

## Sense of Coherence as a Predictor of Posttraumatic Growth

### *Travma Sonrası Büyümenin Bir Yordayıcısı Olarak Bütünlük Duygusu*

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#### Abstract

Although it is known that trauma can cause serious mental disorders such as posttraumatic stress disorder, it is also emphasized that it may cause a positive change in the individual for the last 25 years. This positive change is generally referred as 'posttraumatic growth'. Recent studies related to posttraumatic growth focus on the factors that can be affective on growth. Although there are very few studies conducted, sense of coherence is one of the most recent concepts in terms of its correlation with posttraumatic growth. The aim of this review was to discuss the effect of sense of coherence on post-traumatic growth with emphasis on current literature.

**Keywords:** Trauma, posttraumatic growth, sense of coherence

#### Öz

Travmanın, travma sonrası stres bozukluğu gibi ciddi ruhsal hastalıklara yol açtığı bilinmesine rağmen son 25 yıldır, bireyde olumlu bir değişime neden olabileceği üzerinde de durulmaktadır. Bu olumlu değişim günümüzde genellikle, "travma sonrası büyüme" terimi ile adlandırılmaktadır. Literatürde son dönemde travma sonrası büyüme ile ilgili yapılan araştırmalarda, genellikle büyüme üzerinde etkili olabilecek faktörler üzerine odaklanıldığı görülmektedir. Oldukça az sayıda araştırma yapılmasına rağmen, travma sonrası büyümede etkili olup olmadığı ilgi konusu olan en güncel kavramlardan biri ise, bütünlük duygusudur. Bu derlemenin amacı bütünlük duygusunun travma sonrası büyümeye etkisini güncel literatür ışığında tartışmaktır.

**Anahtar sözcükler:** Travma, travma sonrası büyüme, bütünlük duygusu.

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**TRAUMA** is a term which varies conceptually throughout history and of which development process continues (Çolak et al. 2010). When looking at the current definition of trauma, it is described as cases that harm physical and mental health seriously as a result of encountering an unexpected sudden death, severe injury or sexual assault which are not possible to overcome through existing coping skills (American Psychiatric Association 2013).

Various mental symptoms like anxiety, depressive mood and adjustment disorders can be observed at an individual who suffered a trauma (Johansen et al. 2006, Teodorescu et al. 2012, Can et al. 2013). Posttraumatic stress disorder which shows indications like disassociation, depersonalization and derealization in both short and long term and harms functionality of the individual significantly, is the most argued disorder caused by a trauma among other disorders (Breslau 2002, Johansen et al. 2006, American Psychiatric Association 2013, Güloğlu and Kararmak 2013).

Although it is known that trauma can cause serious mental disorders such as posttraumatic stress disorder, it is also emphasized that it may cause a positive change in the individual for the last 25 years (Tedeschi et al. 2007). In fact, the roots of this belief lay in very old resources. It is reported that the idea of suffering provides gaining wisdom and integrity exists in ancient Greek mythology and existing religions with lots of followers like Islam, Judaism, Christianity, Buddhism and Hinduism (Calhoun and Tedeschi 2006). That positive transformation which is also mentioned in ancient resources is conceptualized via terms like “positive psychological change”, “perceived benefit”, “discovering the meaning”, “stress-caused development” and started to emerge in literature (Tedeschi and Calhoun 2004; Karanci and Erkam 2007).

It is necessary to highlight the effects of trauma on an individual prior to attempts to explain posttraumatic growth. Trauma damages individual’s known and usual world perspective. Rapid and unexpected changes in perceived world lead to an intense stress and emergence of mental disorders (Tedeschi et al. 2007). The individual experiences stress also during posttraumatic growth just like they experience stress during many psychological disorders (Tedeschi and Calhoun 2004, Tedeschi et al. 2007).

