Posttraumatic stress disorder on Holocaust survivors and their offspring:

Mechanisms of trans-generational transmission of PTSD symptoms

Psychology Extended Essay
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Abstract

This Extended Essay investigated ***what are the most relevant psychological mechanisms leading to trans-generational transmission of PTSD symptomatology between Holocaust survivors and their offspring,*** by studying family-dynamic, socio-cognitive and biological mechanisms through which PTSD symptoms are transmitted between different generations. Furthermore, both the differences between Holocaust survivors' and their offspring's symptoms and the relevance of the transmission mechanisms in different contexts were introduced. The transmission mechanisms were evaluated by applying them to real-life situations and psychological theories, such as Alfred Bandura's Social Learning Theory.

This investigation is a scientific essay, which aims to answer the research question by using the information gathered from research literature, and thus no empirical research was conducted. The conclusion of this investigation was that there are high rates of PTSD transmission from parent to offspring, and parental PTSD increases offspring vulnerability for PTSD. The most relevant transmission mechanisms of PTSD seem to include the parent's emotional unavailability and biased trauma coping mechanisms, such as avoidance and emotional numbness, learned from the parent. Most of the literature from this area of study is focused on the long-term effects of trauma and PTSD, and at present there is not much research done concerning the short-term effects due to the late awakening of interest towards this subject. To fully understand the topic, attention must be paid to the historical context, for example the level of mental health care after the Holocaust, and the overall situation after the Second World War.

Word count: 242

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1 Introduction

Holocaust survivors (HS) are a massive group, among which the rate of posttraumatic stress disorder (PTSD) is very high, 50-60 % (Kuch & Cox, 1992, cited in Favaro, Rodella, Colombo & Santonastaso, 1999). The aim of this Extended Essay was to introduce the overall symptoms of PTSD, and the specific symptoms that appear among the first-generation HS and Holocaust[1] survivor offspring (HSO) by focusing on the mechanisms through which PTSD symptomology is transmitted between generations.

It is important to study this topic, because the HS are a large group, and the nature of the Holocaust offers an interesting background for research: the HS experienced brutal, unprecedented genocide, which makes them unique as a target group of research. HS's PTSD symptoms have some exceptional features along with the standard symptoms, which makes this area of study interesting. The symptoms and other features of the disorder introduced in this essay can help to understand the behavior of other trauma victims who have experienced e.g. racial discrimination. The HS are a good example of the mechanisms via which PTSD is transformed between generations, because the HS have showed that "Holocaust background is a risk factor for less favorable psychological functioning by the second generation" (Scharf, 2007, p. 617). The transmission of PTSD symptoms can be considered as valuable when thinking about the treatment of trauma victims and their family members.

This investigation was based on study of empirical literature, which dates mainly from 1990's to this day, because the diagnosis for PTSD was established after the Vietnam War, as a result of spesific set of symptoms of the veterans and interest towards HS in the field of research did not get it's rise until the 80's and 90's. One of the pioneers on this area of study is Rachel Yehuda, whose works are included in this investigation also. The research question of this Extended Essay was ***what are the most relevant psychological mechanisms leading to trans-generational transmission of PTSD symptomology between Holocaust survivors and their offspring?***

PTSD is an anxiety disorder that follows a traumatic event (Gray, 2010), even when an individual has no history of previous psychiatric illnesses (Ursand, 2002). PTSD symptoms must be linked to at least one traumatic experience. According to Siegel & Lawrence (2000), who cited the DSM-IV[2] diagnosis criteria for trauma (American Psychiatric Association [APA], 1994, p.428), trauma is defined as following: "(1): The

[1]Brutal discrimination and extermination of the Jewish population in Europe during the Second World War (Wikipedia: Holocaust, http://en.wikipedia.org/wiki/The_Holocaust, 2014)

[2]Diagnostic and Statistical Manual of Mental Disorders, 4th edition

person experienced, witnessed or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others, (2): The person's response involved intense fear, helplessness and horror." Most commonly PTSD appears within concentration camp survivors and people who have been tortured, or otherwise violently assaulted (APA, 2000, cited in Gray, 2010). Naturally, also people who have been involved in other extremely traumatic events, such as natural disasters, accidents and crimes may suffer from PTSD.

The most common symptoms of PTSD are flashbacks of the traumatic event, avoidance of all things reminding of the trauma, and anxious feelings that were not experienced before the traumatic event (APA, Encyclopedia of Psychology, 2000). According to the DSM-IV criteria nightmares, numbing of general responsiveness (feeling detached from other people, feeling less pleasure from the things that were felt as enjoyable before), irritability, hypervigilance, sleeping and concentration difficulties are also common symptoms of PTSD. In school-aged children, sleeping problems might cause concentration difficulties at school, which might lead to decrease on the level of academic success (Amaya-Jackson, March & Pynoos, 1994, cited in Davis & Siegel, 2000). PTSD might be treated with psychotherapy (Ursand, 2002), and in the most severe cases, with antidepressants, such as SSRI[3] medicines (Duodecim, 2013). External support, discussion and going through the trauma are also important treatment methods (Duodecim, 2013).

[3]Selective Serotonin Reuptake Inhibitor, SSRI

2.1 PTSD on Holocaust survivors and their offspring

2.1.1 PTSD on Holocaust survivors

The rate of PTSD severity is found to be higher in HS group than in the comparison groups (Prot, 2009). Even 50 years after the trauma, 43 % of the HS suffered from some serious psychiatric illness, e.g. PTSD or MDD[4] (Favaro et al., 1999). What makes the HS special when it comes to PTSD is the whole event of Holocaust itself. This should be taken in consideration among the other possible traumatic events in the lives of the HS (Favaro et al., 1999), because they experienced traumatizing events for many years during the WWII[5]. Individuals who have experienced traumatic events during their lives or have lived in distressing conditions for a long time are more prone to suffer from PTSD symptoms than the individuals who only go through one short-period traumatic event. This is shown for example in the results of a study made by King et al. (1995), which was cited in Gray, 2010.

