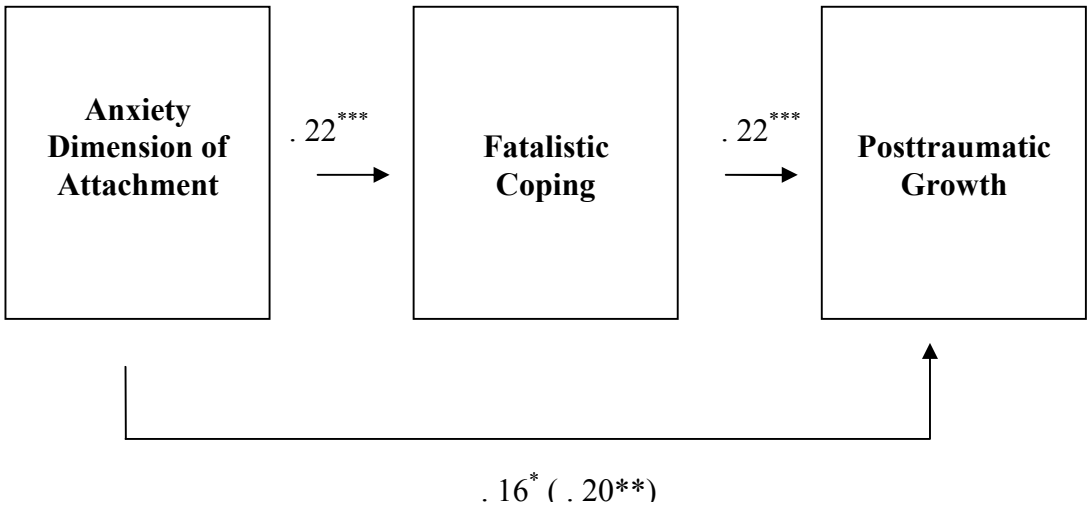

Figure 2. Path-analytic Model for Coping. In the figure, partial mediating role of fatalistic coping in the relationship between anxiety dimention of attachment and posttraumatic growth is demonstrated. The values are standardized regression coefficents. The value in the paranthesis gives the standardized coefficient when anxiety dimension of attachment is the only predictor for posttraumatic growth. (* $p < .05$, ** $p < .01$, *** $p < .001$)

3.8 Mediation Analysis of Attachment Style

Another possible mediation effect of anxiety might be detected between felt helplessness and horror, and posttraumatic growth. Felt helplessness and horror, anxiety dimension of attachment and posttraumatic growth were found to be correlated with each other. As a result, similar to the study of Piegela, Gerlma and Schaap (2000), attachment style's mediation effect was considered. To test the mediation of anxiety dimension of attachment between felt horror and helplessness, and posttraumatic growth, four conditions of Baron and Kenny (1986) were taken into consideration:

1. The predictor (felt helplessness and horror) is required to be related to the dependent variable, posttraumatic growth.
2. The predictor is required to be related to the mediator, anxiety dimension of attachment.
3. The effect of the predictor on the dependent variable must be decreased after effect of mediator is controlled.
4. When the effect of the predictor is reduced to nonsignificance, this indicates full mediation. When its effect is still significant but reduced, it might indicate a partial mediation.

Firstly, felt helplessness and horror was put into regression analysis when posttraumatic growth was the dependent variable. The effect of felt helplessness and horror on posttraumatic growth was revealed (β = .31, p < .001). In another regression analysis, felt helplessness and horror was entered when anxiety dimension of attachment was the dependent variable. The effect of felt helplessness and horror on anxiety dimension of attachment was revealed (β = .18, p < .01). Thirdly, in a separate regression analysis, the effect of anxiety dimension on posttraumatic growth was assessed (β = .20, p < .01). Lastly, both felt helplessness and horror, and anxiety dimension of attachment were put into regression on the condition that posttraumatic growth was the dependent variable. The predictor effect of felt helplessness and horror was reduced but stayed significant (β = .15, p < .05). As a result, it was found that there was a partial mediation effect of anxiety dimension of attachment between felt helplessness and horror, and posttraumatic growth. According to Sobel test, the partial mediation was found to be significant at the 0.05 level. (See figure 3)

3.9 Gender Differences for Posttraumatic Growth

To find out if there is a significant difference on posttraumatic growth with respect to gender, ANOVA was conducted (F (1, 256) = 12. 54, p < .001). According to the mean scores of the participants, females (M = 1.88, SD = 1.06) scored higher on posttraumatic growth than male participants (M = 1.35, SD = 0.99).

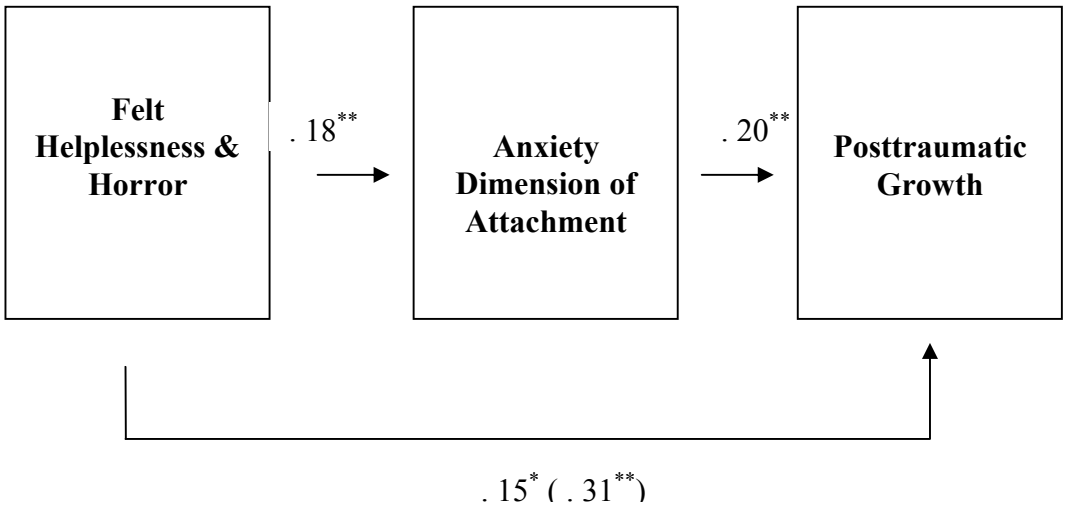

Figure 3. Path-analytic Model for Attachment. In the figure, partial mediating role of anxiety dimension of attachment in the relationship between felt helplessness and horror and posttraumatic growth is depicted. The values are standardized regression coefficents. The value in the paranthesis gives the standardized coefficient when anxiety dimension of attachment is the only predictor for posttraumatic growth. (* $p < .05$, ** $p < .01$)

3.10 Comparisons of Low and High Security, Anxiety and Avoidance Attachment Groups on Posttraumatic Growth

Before the analysis, scores of participants were divided into two groups namely low in security dimension ($M = 1.77$, $SD = 1.04$) and high in security dimension ($M = 1.48$, $SD = 1.16$). High in security dimension refers to one standard deviation above the mean. On the other hand, low in security refers to one standard deviation below the mean. Total scores of coping were also calculated by adding all scores in Ways of Coping Questionnaire. Then ANCOVA was conducted in which coping was the covariate. It was revealed that secure attachment dimension was marginally significant in ANCOVA (F (1, 255) = 3. 50, $p = .06$). Relative to high

secure group (*M* = 1. 48, *SD* = 1.16), low secure group (*M* = 1.77, *SD* = 1.04) reported more growth when means were taken into condideration. (See Table 11).