Posttraumatic growth is not provided by not experiencing any stress but by questioning the perceived world which is shaken by the trauma. The event is not exactly what is being questioned by the individual during posttraumatic growth. Posttraumatic growth after unrelated experiences like loss (Thomadaki 2017), physical illness (Brix et al. 2013), war (Mahdi et al. 2014), migration (Teodorescu et al. 2012), and incurring sexual abuse during childhood (Easton et al. 2013) is reported (Tedeschi and Calhoun 2004). At this point, trauma itself is not the reason of growth but effort of individual in order to re-interpret the life and to change existing beliefs and perspective. Individual experiences a unique internal process during posttraumatic growth and changes its behaviors through this ongoing process (Tedeschi and Calhoun 2004, Tedeschi et al. 2007).

The real factor leading to behavioral change during this unique and nonesuch journey is the activation of cognitive processes through stress. During the early stages of trauma, the individual finds itself doing intrusive rumination about the traumatic incident and the situation it is in, although it did not will to do. Throughout this stage, negative and nonfunctional thoughts and imaginations come to mind inevitably. However, in the following stages, reflective rumination replacing intrusive rumination

makes posttraumatic growth possible. (Tedeschi and Calhoun 2004).

Reflective rumination has a distinctive characteristic from intrusive rumination which occurs during psychological disorders like depression and damages the mental state of a person (Tedeschi and Calhoun 2004). Reflective rumination is an intentional thinking structure used by the person in order to understand the incident and its consequences, solve a problem, build a memory, provide foresight and give meaning to life. Such a structure provides an opportunity to transform basic beliefs and to rearrange the life story of the individual (Tedeschi and Calhoun 2004, Haselden 2014).

It is important to include the traumatic incident into the story of one's life within a cognitive coherence after perceiving it as an event dividing the life into two periods (Pre-traumatic and post traumatic periods). Starting to perceive the traumatic incident as an understandable and manageable fact by integrating it to the story of life, leads the individual to perceive itself as a survivor instead of a victim (Calhoun and Tedeschi 2006, Haselden 2014).

The individual experiences various cognitive processes towards defining himself as a survivor during posttraumatic growth period. However, assuming posttraumatic growth as a merely cognitive process is one of the most common mistakes about the process. Comprehending the world intellectually and emotionally is essential for the individual in order to re-gain information and change its cognitions (Tedeschi et al. 2007).

There are many factors that are effective in an individual's intellectual and emotional comprehension of the world. Many factors such as individual's former personality, socio-cultural elements, life story of the individual, self-esteem, its relations with close ones and a positive perspective, have impact on posttraumatic growth (Tedeschi et al. 2007). For instance, expressing the feelings related to the trauma and feeling the acceptance of others without being judged will be easier for an individual who lives within a community of close human affairs and therefore posttraumatic growth will be more likely to occur for such an individual (Tedeschi and Calhoun 2004). Thinking of all these factors effecting, it is possible to see the fact that posttraumatic growth is exactly a personal journey which is not possible to be standardized (Calhoun and Tedeschi 2006).

During this personal journey is posttraumatic growth, the individual faces unique transformations in three main basic concepts; self-perception, interpersonal relations and life philosophy. An individual who manages to handle a hard situation like a trauma starts to perceive themselves as more sufficient and stronger. An increase in self-confidence leads the person to include new activities into their life and take significant steps towards a new way of life. The individual strengthens its self-confidence and at the same time realizes the vulnerability of himself. Acceptance of vulnerability provides safer steps towards survival (Calhoun and Tedeschi 2006, Haselden 2014).

When we examine the transformation in interpersonal relations changed by the posttraumatic growth, we observe increase in effort spent for relations, empathy shown and attachment. Thanks to empathy, one's awareness towards others' emotions and needs develops. People who have experienced trauma tend to help people especially those who have suffered trauma, too. Emotional sharing and intimacy between the people with whom the individual establishes intimacy and helping those who have struggle with life also contributes to individual's self recovery (Calhoun and Tedeschi 2006, Haselden 2014).

Posttraumatic growth leads to transformation of one's life philosophy. The most significant transformation is observed at priorities in life. For instance, money can be less important than family relations after posttraumatic growth. The individual may start to get more pleasure out of life by being grateful even for ordinary things and events. This individual also starts to look for meaning. They start to question the reasons of existence what meaning while questioning the traumatic incident. Such a questioning comes with a spiritual change. Although this change can result in being skeptical and believing less for some people, majority of people who experience posttraumatic growth start to believe more and deeper in spiritual and religious beliefs (Calhoun and Tedeschi 2006, Haselden 2014).