The similar way was followed in anxiety dimension of attachment. In that respect, individuals with high anxiety (*M* = 2.17, *SD* = 0.95) were the ones who scored one standard deviation above the mean and individuals with low anxiety (*M* = 1.64, *SD* = 1.07) were the ones who scored one standard deviation below the mean. The total coping scores were the covariate. ANCOVA analysis was conducted to reveal the difference in posttraumatic growth concerning anxiety dimension of attachment. It was found that individuals with different anxiety levels differed in posttraumatic growth (F (1, 255) = 6. 75, $p < .05$). When means were inspected, high anxious group scored higher in posttraumatic growth than low anxious group. For the high in avoidance dimension group (*M* = 1.75, *SD* = 1.07) and low in avoidance dimension group (*M* = 1.72, *SD* = 1.06), ANCOVA analysises were performed but the results were not significant. For relationship as secondary dimension, the grouping could not be performed because of close scores.

Table 11. Means and Standard Deviations of Low and High Security, Anxiety and Avoidance Attachment Groups on Posttraumatic Growth

High & Low Groups of Attachment	Posttraumatic Growth	
	Mean	SD
High in Security	1.48_a	1.16
Low in Security	1.77_a	1.04
High in Anxiety	2.17_a	0.95
Low in Anxiety	1.64_b	1.07
High in Avoidance	1.75_a	1.07
Low in Avoidance	1.72_a	1.06

Means with different subscripts are significantly different

3.11 Comparisons of Low and High Security, Anxiety and Avoidance Attachment Groups on Coping Styles

The same categorization of attachment dimensions as low and high were also considered for that analysis. Gender was assigned as a covariate because males and females may engage in different coping styles aftermath of traumatic events (Güneş, 2001). For fatalistic coping style, individuals differed with respect to being high secure or low secure (F (1, 318) = 6.48, $p < .05$). Relative to high security group (M = 1.75, SD = 0.27), individuals scoring low in security dimension of attachment (M = 1.87, SD = 0.32) were more likely to engage in fatalistic coping style when means were considered. On the other hand, individuals also differed with respect to anxiety dimension of attachment in fatalistic coping (F (1, 318) = 4.24, $p < .05$). Participants with high scores on anxiety dimension of attachment (M = 1.93, SD = 0.33) were likely to choose fatalistic coping style more than low anxiety group (M = 1.83, SD = 0.31). There was no difference between low and high groups of avoidance in fatalistic coping style.

Individuals differed in optimistic coping with respect to secure attachment dimension levels (F (1, 318) = 9.63, $p < .01$). Relative to low secure group (M = 2.30, SD = 0.34), individuals who were high on secure attachment dimension (M = 2.46, SD = 0.23) were likely to score high on optimistic coping style when means were taken into account. On the other hand, there was a marginally significant difference in groups of anxiety dimension of attachment in terms of optimistic coping style (F (1, 318) = 3.49, p = .06). Individuals scored low in anxiety dimension of attachment (M = 2.34, SD = 0.32) were more prone to score high on optimistic coping than individuals in high anxiety group (M = 2.25, SD = 0.37). When avoidance dimension of attachment was analyzed, different levels of avoidance were found to be related with optimistic coping (F (1, 318) = 6.40, $p < .05$). Once means were inspected, those who scored low in avoidance attachment dimension (M = 2.35, SD = 0.31) were more prone to score high on optimistic way of coping relative to individuals in high avoidance group (M = 2.22, SD = 0.38).

For problem solving coping style, there was a difference between high level of security and low level of security of attachment (F (1, 318) = 14. 33, $p < .001$).

Relative to participants with low security (M = 2.33, SD = 0.35), participants who were high on secure attachment dimension (M = 2.54, SD = 0.32) were likely to score high on problem solving coping style. On the other hand, there was a difference between anxiety levels of attachment dimension for problem solving coping style (F (1, 318) = 1.00, p < .01). Those who scored low in anxiety dimension of attachment (M = 2.39, SD = 0.36) were likely to score high on problem solving coping style relative to individuals in high anxiety dimension (M = 2.24, SD = 0.33). There was no difference between groups of avoidance dimension of attachment for problem solving coping style. (See Table 12).

Table 12. Means and Standard Deviations of Low and High Security, Anxiety and Avoidance Attachment Groups on Coping Styles

High & Low Groups of Attachment	Coping Styles							
	Fatalistic		Optimistic		Problemsolving		Helplessness	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
High in Security	1.75_a	0.27	2.46_a	0.23	2.54_a	0.32	1.76_a	0.34
Low in Security	1.87_b	0.32	2.30_b	0.34	2.33_b	0.35	1.91_b	0.38
High in Anxiety	1.93_a	0.33	2.25_a	0.37	2.24_a	0.33	1.93_a	0.33
Low in Anxiety	1.83_b	0.31	2.34_a	0.32	2.39_b	0.36	1.83_b	0.31
High in Avoidance	1.86_a	0.36	2.22_a	0.38	2.34_a	0.37	1.96_a	0.40
Low in Avoidance	1.84_a	0.31	2.35_b	0.31	2.37_a	0.35	1.87_a	0.38

[a-b] Means are significantly different

For helplessness coping style, there was a difference between levels of security dimension (F (1, 318) = 6.51, p < .05). When means of two secure dimension groups were considered, those scored low in security dimension (M = 1.91, SD = 0.38) had high scores in helplessness way of coping unlike those who scored high on security dimension of attachment (M = 1.76, SD = 0.34). When anxiety dimension of attachment with two levels were inspected, a difference was found for helplessness coping (F (1, 318) = 30. 05, p < .001). Relative to individuals in low anxiety group (M = 1.83, SD = 0.31), individuals who scored high on anxiety dimension of attachment (M = 1.93, SD = 0.33) were also scored high on helplessness coping style when means were analysed. There was no difference between groups of avodaince dimension for helplessness coping style.

For relationship as secondary dimension of attachment, grouping could not be performed because of close means.

CHAPTER 4

4. DISCUSSION

In this chapter, the findings of the present study will be discussed; the limitations, possible therapeutic implications and suggestions for further research will be covered.