In addition to all these explanations in literature, there are also who claim that posttraumatic growth may be just an "illusion" but not a real transformation (Tedeschi and Calhoun 2004, Tedeschi et al. 2007, Sumalla et al. 2009, Sarısoy 2012). The term "illusion" refers to trying to perceive the life more positively for self-protection, although there is not a real transformation occurred. The most significant reason for that skeptical approach is the fact that measuring instruments for growth are subjective and growth cannot be confirmed by outside observers (Tedeschi and Calhoun 2004, Tedeschi et al. 2007, Sarısoy 2012).

Another important point related to measuring instruments is the necessity to measure the growth by measuring instruments developed to measure merely the growth, because positiveness of some things does not always mean growth. For example, wakeless sleeps of a person of whom sleeps were interrupted by nightmares repeatedly, are not evidences of a growth. Because of such reasons, developing measuring instruments formed on the main theme of posttraumatic growth and that allow outside observers to detect and determine the growth will help the researchers to gather true data on the subject (Tedeschi and Calhoun 2004, Tedeschi et al. 2007, Sarısoy 2012).

It is thought that in addition to use of valid and reliable measuring instruments, examining the factors that have impact on posttraumatic growth will contribute a lot to researches. For this purpose this compilation is written in order to provide information about sense of coherence which is thought to have an impact on posttraumatic growth, and to explain the relationship between these two concepts.

## Salutogenesis

World Health Organization described health as a state of complete physical, mental and social well being and not merely the absence of disease or infirmity (WHO 1970). Thanks to the new definition, the world started to adopt "biopsychosocial" model giving up "biomedicine" model which separates physical and mental health and try to treat the patients perceiving them as passive object (Aksoy 2017, Bağ 2017).

Antonovsky directs a criticism towards biopsychosocial medicine approach claiming that it is influenced by biomedicine. He states that although biopsychosocial medicine examines the individual in a psychological and social way, it cannot provide permanent recovery as it is individual and treatment focused. Following this criticism, in 1979, he explained salutogenesis model which focuses on enhancing health instead of struggling against disease (Bağ 2017). Etymologically, the word salutogenesis is the compounding of the words "salus" and "genesis" and it means "emergence of health" or "roots of

health". Salutogenesis is derived as the opposite of the word "pathogenesis" which means the "emergence of disease" (Bağ 2017).

Antonovsky offered the term "salutogenesis" after a study he had conducted. In his research he conducted with women who had witnessed Nazi concentration camps, he revealed that 29% of the women remained healthy despite loss of husband, loss of arm/leg and experiencing serious illnesses. He started to think about how those women remained healthy despite such tough experiences (Eriksson 2016). Antonovsky inferred that life of the individuals consists of two axes; health and illness and they move between those axes. He concluded that an individual experiences stress because of genetic, economical, social, micro-biological, personal, cultural and geo-political reasons and when they cannot overcome such stress factors, the individuals move towards illness axis (Volanen 2011, Bağ 2017).

Antonovsky, who perceives all life events and changes as stressors, focuses on handling stress instead of controlling the stressful events. Antonovsky also claims that efforts spent to overcome stressful events strengthen the individual in long-run in addition to the fact that stressful events affects health (Lindström and Eriksson 2006, Eriksson 2016).

In short, mentioning both internal and external resources, Antonovsky focuses on how one can move towards health. Then he explains the concepts that underpin salutogenesis model; generalized resistance resources and sense of coherence (Lindström and Eriksson 2006, Eriksson 2016).

## **Generalized Resistance Resources**

Primarily it is beneficial to describe a term from the salutogenesis model; "Lack of Generalized Resistance" in order to understand generalized resistance resources. Lack of generalized resistance consists of all the conditions that inhibit the individual to fight against the stressors. Lack of generalized resistance can be caused by internal or external sources. Psychological breakdowns can be an example of lack of internal general resistance while financial difficulties can be given as an example for lack of external general resistance (Bağ 2017).

Generalized resistance resources are all the resources of an individual that make people's lives structured, consistent and comprehensible. Money, knowledge, experience, self-respect, healthy life activities, social support, traditions, having different perspective towards challenging situations and sense of responsibility are some examples of generalized resistance resources. Having such resources increases the coping capacity. Ability to use these resources is even more important than having them. Generalized resistance resources form the main theme of a strong sense of coherence (Lindström and Eriksson 2006, Eriksson 2016).

## **Sense of Coherence**

Sense of coherence (SOC) includes understanding the existing situation, evaluating the conditions and finding meanings for improving health in these conditions for an individual by exploiting all the generalized resistance resources. Sense of coherence is the ability to control and manage the life regardless what happens. In other words, it is one's stance against life. It is a personal thinking strategy that makes the individual

understand the existence, take action, believe in itself, determine and use the resources. Antonovsky the most mentions the sense of coherence within salutogenesis model just like many other authors (Lindström and Eriksson 2006, Eriksson 2016, Bağ 2017).

Antonovsky points out three main components of sense of coherence:

1. **Comprehensibility:** It is the cognitive component of sense of coherence. It refers to an individual's ability to perceive the internal and external stimuli as predictable, structured and explainable.
2. **Manageability:** It is the behavioral component of sense of coherence. It refers to an individual's ability to be aware of and use the generalized resistance resources that the individual has.
3. **Meaningfulness:** It is the motivational component of sense of coherence. It refers to an individual's ability to perceive the difficulties as worthy for exploring and adjusting regardless of how hard to cope with those difficulties (Lindström and Eriksson 2006, Eriksson 2016, Bağ 2017).

Sense of coherence encourages the individual to live a meaningful life. It helps the people to find out what there can be and there mustn't be in life. Thanks to the search for meaning the individual can learn which purposes and goals can be beneficial when being focused on. Aiming to improve health will help people to remain on health axis (Lindström and Eriksson 2006, Eriksson 2016, Bağ 2017).

Antonovsky stated that sense of coherence is formed during the first 30 years of life and can be changed by only major life events (Volanen 2011). However, there are some who claims that sense of coherence is dynamic throughout all along the life cycle. Antonovsky's idea is arguable when we think that modern person gains independence, accumulates experience within social and interpersonal structures and learn what the significant life events are, in the first 40 years of their lives (Lindström and Eriksson 2006). Additionally, a research which indicates that sense of coherence can be changed through psychotherapy, an external intervention, is reported (Bağ 2017). It is offered that conducting prospective studies, especially experimental ones, can be beneficial in order to justify Antonovsky's idea (Volanen 2011, Bağ 2017).

Another debate about the subject is whether gender roles influence perceiving the life as manageable, comprehensible and meaningful. Antonovsky has not discussed the gender roles within sense of coherence but only mentioned that women from low income level and working class are the most likely risk group to have low sense of coherence (Volanen 2011). There is not an agreement in the literature on the subject. For instance, men scored higher sense of coherence scores in the study conducted by Volanen (2011) whereas women had higher scores of sense of coherence in Horiguchi et al.'s (2016) study. Therefore it is thought that examining the generalized resistance resources and sense of coherence in larger groups discussing the gender roles within cultural context, can be helpful.

Antonovsky also tells that sense of coherence can be applied and measured within group or social level (Lindström and Eriksson 2006). In the literature, there is a Sense of Coherence Scale consisting of 29 statements and also a shorter form consisting of 13 statements developed by Antonovsky. Translation and adaptation of the short version into Turkish is done by Scherler and Lajunen (1997). In both long and short versions of the scale each statement is scored from 1 to 7 and the higher scores refer to higher levels of sense of coherence (Eşitmez 2014, Bağ 2017).

In addition to mentioned scale, there is also a Family Sense of Coherence Scale which was originally developed by Antonovsky and Sourani (1988) as a 26-statements form and shortened into a 12-statements form by Sagy (1998) later. The validity check of the short version for Turkish was done by Çeçen (2007). Each statement is scored from 1 to 7 just like in the original form and again higher total scores refer to higher levels of family sense of coherence (Çeçen 2007).