4.1 Characteristics of the Traumatic Events

The most frequent traumatic events reported by the sample are living a disaster (earthquake, flood, landslide and explosion); death of a family member; living a serious accident, illness or a health problem of a family member; witnessing a physical attack or a physical act of violence; being rubbed (robbery of house, car, or bag), suicidal attempt or suicide of a significant other or a friend; and witnessing a serious accident. The prevalence of the events is similar to several studies in the literature (Perkonigg, et al., 2000; Norris, et al., 2003; Ullman, et al., 2003). A similar pattern was observed in the subjective perception related to impact of event. When subjects are asked to name the event that they felt most horror and helplessness, the following was revealed. Living a disaster, death of a family member, living a serious accident or a serious health problem, suicidal attempt or suicide of a significant other or a friend and to lose a significant other in an accident or in an act of violence were the events that are categorized as the events with the highest perceived impact.

Majority of the participants lived the most influential traumatic event once 65 % (n = 167). The reports revealed that the time elapsed after the trauma did not decrease its impact. 53 % (n = 136) of the participant lived trauma more than 4 years ago. Even after years the effects of traumatic event could be seen (Lev-Wiesel & Amir, 2003; Erbes, et al., 2005; Maercker & Herrle, 2003). 51 % (n =

134) of the participants reported they felt horror and helplessness a lot in the chosen traumatic event.

4.2 Psychometric Qualities of the Questionnaires

In the present study, Trauma Checklist, Relationship Scales Questionnaire, Posttraumatic Growth Inventory, Ways of Coping Questionnaire and Attachment Style Questionnaire were employed. All scales except Attachment Style Questionnaire were translated into Turkish and were found to be reliable and valid in previous studies. In the current study, Attachment Style Questionnaire was translated into Turkish and psychometric properties were assessed. Internal reliability of the Attachment Style Questionnaire was high. In addition, subscales of Attachment Style Questionnaire revealed appropriate correlations with subscales of Relationships Scales Questionnaire. The security dimension of the attachment revealed in the study corresponded to comfort factor which represents feeling comfort in forming relationships, in the original study of Feeney, Noller & Hanrahan (1994). Nevertheless, item 11 'It's important to me that others like me' which represents need for approval in the original study was categorized as security dimension of attachment in the present study. This item might characterize the adolescence period in which individuals seek care and attention of peers and others. Since the present sample was in the age period of late adolescence and young adulthood, the item 11 might describe participants' current age status. In the original study, anxious-ambivalent subjects were high on need for approval and preoccupation with relationship factors (Feeney, et al., 1994). Similarly, in the present study, items of anxiety dimension of attachment were the ones which represented need for approval from others and preoccupation with relationships. In the original study, relationship as secondary and discomfort items corresponded to avoidant attachment (Feeney et al., 1994). In the present study there were two different factors which mainly characterized avoidant attachment style. These were named as avoidance and relationship as secondary. This two-headed finding may be resulted from the two significant avoidance mechanisms of the sample. In avoidance factor, the items of discomfort from the relationships

were recruited. The relationship as secondary factor showed another avoidance mechanism in which participants focus on different subjects especially working and studying. To avoid discomfort derived from the relationships, individuals were likely to direct their attentions to other concerns. This might be related to sample characteristics. Since the participants were from two of the biggest universties in Ankara and enterence of these universities requires disciplined study, avoidant participants might score high on relationship as secondary factor. As a result, this factor was categorized apart from avoidance dimension of attachment.

4.3 Predictors of Posttraumatic Growth

4.3.1 Gender

In the regression analysis, gender was a significant predictor in all steps. Females scored slightly higher than males in the current study. The result is parallel to other studies in the literature (Laufer & Solomon, 2006; Dirik, 2006; Kesimci, Göral, & Gençöz, 2005). Findings in the review studies, which focus over 50 studies, also indicated a gender difference in adversarial growth (Linley & Joseph, 2004; Helgeson, et al., 2006). Nevertheless, in a specific kind of trauma, namely loss of a child, there arise no gender difference (Büchi, et al., 2007; Polatinsky & Esprey, 2000). According to Linley and Joseph (2004), the studies conducted in the university student samples consistently revealed gender difference in adversarial growth in favor of female sample.

Females, in general, are more likely to suffer from adverse effects of traumatic events and they are more prone to develop psychopathology (Perkonigg, et al., 2000; Norris, et al., 2003; Frans, et al., 2005; Bernat, et al., 1998; Olff, et al., 2007). Although females exhibit more stress symptoms, they are likely to develop growth more than males. It could be related with subjective perceived impact of traumatic event. More adversity experienced in the aftermath of trauma is related with both psychopathology and growth in female subjects.

4.3.2 Felt Horror and Helplessness

The impact of traumatic event is a determinant in both development of psychopathology and posttraumatic growth. The severity of the event was found to be associated with growth in the aftermath of stressful events (Armeli, et al., 2001; Morris, et al., 2005; Laufer & Solomon, 2006; Kesimci, et al., 2005; Davis & Mcdonald, 2004). The perceived impact is shaped by the cognitive processing of the traumatic event and appraisals. The unique characteristic that reflects the extent of the impact is felt horror and helplessness which is used to define traumatic event. The perceived threat and harm were found to be associated with higher levels of adversarial growth in the reviews (Linley & Joseph, 2004; Helgeson, et al., 2006). Nevertheless, in specific traumas, reported post traumatic growth may differ. In the study of Salo, Qouta and Punamaki, (2005) political prisoners with high levels of torture and ill-treatment were less capable of generating personal strength and positive affiliation to others but they experienced more negative emotions. Both subjective and objective measures are used and have a predictor value in the studies to evaluate the impact of trauma and post traumatic growth. However, more than objective exposure, subjective exposure to traumatic event contributed to variance explained in posttraumatic growth (Laufer & Solomon, 2006). Therefore, in the current study subjective evaluation of the participants were taken into consideration. Similar to the findings in the literature, felt horror and helplessness related to the most influential traumatic event chosen by the participants was a significant predictor for growth.

The felt horror and helplessness are the primary elements of violation of existing cognitive schemas. Since a healthy individual has a positive view of the self, the world and the future (Beck, 1995), the shattering of these cognitive characteristics is painful. The initial aim of the person is to assimilate the trauma information into cognitive structure. However, the incoming information is in no way consistent with the existing base. The traumatic event ruins beliefs, expectation and the direction of life. As a result, a person engages in a different strategy by changing appraisals and re-appraising the event as positive. The trauma survivor aims to find out benefits and positive aspects of the trauma to

cohabit traumatic information. By means of this process, personal growth or finding meaning in the stressful event takes place. The result is that, the more horror and felt helplessness in the confrontation of the traumatic event, the more effort in cognitive structure and change in philosophy of life aftermath of trauma. Therefore, ruminations, intrusions and avoidance are associated with both psychopathology (DSM IV, 2000) and posttraumatic growth (Linley & Joseph, 2004). On the other hand, the person may focus on accommodation of the incoming trauma information leading to maladaptive appraisals of catastrophic thinking and negative appraisals about him/her and the world. Consequently, the recurrent efforts to assimilate the information into existent schema inhibit pathogenic resolution of trauma.