Various studies that are conducted with existing sense of coherence scales can be found in national and international literature. We can see that there are many studies examining the sense of coherence since Antonovsky (1979), the founder of the model in international literature. In some of the studies, it is reported that sense of coherence contributes to some important health elements like; mental well-being (Nilsson et al. 2010), reduction of anxiety (Moksnes et al. 2013a), life satisfaction (Moksnes et al. 2013b), problem solving skills (Maciejczyk 2013) and self respect (Moksnes and Lazarewicz 2016).

Sense of coherence is started to be examined in 2007 in Turkish literature (Çeçen 2007). There are studies indicating a positive correlation between sense of coherence and positive mood state and life satisfaction (Öztekin 2008, Çeçen 2008) and a negative correlation between sense of coherence and depersonalization (Eşitmez 2008). There are also studies which indicate that family sense of coherence is a predictor of life satisfaction (Çeçen 2008), social and self labeling about receiving psychological help (Çamaş 2017) and problem solving behaviors (Turan 2015).

Antonovsky's theory was criticized for being confused with emotions and for its life-long validity not being clarified, although the theory attracted a lot of interest. Another criticism questions whether sense of coherence scale measures accurately. Because some factor analysis studies reported that sense of coherence scale is both one dimensional and also three sub-dimensional. Thus validity studies must be held more extensively is reported (Volanen 2011).

Despite all the criticism, the model remains popular thanks to its innovative abilities to leave illness based approach, to put the individual into center, to think the individual integrated with its environment and to focus on health (Volanen 2011).

## Posttraumatic Growth and Sense of Coherence

Most of the studies in current literature about posttraumatic growth focus on the factors that might have an impact on growth (Almedon 2005, Prati and Pietrantonio 2009, Karanci et al. 2012). Despite little amount of researches conducted, sense of coherence is one of the main topics to the extent of its impact on posttraumatic growth (Almedon 2005, Walsh 2011, Arya and Davidson 2015).

Antonovsky while constructing sense of coherence concept, has mentioned that stressors cannot be controlled thus it is more important to deal with the stress in order to remain healthy (Lindström and Eriksson 2006, Eriksson 2016). Acceptance of the trauma (stressor) caused by uncontrollable factors and handling the negative effects of that trauma (stressor) as Antonovsky has mentioned too, is the point to be underlined (Calhoun and Tedeschi 2006, Tedeschi et al. 2007, Aguirre 2008, Haselden 2014, Eriksson 2016).

Reflective rumination is the most significant cognitive activity that provides the acceptance during posttraumatic growth. Rumination, realized to understand the trauma

and its consequences, leads to including the traumatic incident into the life story and to perceive the life more comprehensive and manageable (Calhoun and Tedeschi 2006, Haselden 2014).

Comprehensiveness and manageability are two important components of sense of coherence. Tedeschi and Calhoun who have been trying to place posttraumatic growth onto a scientific base, state that sense of coherence may be a predictor of posttraumatic growth as it helps individuals to understand the conditions, cope with them and find meanings related to life (Tedeschi and Calhoun 2004).

Walsh's (2011) findings are opposing to the idea that Tedeschi and Calhoun offered. In his study, a negative correlation between posttraumatic growth and comprehensibility dimension of sense of coherence and an insignificant relation between posttraumatic growth and manageability dimension of sense of coherence were found. Opposing to Walsh's findings, positive significant correlations between posttraumatic growth and both comprehensibility and manageability dimensions of sense of coherence were reported in the study held with individuals with different trauma by Arya and Davidson (2015). In addition, Aguirre (2008) states that comprehensibility and manageability dimensions of sense of coherence contribute to posttraumatic growth according to his research.

The individual who starts to perceive the life more comprehensive and manageable also tries to make life more meaningful (Calhoun and Tedeschi 2006, Haselden 2014). The pain caused by the traumatic incident can be overcome only when the individual interprets that pain. Life events like traumas can change the meaning of life but the meaning never will vanish completely unless the individual allows. The object of the question of how to find meaning in life is the individual himself. The mankind is the only entity that has the ability to turn the challenging situation into success. The individual who tries to find meaning and achieve success experiences a transformation in his attitudes (Frankl 2014).

The individual, who begins a quest of finding meaning during posttraumatic growth, transforms his attitudes about deploying priorities in life. Transformation of ordinary things (survival, dining with family) into priorities increases the gratefulness to life (Calhoun and Tedeschi 2006, Haselden 2014). Also, interpersonal interactions are reported to be helpful for give meaning to pain (Frankl 2014). The individual can help himself and also others if he can start to search for meaning integrating himself with others. Helping others helps the individual in finding meaning in life as helping others contributes to goodness and integrity (Yalom 1999). This is thought to be the reason why people who experienced a trauma are eager to help others especially those who experienced similar traumas (Calhoun and Tedeschi 2006, Haselden 2014).

Coping with the traumatic incident also increases self confidence. The individual who managed to cope with a challenging incident like a trauma starts to perceive himself as more sufficient and stronger. An increase in self confidence supports the attempts of the person to define new goals and take serious steps in order to give meaning to life (Calhoun and Tedeschi 2006, Haselden 2014). Yalom, one of the most important representatives of existentialist theory, states that having ideals and goals related to life contributes to search for meaning (Yalom 1999).

The individual experiencing posttraumatic growth tries to find an answer to what the meaning of life is, one of the most difficult and complex questions in life, despite



the trauma (Yalom 1999). Meaningfulness, a sub-dimension of sense of coherence, serves individual to find the answer of that question. Antonovsky was defined meaningfulness as a motivational strength. He mentioned a person who has sense of coherence finds the difficulties worthy for examining and integrating them even if he had struggling coping with these difficulties (Lindström and Eriksson 2006, Eriksson 2016, Bağ 2017).

There are studies which question whether there is a correlation between posttraumatic growth and meaningfulness which is a sub-dimension of sense of coherence. While no correlation between those two were found in Walsh's study (2011), studies conducted by Aguirre (2008) and Arya and Davidson (2015) found a significant positive correlation between the same variables and they reported that meaningfulness sub-dimension of sense of coherence contributes to posttraumatic growth.

This paper is written with the opinion that sense of coherence which leads the individual to exist, take action, believe in himself and utilize the resources, may be a strong predictor of posttraumatic growth which provides staying strong despite a challenging incident (Lindström and Eriksson 2006, Eriksson 2016, Bağ 2017). While there are a few studies examining the relation between those two concepts in the international literature (Aguirre 2008, Walsh 2011, Arya and Davidson 2015) no studies were found on the same subject in national literature.

It is not possible to define a certain relation between sense of coherence and posttraumatic growth for now, since there are not sufficient researches conducted. More data and information accumulation related to posttraumatic growth and sense of coherence is needed for more accurate and correct comments (Walsh 2011). Each factor that may help the people overcome the trauma even with growing should be examined in detail as the amount of people who experience trauma is increasing (Özen 2017). Within this context, the relation between posttraumatic growth and sense of coherence can be offered to be studied with descriptive designed researches. Besides, examining the impact of external interventions like psychotherapy on these concepts may contribute to information and data accumulation.