4.3.3 Attachment Style

Childhood history and attachment style are considered to be important for adult adjustment and psychopathology. There are studies related to psychopathology and psychological problems that they could be explicated by attachment styles (Mc Lewin & Muller, 2006; Keiley & Seery, 2001; Alonso-Arbiol, et al., 2002; Alexander, et al., 1998; Rosenstein and Horowitz, 1996; Allen, et al., 1996; Ward, et al., 2006).

Specifically, attachment and trauma literature are focused on childhood abuse and its impacts in life. However, the studies investigating secondary traumas are limited. In the study conducted with the participants who were in or within several blocks away from World Trade Center on September 11, 2001, secure adults exhibited fewer symptoms of Post Traumatic Stress Disorder and depression than insecurely attached ones (Fraley, et al., 2006). In this study, preoccupied attachment group corresponding to anxious-ambivalent attachment style, was the worst group for their adjustment levels previous to attack, and 7 months after the attack. However, after 18 months, their adjustment level was nearly same with secure individuals. In the current study, anxiety dimension of attachment was found to be marginally predicting growth and high anxiety was found to be related with posttraumatic growth. In the study of Fraley, Fazzari,

Bonanno and Dekel (2006), the adjustment level after 18 months may represent a possible growth. In other words, individuals who were high on attachment anxiety were the ones affected worst from the adverse events and they were likely to develop well in growth domains.

According to Solomon, Ginzburg, Mikulincer, Neria, and Ohry, (1998), secure attachment style functions as a stress-regulation device for the individuals. Therefore, in the present study, this mechanism in secure subjects might have previously activated and have buffered the distress caused by traumatic event. As a result, the individuals were not likely to experience a kind of transformation since they had not shaken and challenged against the effects of traumatic event as insecure ones had. Emotion-focused coping and high levels of distress reported after a traumatic event were found to be related with hypervigilance of ambivalent persons (Mikulincer, et al., 1993). This emotion focused coping style may also lead to a continuation of the impact of trauma. On the other hand, the avoidant individuals distance themselves from the event to remove their anxiety and depressive responses but they express their distress in terms of somatic complaints (Mikulincer, et al., 1993). In the current study, participants with avoidant attachment characteristics were not likely to exhibit development in growth domains. This may be related to their avoidant style of coping.

In the study of Pielage, Gerlma and Schaap (2000), attachment styles were investigated as a risk factor for the development of psychopathology after a stressful event. They tested mediator effect of attachment style between stressfulness of the event and psychological symptoms. Fearful attachment was the unique predictor among other attachment styles, namely secure, dismissing, and preoccupied. When stressfulness of the events added to the equation, the influence of attachment styles disappeared. In another study, mediating role of attachment explained effects of childhood sexual abuse on distress (Shapiro & Levendosky, 1999). In the current study, possible mediator effect of attachment style between perceived impact of trauma and posttraumatic growth was found to be significant. Anxiety dimension of attachment was found to have a partial mediator effect between felt helplessness and horror, and posttraumatic growth. This finding is in the similar line with the explanation of Mikulincer, Shaver, & Pereg (1993).

Stressfullness of the event activates attachment shaped as a stress regulation device (Bowlby, 1969), and leads to hyperviligance in individuals who are high on attachment anxiety. As a result, they undergo adverse effects of trauma and develop in posttraumatic growth.

The only study which examines the adult attachment and posttraumatic growth recruited former Palestinian political prisoners (Salo, et al., 2005). In their study, exposure to torture and ill-treatment were associated with a high level of growth in the secure individuals. In the present study, however, the secure individuals were not likely to score high on posttraumatic growth. This might be related with their successful buffer mechanism which was triggered by a stressful event. Moreover, secure individuals in general could have maintained social support means and could have made use of other resources more efficiently than insecure ones. In the present study, insecure avoidant ones, might avoid, undermine or might have reacted indirectly with somatic complaints aftermath of trauma. Therefore, their confrontation with the traumatic event might have not led to growth unlike the anxious ambivalent ones. Consequently, participants with high on attachment anxiety were the ones who lived distress because of their stress regulation inefficiency, and who developed for growth.

In the current study, the most influential traumas chosen by the participants were living a disaster, death of a family member, a serious accident or a serious health problem of a family member, living a serious accident or a serious health problem, a suicidal attempt or a suicide of a significant other or a friend, and loss of a significant other in an accident or in an act of violence. In the study of Salo, Quota and Punamaki (2005), torture was the trauma that was investigated. Torture is a unique and psychologically very destructive kind of trauma. It may have a series of negative episodes and destructive characteristics. Furthermore, aftermath of torture and imprisonment, individuals may also confront with other problems outside. In that sense, in the current study, the traumas are not similar to torture experience. Nonetheless, participants reported natural disasters as the one which affected them in the greatest extent. A natural disaster also includes many adverse experiences and a chain of negative events similar to torture exposure.

4.3.4 Coping Styles

Coping styles of the individuals shape their reactions towards the stressor (Folkman et al., 1986; Lazarus, 1966; Lazarus & Folkman, 1984). Reactions towards adverse life events are also effected from the chosen coping mechanisms. In the development of psychopathology (Gill, 2005; Hatchett & Park, 2004; Güneş, 2001; Kesimci, 2003; Garnefski & Kraaij, 2006) and adversarial growth (Park, 1998; Bellizi & Blank, 2006; Schulz & Mohamed, 2004; Sheikh, 2004; Oaksford, et al., 2005; Kesimci et al., 2005), coping mechanisms play role regarding cognitive processing of the trauma information, appraisals and reappraisals.

In general, people scoring higher on avoidance and emotion-focused coping style are more likely to suffer from PTSD than those who adopt problem-focused coping style (Gil, 2005). Specifically, fatalistic coping was found to be associated with intrusive symptoms while escape style of coping was found to be associated with avoidance symptoms (Güneş, 2001). Coping strategy may determine the anxiety and depression aftermath of adverse life event such as a disease. In the study of Dirik (2006), helplessness coping was a predictor in anxiety levels of arthritis patients and problem solving was a predictor in the negative direction for depression levels.

Coping strategies may also alter the evaluation related to stressful situation in a positive direction by means of accepting it and information seeking (Folkman et al., 1986). In the review of Linley and Joseph (2004), problem-focused coping, acceptance of the event, positive reinterpretation, and positive religious coping were found to be associated with growth. In the study of Güneş (2001), problem focused coping and optimistic style of coping were found to be associated with stress related growth in the earthquake survivors. In a study conducted in Turkish university students, problem oriented coping style and fatalistic coping were the predictors for stress related growth (Kesimci et al., 2005).