## References

- Aguirre MG (2008) An examination of the role of meaning in posttraumatic growth following bereavement (Doktora tezi). Alabama, Auburn University.
- Aksoy DY (2017) Tıp ve güven: klasik ve alternatif perspektifler (Doktora tezi). Ankara, Ankara Üniversitesi.
- Almedon AM (2005) Resilience, hardness, sense of coherence, and posttraumatic growth: all paths leading to "light at the end of the tunnel"? *J Loss Trauma*, 10: 253-265.
- American Psychiatric Association (2013) Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). Arlington, VA, American Psychiatric Association.
- Arya B, Davidson C (2015) Sense of coherence as a predictor of post traumatic growth. *Indian Journal of Health & Wellbeing*, 6:634-636.
- Bağ B (2017) Ruh sağlığı ve psikiyatri hemşireliğinde salutogenez modeli. *Psikiyatride Güncel Yaklaşımlar*, 9:284-300.
- Breslau N (2002) Gender differences in trauma and posttraumatic stress disorder. *J Gend Specif Med*, 5:34-40.
- Brix SA, Bidstrup PE, Christensen J, Rottmann N, Olsen A, Tjønneland A et al. (2013) Post-traumatic growth among elderly women with breast cancer compared to breast cancer-free women. *Acta Oncol*, 52:345-354.
- Calhoun LG, Tedeschi RG (2006) The foundations of posttraumatic growth: An expanded framework. In *The Handbook of Posttraumatic Growth: Research and Practice*, (Eds LG Calhoun, RG Tedeschi):1-23. Mahwah, Lawrence Erlbaum Associates.
- Can İÖ, Uyaniker ZD, Ulaş H, Karabağ G, Cimilli C, Salaçin S (2013) Travma mağdurlarında ruhsal travma bulguları. *Noro Psikiyatr Ars*, 50:230-236.

- Çamaş G (2017) Üniversite öğrencilerinde psikolojik yardıma ilişkin damgalama düzeylerinin öz yeterlik, aile bütünlük duygusu ve sosyal destek ile ilişkisi (Yüksek lisans tezi). Ankara, Ankara Üniversitesi.
- Çeçen AR (2007) Aile bütünlük (tutarlılık) duygusu ölçeği (ABDÖ-K) kısa formunun Türkçe'ye uyarlanması: geçerlik ve güvenilirlik çalışmaları. Kuram ve Uygulamada Eğitim Bilimleri, 7:1119-1220.
- Çeçen AR (2008) Üniversite öğrencilerinde yaşam doyumunu yordamada bireysel bütünlük (tutarlılık) duygusu, aile bütünlük duygusu ve benlik saygısı. Eğitimde Kuram ve Uygulama, 4:19-30.
- Çolak B, Korkucan A, Özsan HH (2010) DSM'ler boyunca travma kavramının seyri. Kriz Dergisi, 18:19-25.
- Easton SD, Coohy C, Rhodes AM, Moorthy MV (2013) Posttraumatic growth among men with histories of child sexual abuse. Child Maltreat, 18:211-220.
- Eriksson M (2016) The sense of coherence in the salutogenic model of health. In The Handbook of Salutogenesis (Eds MB Mittelmark, S Sagy, M Eriksson, GF Bauer, JM Pelikan, B Lindström, G Espnes):91-96. Cham, Springer International.
- Eşitmez G (2014) Yoğun bakımda çalışan hemşirelerde bireysel bütünlük duygusu ve tükenmişlik düzeyleri arasındaki ilişki (Yüksek lisans tezi). Aydın, Adnan Menderes Üniversitesi.
- Frankl EF (2014) İnsanın Anlam Arayışı (Çeviri Ed. S Budak). İstanbul, Okuyan Us Yayınevi.
- Güloğlu B, Kararımkak Ö (2013) Güneydoğu gazilerinde travma sonrası stres bozukluğu gelişimi. Anadolu Psikiyatri Derg, 14:237-244.
- Haselden M (2014) Üniversite öğrencilerinde travma sonrası büyümeyi yordayan çeşitli değişkenlerin Türk ve Amerikan kültürlerinde incelenmesi: bir model önerisi (Doktora tezi). Ankara, Hacettepe Üniversitesi.
- Horiguchi M, Tanaka G, Ogasawara H, Maruyama R (2016) Gender-based relationship between eating behavior and sense of coherence in Japanese young adults. Soc Behav Pers, 44:45-58.
- Johansen VA, Wahl AK, Eilertsen DE, Hanestad BR, Weisaeth L (2006) Acute psychological reactions in assault victims of non-domestic violence: peritraumatic dissociation, post-traumatic stress disorder, anxiety and depression. Nord J Psychiatry, 60:452-462.
- Karanci AN, Erkam A (2007) Variables related to stress-related growth among Turkish breast cancer patients. Stress Health, 23:315-322.
- Karanci AN, Işıklı S, Aker AT, Gül Eİ, Erkan BB, Özkol H et al. (2012) Personality, posttraumatic stress and trauma type: factors contributing to posttraumatic growth and its domains in a Turkish community sample. Eur J Psychotraumatol, 3:1-14.
- Lindstrom B, Eriksson M (2006) Contextualising salutogenesis and antonovsky in public health development. Health Promot Int, 3: 238-244.
- Maciejczyk J, Liszka P (2013) Sense of coherence and stress-coping strategies in officers of different police force divisions. Pol J Aviat Med Psychol, 19:37-48.
- Mahdi HK, Prihadi K, Hashim S (2014) Posttraumatic growth and resilience after prolonged war: a study in Baghdad, Iraq International Journal of Evaluation and Research in Education, 3:197-204.
- Moksnes UK, Lazarewicz M (2016) The association between self-esteem and sense of coherence in adolescents aged 13-18 years- the role of sex and age differences. Pers Individ Dif, 90:150-154.
- Moksnes UK, Espnes GA, Haugan G (2013a) Stress, sense of coherence and emotional symptoms in adolescents. Psychol Health, 29:32-49.
- Moksnes UK, Lohre A, Espnes GA (2013b) The association between sense of coherence and life satisfaction in adolescents. Qual Life Res, 22:1331-1338.
- Nilsson KW, Leppert J, Simonsson B, Starrin B (2010) Sense of coherence and psychological well-being: improvement with age. J Epidemiol Community Health, 64:347-352.
- Özen Y (2017) Psikolojik travmanın insanlık kadar eski tarihi. The Journal of Social Science, 1:104-117.
- Öztekin C (2008) Cinsiyet, iç bütünlük ve fiziksel etkinliğin olumlu ve olumsuz duyu durumu üzerindeki rolü (Yüksek lisans tezi). Ankara, Orta Doğu Teknik Üniversitesi.
- Prati G, Pietrantonio L (2009) Optimism, social support, and coping strategies as factors contributing to posttraumatic growth: a meta-analysis. J Loss Trauma, 14: 364-388.
- Sansoy G (2012) Travma sonrası büyümenin derecesinin ve travma sonrası büyümeyi yordayan etkenlerin meme kanseri hastalarında incelenmesi (Yüksek lisans tezi). Ankara, Hacettepe Üniversitesi.
- Sumalla EC, Ochoa C, Blanco I (2009) Posttraumatic growth in cancer: reality or illusion?. Clin Psychol Rev, 29: 24-33.
- Tedeschi RG, Calhoun LG (2004) Post-traumatic growth: conceptual foundations and empirical evidence. Psychol Inquiry, 15: 1-18.
- Tedeschi RG, Calhoun LG, Cann A (2007) Evaluating resource gain: understanding and misunderstanding posttraumatic growth. Appl Psychol, 56: 396-406.

- Teodorescu DS, Siqveland J, Heir T, Hauff E, Wentzel-Larsen T, Lien L (2012) Posttraumatic growth, depressive symptoms, posttraumatic stress symptoms, post-migration stressors and quality of life in multi-traumatized psychiatric outpatients with a refugee background in Norway. *Health Qual Life Outcomes*, 10: 1-16.
- Thomadaki OO (2017) Bereavement, post-traumatic stress and post-traumatic growth: through the lenses of positive psychology. *Eur J Psychotraumatol*, 8: 1351220.
- Turan F (2015) Ailede bütünlük duygusunun ve eş desteğinin evlilikte problem çözme becerisini yordaması (Yüksek lisans tezi). Konya, Necmettin Erbakan Üniversitesi.
- Volanen SM (2011) Sense of coherence: determinants and consequences (Academic dissertation). Helsinki, University of Helsinki.
- Walsh S (2011) An exploration of the relationships between posttraumatic growth, sense of coherence and meaningfulness, in the South African context (Masters thesis). South Africa, University of the Witwatersrand.
- WHO (1970). WHO Definition of Health. Available from <http://www.who.int/> (Accessed at 21.12.2016).
- Yalom I (1999) Varoluşçu Psikoterapi (Çeviri Ed. Z İyidoğan Babayigit). İstanbul, Kabalıcı Yayınevi.

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