In the present study, after adding coping styles into the equation, optimistic coping and fatalistic coping style were revealed as significant predictors for growth. Similar to the Güneş's (2001) study, optimistic coping has an impact on

the development of post traumatic growth in the current study. Since post traumatic growth requires reappraisal of the event in a positive direction, optimism and optimistic coping style would facilitate that change. In addition, it may also reduce the person's distress resulted from trauma and psychological difficulties by adopting a positive stand point. On the other side, fatalistic perspective to interprete the events carries a cultural and a religious characteristics such as attributing the event to an outer source, mostly a spiritual symbol and accepting the event by its own outcomes. By means of these, individual does assume external locus of control and reduces psychological burden of the traumatic event through a resignation. Moreover, by attributing the event to a spiritual source, the person finds an omnipotent source to be sheltered from the later adversities. It is interesting that, in the university sample, fatalistic coping strategy was chosen in the confrontation of a stressful event and this led to stress-related growth (Kesimci et al., 2005). Same coping style was a determinant for post traumatic growth in the present study.

There are studies concerning mediation effect of coping style between attachment style and psychological distress (Wei, et al., 2003; Mikulincer, et al., 1993). In the study of Wei Happnere and Mallinckrodt (2003), the relation between attachment anxiety and psychological distress was not linear due to the mediation effect of perceived coping. Contrarily, in the study of Mikulincer, Florian, and Weller (1993), coping style did not mediate the relation between attachment style and emotional distress eventhough coping style and emotional distress were significantly correlated with emotional distress. In another study, avoidant coping mediated the relationship between dismissing attachment style and maladaptive adjustment to diabetes (Turan, Osar, Turan, Ilkova, & Damcı, (2003). Contrary to that finding, the mediation effect of fatalistic coping on anxiety dimension of attachment and posttraumatic growth indicated an adaptive way of adjustment in the current study. Fatalistic coping is characterized as a passive way of accepting the event and attributing the event to an external source other than individual himself/herself, which is less likely to cause distress. By means of fatalistic coping, anxious individual both avoids the event's distress and has a unique figure of attachment in fact. Seeking closeness to God in prayers and

rituals, using God as a safe haven during stress (Kirkpatrick, 1999) may also provide a secure base to confront with the event. Birgegard and Granqvist (2004) suggested that in response to stress, God is an available and functional attachment figure for affect regulation system. This passive but functional coping style may lead to processing of trauma information and development in the domains of posttraumatic growth such as a change in philosophy of life.

4.4 Conclusion

In the present study, prevelance of traumatic events among university students was investigated. The effect of peri-trauma factors of time elapsed since the event, frequency of the event, perceived impact, and preventability of the event and pre-trauma factors of attachment styles and coping styles on posttraumatic growth were examined with respect to Schaefer and Moos (1998) model. Since there are limited number of studies concerning the relation between attachment style and adjustment in the aftermath of trauma, the findings may contribute the understanding the process of growth. In the study, gender, perceived impact of the event, anxiety dimension of attachment, optimistic coping style and fatalistic coping style were the predictors for the posttraumatic growth. Furthermore, it was found that fatalistic coping style partially mediated the relationship between anxiety attachment dimension and posttraumatic growth. This idicates interactive nature of the variables related to posttraumatic growth.

4.5 Limitations of the Present Study

Firstly, the study was conducted with a university student sample which reflects a small and advantageous group of the general population. Nonetheless, the two universities included in the study accept applicants from all over the country. Most of the participants' families were college or university graduate, which is an important determinant for social status in Turkey, meaning that the students in the study were representing a small group of the general population.

Secondly, the analysis related to different traumas could not be employed because there were a limited number of the reported specific traumas. Only an overall statistical analysis was conducted for the most crucial traumas chosen by the participants. Furthermore, the order of the traumas might be influential to assess posttraumatic growth. A primary trauma might empower the individual to handle later traumas and provide more or less improvement in post traumatic growth.

Thirdly, posttraumatic growth means were small due to the sample characteristic that they were not specifically a kind of trauma survivor unlike most studies in the literature. A further limitation of the study was the grouping in the attachment style measurement. Although the Attachment Style Questionnaire revealed reliable and valid results in factors, the four factors that encountered in the sample were unique. In other words, it was different from the original study of Feeney, Noller and Hanrahan (1994) and the study of Salo, Qouta and Punamaki (2005).

Anothor limitation of the study is that traumatic stress symptoms and other psychopathologies were not inspected. Post traumatic growth and maladjustment following an adverse event could be co-existing. The results might differ in a clinical sample.

Lastly, it is not a longitudinal study that evaluates differences by time intervals. Therefore, the direction in the development of posttraumatic growth could not be documented. Trauma is interrelated with varied parameters. Nevertheless, in the present study effects of certain variables were assessed as predictors of the posttraumatic growth.

4.6 Therapeutic Implications

In the meta-analysis of Ozer, Best, Lipsey and Weiss (2003), history prior to trauma, psychological problems prior to trauma, psychopathology history in the family, perceived life threat, perceived support following trauma, peritraumatic emotional responses, and peritraumatic disassociation are the predictors of posttraumatic stress disorder among 2.647 studies. Similar characteristics are

essential in the process of growth in the aftermath of trauma. In the present study, several of these elements were assessed and the perceived impact of the event, attachment style and coping style were found to be related to traumatic growth in the university students.

The high rate of traumatic event prevalence in the sample is remarkable. Nearly 80 % of the subjects experienced at least one traumatic event in their life. The participants were in the transition phase between adolescence to young adulthood. In universities, most students live apart from their families and try to adapt themselves to new conditions. In such a period, counselling services might be helpful for their adaptation and their psychological problems related to their past traumatic events. In addition, it would be useful to warn them for possible adverse events such as physical assault, sexual assault, drug addiction, and rape. The counselling services, as a result, should provide both treatment and preventive facilities.

Attachment theory regarding to its origin, was formed to help the young survivors of II World War (Bretherton, 1992). Later, it was utilized mostly in clinical context. Now, influence of childhood history, parenting styles, attachment styles and modifications using the therapeutic relaitonship play role in certain therapeutic standpoints such as cognitive therapy (Young, 1999; Kelogg & Young, 2006) and cognitive analytic therapy (Jellema, 1999). Hence, influence of attachment theory should be considered not only in the treatment of childhood maltreatment and abuse history but also in other trauma cases. Since attachment style is a general pattern reflecting different areas of life, therapeutic relationship is deeply influenced from the individual's attachment style characteristics. When the individual is described with anxious or avoidant attachment style, this might influence cognitive processing following the trauma in a negative or maladaptive way. Therefore, assessment of attachment style within the therapeutic intervention would be useful for identifying further drawbacks in the relationship between client and therapist. To increase coping effectiveness, examining the influence of attachment patterns in ineffective coping would be supportive (Wei, et al., 2003). Furthermore, in therapeutic relationship, therapist should provide a secure base for the client to confront with the traumatic event and to explore different meanings.

4.7 Directions for Future Research

Firstly, traumatic growth is a process that evolves in time. Therefore, to trace changes in time is crucial in understanding the process of growth. Longitudinal studies, in that sense, would be beneficial to detect the exact characteristics of individual, environment and its interaction in the phase of transformation. Secondly, there are studies regarding the importance of memory processing in PTSD but not specifically in posttraumatic growth. Encoding and retrieval of trauma related memories and meaning making process should be tested by the prospect researchers. By means of knowledge gained from memory studies, intervention characteristics could be drawn. Lastly, it is important to study the effects of other personality variables and their interactive nature with attachment styles. It may provide a detailed account of traumatic growth and a general framework in which new therapeutic means for trauma recovery could be employed.

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APPENDICES

APPENDIX A

Informed Consent
(Gönüllü Katılım Formu)

Gönüllü Katılım Formu:

Bu tez çalışması, Prof. Dr. Nuray Karancı danışmanlığında Orta Doğu Teknik Üniversitesi Psikoloji Yüksek Lisans öğrencisi Gizem Arıkan tarafından yürütülmektedir. Çalışmanın amacı, katılımcıların hayatlarında geçirdikleri olumsuz yaşam olayları ve travmaların etkisini incelemektir. Çalışmaya katılım tamimiyle gönüllülük temelinde olmalıdır. Ankette, sizden kimlik bilgilerinize yönelik hiçbir soru yer almamaktadır. Cevaplarınız tamimiyle gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecektir; elde edilecek bilgiler bilimsel yayımlarda kullanılacaktır.

Anket, genel olarak kişisel rahatsızlık verecek soruları içermemektedir. Ancak, katılım sırasında sorulardan ya da herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz cevaplama işini yarıda bırakıp çıkmakta serbestsiniz. Böyle bir durumda anketi uygulayan kişiye, anketi tamamlamadığınızı söylemek yeterli olacaktır. Anket sonunda, bu çalışmayla ilgili sorularınız cevaplanacaktır. Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz. Çalışma hakkında daha fazla bilgi almak için Gizem Arıkan'la (tel: 0533 367 1019 e-posta: gizemarikan@gmail.com) iletişim kurabilirsiniz.

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman yarıda kesip çıkabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayımlarda kullanılmasını kabul ediyorum. (Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

İsim Soyad Tarih İmza Alınan Ders

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APPENDIX B

Demographic Information Sheet
(Demografik Bilgi Formu)

Yaş:

Cinsiyet:

Fakülte:

Bölüm:

Sınıf:

Anne Eğitim Durumu: □ İlkokul□ Ortaokul □ Lise □Yüksekokul/Üniversite
Baba Eğitim Durumu: □ İlkokul□ Ortaokul □ Lise □ Yüksekokul/Üniversite

APPENDIX C

Trauma Checklist

(Travmatik Yaşam Olayları Listesi)

Aşağıda travmatik yaşam olaylarından bazıları verilmiş. Sizin başınıza gelenlerin yanına çarpı koyunuz. Listede ya da listedekilere benzer bir olay yaşamadıysanız ankete devam etmeyiniz.

	OLAYLAR	**(X)**	**OLAYLAR**		**(X)**
1	Bir afet yaşamak (deprem, sel, heyelan, çığ, yangın, patlama vb).	□	**16**	Fiziksel saldırıya ya da fiziksel şiddet olayına şahit olma	□
2	Ateş hattında, savaşın veya terörist eylemlerin olduğu bir yerde yaşamak	□	**17**	Bir kaza ya da şiddet olayında bir yakınını kaybetme	□
3	Bir terör eylemine şahit olma	□	**18**	Bir yakının ya da bir arkadaşın kendini öldürmesi veya intihar girişimi	□
4	Bir terör eyleminden zarar görme	□	**19**	Afette bir yakınını veya arkadaşını kaybetme	□
5	Çatışmaya girmek	□	**20**	Ciddi bir kazaya şahit olma	□
6	Silahlı ya da fiziksel saldırıya uğramak	□	**21**	Tanımadığın birinin fiziksel ya da cinsel şiddete maruz kaldığını görmek	□
7	Ebeveynlerin, ebeveynlerden birinden ya da bir akrabadan şiddet görmek	□	**22**	Bir yakının ya da bir aile üyesinin şiddete uğradığını görmek	□
8	Hırsızlık mağduru olmak (evin soyulması, arabanın soyulması veya çalınması, kapkaç)	□	**23**	Birinin öldürüldüğüne şahit olma	□
9	İşkence görmek	□	**24**	Ebeveynin boşanması	□

10	Aile içinde istismar (kötüye kullanım)	□	**25**	Aileden birinin ölümü	□
11	Ciddi bir kaza geçirmek ya da ciddi bir sağlık sorunu yaşamak	□	**26**	Aileden birinin ciddi bir kaza geçirmesi, hastalığı ya da sağlık sorunu	□
12	Tutuklanmak veya hapse girmek	□	**27**	Bir arkadaşın ciddi bir kaza geçirmesi ya da sağlık sorunu yaşaması	□
13	Tecavüze uğramak	□	**28**	Ebeveynlerin alkol ya da madde sorunu	□
14	Cinsel tacize uğramak veya cinsel ilişkiye zorlanmak	□	**29**	Kürtaj olmak	□
15	Kaçırılmak ya da zorla alıkonmak	□	**30**	Bunların dışında bir olay?_____ _____	□

Yukarıda travmatik olaylardan <u>sizi en çok etkileyenini</u> seçin ve soruları bu olayı düşünerek cevaplayınız.

31. Sizi en çok etkileyen olayın adı veya numarası_____

32. Olay ne kadar önce başınıza geldi?

(1) 6ay-1yıl önce (2) 2-4 yıl önce (3) 5-7 yıl önce (4) 8-10 yıl önce

33. Olay kaç kez başınıza geldi?

(1) 1kez (2) 2-3 kez (3) 4-5 kez (4) 6-10 kez (5) 10'dan daha fazla defa

34. Olay sizin ne kadar çaresizlik ve dehşet duymanıza neden oldu?

(1) Az (2) Orta (3) Çok

35. Olayı isteseydiniz engelleyebilir miydiniz? Evet / Hayır

APPENDIX D

Posttraumatic Growth Inventory

(Travma Sonrası Gelişim Ölçeği)

Aşağıdaki her cümleyi dikkatle okuyunuz ve belirtilen yukarıda seçmiş olduğunuz travmayı bağlı olarak yaşamınızdaki değişikliğin sizin için ne derece gerçekleştiğini aşağıdaki ölçeği kullanarak belirtiniz.

0 = Travmadan dolayı böyle bir değişiklik yaşamadım

1 = Travmadan dolayı bu değişikliği çok az yaşadım

2 = Travmadan dolayı bu değişikliği az derecede yaşadım

3 = Travmadan dolayı bu değişikliği orta derecede yaşadım

4 = Travmadan dolayı bu değişikliği oldukça fazla derecede yaşadım

5 = Travmadan dolayı bu değişikliği aşırı derecede yaşadım

	0	**1**	**2**	**3**	**4**	**5**
1. Hayatıma verdiğim değer arttı.						
2. Hayatımın kıymetini anladım.						
3. Yeni ilgi alanları geliştirdim.						
4. Kendime güvenim arttı.						
5. Manevi konuları daha iyi anladım.						
6. Zor zamanlarda başkalarına güvenebileceğimi anladım.						
7. Hayatıma yeni bir yön verdim.						
8. Kendimi diğer insanlara daha yakın hissetmeye başladım.						
9. Duygularımı ifade etme isteğim arttı.						
10. Zorluklarla başa çıkabileceğimi anladım.						
11. Hayatımı daha iyi şeyler yaparak geçirebileceğimi anladım.						
12. Olayları olduğu gibi kabullenmeyi öğrendim.						

13. Yaşadığım her günün değerini anladım.						
14. Yaşadığım olaydan (travma) sonra benim için yeni fırsatlar doğdu.						
15. Başkalarına karşı şefkat hislerim arttı.						
16. İnsanlarla ilişkilerimde daha fazla gayret göstermeye başladım.						
17. Değişmesi gereken şeyleri değiştirmek için daha fazla gayret göstermeye başladım.						
18. Dini inancım daha da güçlendi.						
19. Düşündüğümden daha güçlü olduğumu anladım.						
20. İnsanların ne kadar iyi olduğu konusunda çok şey öğrendim.						
21. Başkalarına ihtiyacım olabileceğini kabul etmeyi öğrendim.						

APPENDIX E

Relationship Scales Questionnaire

(İlişki Ölçekleri Anketi)

Aşağıda yakın duygusal ilişkilerinizde kendinizi nasıl hissettiğinize ilişkin çeşitli ifadeler yer almaktadır. Yakın duygusal ilişkilerden kastedilen arkadaşlık, dostluk, romantik ilişkiler ve benzerleridir. Lütfen her ifadeyi bu tür ilişkileriniz düşünerek okuyun ve her bir ifadenin sizi ne ölçüde tanımladığını aşağıdaki 7 aralıklı ölçek üzerinde değerlendirerek, her ifade için ayrılan parantezlere yazınız.

1----------2----------3----------4----------5----------6----------7

Beni hiç tanımlamıyor	Beni kısmen tanımlıyor	Tamamıyla beni tanımlıyor

( ) 1. Başkalarına kolaylıkla güvenmem.
( ) 2. Kendimi bağımsız hissetmem benim için çok önemli.
( ) 3. Başkalarıyla kolaylıkla duygusal yakınlık kurarım.
( ) 4. Bir başka kişiyle tam anlamıyla kaynaşıp bütünleşmek isterim.
( ) 5. Başkalarıyla çok yakınlaşırsam incitileceğimden korkuyorum.
( ) 6. Başkalarıyla yakın duygusal ilişkilerim olmadığı sürece oldukça rahatım.
( ) 7. İhtiyacım olduğunda yardıma koşacakları konusunda başkalarına her zaman güvenebileceğimden emin değilim.
( ) 8. Başkalarıyla tam anlamıyla duygusal yakınlık kurmak istiyorum.
( ) 9. Yalnız kalmaktan korkarım.
( ) 10. Başkalarına rahatlıkla güvenip bağlanabilirim.
( ) 11. Çoğu zaman, romantik ilişkilerde olduğum insanların beni gerçekten sevmediği konusunda endişelenirim.

( ) 12. Başkalarına tamamıyla güvenmekte zorlanırım.
( ) 13. Başkalarının bana çok yakınlaşması beni endişelendirir.
( ) 14. Duygusal yönden yakın ilişkilerim olsun isterim.
( ) 15. Başkalarının bana dayanıp bel bağlaması konusunda oldukça rahatımdır.
( ) 16. Başkalarının bana, benim onlara verdiğim kadar değer vermediğinden kaygılanırım.
( ) 17. İhtiyacınız olduğunda hiç kimseyi yanınızda bulamazsınız.
( ) 18. Başkalarıyla tam olarak kaynaşıp bütünleşme arzum bazen onları ürkütüp benden uzaklaştırıyor.
( ) 19. Kendi kendime yettiğimi hissetmem benim için çok önemli.
( ) 20. Birisi bana çok fazla yaklaştığında rahatsızlık duyarım.
( ) 21. Romantik ilişkide olduğum insanların benimle kalmak istemeyeceklerinden korkarım.
( ) 22. Başkalarının bana bağlanmamalarını tercih ederim.
( ) 23. Terk edilmekten korkarım.
( ) 24. Başkalarıyla yakın olmak beni rahatsız eder.
( ) 25. Başkalarının bana, benim istediğim kadar yakınlaşmakta gönülsüz olduklarını düşünüyorum.
( ) 26. Başkalarına bağlanmamayı tercih ederim.
( ) 27. İhtiyacım olduğunda insanları yanımda bulacağımı biliyorum.
( ) 28. Başkaları beni kabul etmeyecek diye korkarım.
( ) 29. Romantik ilişkide olduğum insanlar, genellikle onlarla, benim kendimi rahat hissettiğimden daha yakın olmamı isterler.
( ) 30. Başkalarıyla yakınlaşmayı nispeten kolay bulurum.

APPENDIX F

Attachment Style Quesionnaire

(Bağlanma Stili Ölçeği)

Aşağıdaki ilişkilerde kişinin kendini nasıl hissettiği ile ilgili ifadeler bulunmaktadır. Her bir ifadelerin sizi ne kadar tanımladığını aşağıda verilen cetvele göre seçiniz.

1	2	3	4	5	6
Hiç katılmıyorum	Katılmıyorum	Biraz katılmıyorum	Biraz katılıyorum	Katılıyorum	Tamamen katılıyorum

İFADELER	1	2	3	4	5	6
1. Genel olarak değerli bir insan olduğumu düşünüyorum.						
2. Diğer insanlara göre daha kolay anlaşılabilen biriyimdir.						
3. İhtiyacım olduğunda, çevremdekilerin yanımda olacağına eminim.						
Başkalarına güvenmektense, kendime güvenmeyi tercih ederim.						
4. Kendimle ilgili bilgileri başkalarıyla paylaşmamayı tercih ederim.						
5. Yardım istemek, başarısız olduğunu kabullenmektir.						
6. İnsanların kıymeti başarılarıyla değerlendirilmelidir.						

7. Bir şeyler başarmak, çevremdekilerle ilişki kurmaktan çok daha önemlidir.						
8. Elimden gelenin en iyisini yapmaya çalışmak, insanlarla geçinmemden daha önemlidir.						
9. Yapacak bir işiniz varsa, bu işte kimin zarar göreceğine aldırmadan yapmanız gerekir.						
10. Başkalarının beni sevmesi benim için önemlidir.						
11. Başkalarının hoşlanmayacağı şeyleri yapmaya çalışmak, benim için önemlidir.						
12. Başkalarının ne düşündüğünü bilmeden bir karar vermem benim için zordur.						
13. Genellikle çevremdeki insanlarla ilişkilerim yüzeyseldir.						
14. Bazen hiçte iyi olmadığımı düşünürüm.						
15. Başkalarına güvenmeyi zor bulurum.						
16. Başkalarına bağımlı kalmak, benim için zordur.						

1	2	3	4	5	6
Tamamen katılmı	Katılmıyorum	Biraz katılmıyorum	Biraz katılıyorum	Katılıyorum	Tamamen katılıyorum

İFADELER	1	2	3	4	5	6
18.İnsanların bana istediğim kadar yakınlık kurmadıklarının farkındayım.						
19.İnsanlara yakınlaşmayı kolay bulurum.						
20.Başkalarına güvenebilirim.						
21.Başkalarından destek aldığımda, kendimi rahat hissederim.						
22. Başkalarının, benim onları umursamadığım kadar beni umursamayacaklarından endişe ederim.						
23.İnsanların bana çok yakınlaşmasından endişe duyarım.						
24. Başkalarının beklentilerini karşılayamayacağımdan endişe duyarım.						
25.Diğerlerine yakın olma konusunda karmaşık duygularım var.						
26.Başkalarına yakın olmak istememe rağmen, bu konuda kendimi rahat hissetmem.						
27. Diğer insanların bana yakın olma isteği beni şaşırtır.						
28.Yakın bir ilişkimin olması benim için çok önemlidir.						
29.İlişkilerim konusunda çok edişelenirim.						

30.Beni seven kimsem olmadığında, hayattaki zorluklarla nasıl baş edebileceğimi bilemiyorum.						
31.Başkalarıyla ilişki kurma konusunda kendime güvenirim.						
32.Sıklıkla dışlandığım veya yalnız olduğum hissine kapılırım.						
33.Sık sık diğer insanlarla gerçekten uyumlu olmadığım konusunda endişelenirim.						
34. Diğer insanların kendi sorunları vardır. Bu nedenle onları kendi problemlerimle rahatsız etmem.						
35.Başkalarıyla sorunlarım hakkında konuşurken, genellikle utanırım ve kendimi aptal gibi hissederim.						
36.Diğer işlerimle çok meşgul olduğum için, ilişkilere çok vakit ayıramam.						
37.Herhangi bir şeye canım sıkıldığında, çevremdekiler genellikle bunu fark eder ve ilgilenirler.						
38.Başka insanların benden hoşlanıp bana saygı duyacağından eminim.						
39.İhtiyacım olduğunda, başkalarını yanımda bulamazsam sinirlenirim.						
40.Başkaları sıklıkla beni hayal kırıklığına uğratır.						

APPENDIX G

Ways of Coping Questionnaire

(Başetme Yolları Ölçeği)

Aşağıda insanların sıkıntılarını gidermek için kullanabilecekleri bazı yollar belirtilmektedir. Cümlelerin her birini dikkatlice okuduktan sonra, kendi sıkıntılarınızı düşünerek, bu yolları hiç kullanmıyorsanız hiçbir zaman, kimi zaman kullanıyorsanız bazen, çok sık kullanıyorsanız her zaman seçeneğini belirtiniz. Verilen maddeleri aşağıdaki aşağıdaki ölçeği kullanarak değerlendiriniz.

1	**2**	**3**
Hiçbir zaman	Bazen	Her zaman

	1	**2**	**3**
1. Aklımı kurcalayan şeylerden kurtulmak için değişik işlerle uğraştım.			
2. Bir mucize olmasını bekledim.			
3. İyimser olmaya çalıştım.			
4. Çevremdeki insanlardan sorunlarımı çözmemde bana yardımcı olmalarını bekledim.			
5. Bazı şeyleri büyütmeyip üzerinde durmamaya çalışırım.			
6. Sakin kafayla düşünmeye ve öfkelenmemeye çalışırım.			
7. Durumun değerlendirilmesini yaparak en iyi kararı vermeye çalıştım.			
8. Ne olursa olsun direnme ve mücadele etme gücünü kendimde hissederim.			
9. Olanları unutmaya çalıştım.			
10. Başa gelen çekilir diye düşündüm.			
11. Durumun ciddiyetini anlamaya çalıştım.			
12. Kendimi kapana sıkışmış hissederim.			

13. Duygularımı paylaştığım kişilerin bana hak vermesini istedim.			
14. “Her işte bir hayır var” diye düşünürüm.			
15. Dua ederek Allah’tan yardım diledim.			
16. Elimde olanlarla yetinmeye çalıştım.			
17. Olanları kafama takıp sürekli düşünmekten kendimi alamadım.			
18. Sıkıntılarımı içimde tutmaktansa paylaşmayı tercih ederim.			
19. Mutlaka bir çözüm yolu bulabileceğime inanıp bu yolda uğraştım.			
20. “İş olacağına varır” diye düşündüm.			
21. Ne yapacağıma karar vermeden önce arkadaşlarımın fikrini aldım.			
22. Kendimde her şeye yeniden başlayacak gücü buldum.			
23. Olanlardan olumlu bir şeyler çıkarmaya çalıştım.			
24. Bunun alın yazım olduğunu ve değişmeyeceğini düşündüm.			

1	2	3
Hiçbir zaman	Bazen	Her zaman

	1	2	3
25. Sorunlarıma farklı çözüm yolları aradım.			
26. "Olanları keşke değiştirebilseydim" diye düşündüm.			
27. Hayatla ilgili yeni bir bakış açısı geliştirmeye çalıştım.			
28. Sorunlarımı adım adım çözmeye çalıştım.			
29. Her şeyin istediğim gibi olmayacağını düşünüyorum.			
30. Dertlerimden kurtulayım diye fakir fukaraya sadaka verdim.			
31. Ne yapacağımı planlayıp ona göre davrandım.			
32. Mücadele etmekten vazgeçtim.			
33. Sıkıntılarımın kendimden kaynaklandığını düşündüm.			
34. Olanlar karşısında "Kaderim buymuş" dedim.			
35. "Keşke daha güçlü bir insan olsaydım" diye düşündüm.			
36. "Benim suçum ne" diye düşündüm.			
37. "Allah'ın takdiri buymuş deyip" kendi kendimi teselli etmeye çalıştım.			
38. Temkinli olmaya ve yanlış yapmamaya çalıştım.			
39. Çözüm için kendim bir şeyler yapmak istedim.			
40. Hep benim yüzümden oldu diye düşündüm.			
41. Hakkımı savunmaya çalıştım.			
42. Bir kişi olarak olgunlaştığımı ve iyi yönde geliştiğimi hissettim.			