In addition with the most common PTSD symptoms, the HS experienced ***post-disaster utopia*** (Chodoff, 1997). After living in horrible conditions in the concentration camps, the HS had exaggerated images about the better life outside the camps. After the liberation, they had no homes and most of their family and relatives had died, and in some parts of Europe Jews were still hated, which didn't respond to their overly positive images, causing depression and disappointment. The HS also experienced so called ***survival guilt*** about the fact that they survived, even though many of their family members did not (Chodoff, 1997).

Later in life HS experienced **general mistrust** towards the world, and their focus was often shifted to survival, even though there was no special reason for it. The HS also experienced **shame** (Chodoff, 1997) which might be due to the Nazi propaganda, which caused the HSO to be ashamed of being Jewish, or due to the events in the camps, e.g. sexual humiliation. The HSO reported that the HS were constantly **preparing for a catastrophe,** e.g. saving money and making the children eat too much (Scharf & Mayseless, 2011).The HS were also very **overcaring** towards the HSO, and would not let them travel alone etc. (Scharf & Mayseless, 2011).

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[4]Major Depressive Disorder, MDD (American Medical Network, 2014)

[5]The Second World War, WWII

HS with PTSD showed **poorer explicit**[6]**, but not implicit**[7] **memory** than the HS without PTSD (Golier, Yehuda, Lupien, Harvey, Grossman & Elkin, 2002). This might be due to the strong emotional memories from the time of the Holocaust, because HS with PTSD showed a **more sensitive memory** when it comes to trauma stimuli, than the ones without PTSD (Golier, Yehuda, Lupien & Harvey, 2003).

HS with PTSD demonstrated **impairements in learning.** They showed a major impairment in the ability to learn new information when compared to non-PTSD group. The impairement was not due to trauma exposure, but specially related to the ability to consolidate and encode information, correlating with age without any evidence of amnesia (Yehuda, Golier, Halligan & Harvey, 2004), and thus age can have an effect on the cognitive changes associated with PTSD. There might also be dysfunction in the limbic structures and temporal and frontal lobes which can cause abnormalitites in the rate of learning (Yehuda et al., 2004).

HS who survived the Holocaust as children suffer from many symptoms of psychological distress (e.g. Mazor & Mendelson, 1998, cited in Amir & Lev-Wiesel, 2003). The HS who survived the Holocaust as children showed higher scores on **depression, anxiety, anger-hostility** and **somatization** than the comparison groups (Amir & Lev-Wiesel, 2003). There were also feelings of **being unworthwhile** and **loss of identity** (Bunk & Eggers, 1993, cited in Amir & Lev-Wiesel, 2003). These feelings might be due to the fact that the HS needed to rebuild their identities, because during the Holocaust they were treated as "nonhumans", and after the liberation the HS needed to establish a new identity, because they did not have to follow the discriminated Jew-identity anymore.

There are also differences in the severity of the PTSD symptoms in the HS depending on the environmental factors during the Holocaust. HS who were hiding in Catholic institutions as children suffered fewer symptoms, than e.g. the ones hiding in foster families, who showed lower quality of life (Amir & Lev-Wiesel, 2003). The ones hiding in non-Jewish families experienced more numerous PTSD symptoms, especially **avoidance** of trauma-related things and **increased arousal** (Prot, 2009). Increased arousal might be a result of hiding, because when hiding the Jewish identity needed to be carefully kept as a secret, which might have became a habit. Concentration camp experiences seem to have the most severe and significant effects on the HS (Favaro et al., 1999). Within concentration camp survivors, **re-experience of trauma** was found more often than in the other survivors from other environments (Prot, 2009).

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[6] Conscious memory, e.g. memory of individual's own experiences, memory of facts, meanings and general knowledge (Gray, 2010)

[7]Unconscious memory, e.g. memory of spesific emotional reactions, habits and motor skills (Gray, 2010)

2.1.2 PTSD on Holocaust survivor offspring

The HSO are more vulnerable to PTSD, because of possible parental PTSD (Yehuda, Schmeidler, Giller, Siever & Binden-Brynes, 1998) and more prone to develop PTSD as a result of their own traumatic events than HSO without parental PTSD (Yehuda, Schmeidler, Wainberg, Binden-Brynes, Duvdevani, 1998).

Secondary traumatization is a term introduced by Figley, 1983 for the psychological impact on the family members of the trauma survivors, and the phenomenon is found to be common among the HSO. Being a member of a family and/or deeply caring about its members sets one to be emotionally more vulnerable to catastrophes which impact them. The bystanders become "victims" too, because of the emotional bonding to the actual victim (Scharf & Mayseless, 2011).

Many of the major PTSD symptoms on HSO were introduced by Mayseless and Scharf (2011), and they were called ***survival issues.*** The first survival issue was **fear of loss and separation.** The HSO saw their parents as fragile, and were worried and **highly emotionally aroused** all the time, e.g. if their parents did not arrive in time, or accidentally hurt themselves in a non-life-threatening way (Scharf & Mayseless, 2011). Compared to people without HS parents the HSO were more likely to classify a non-life-threatening situation (physical/emotional damage of parent, neglection of the child by the parent) as the most distressing thing in their life (Yehuda, Schmeidler, Wainberg, Binden-Brynes & Duvdevani, 1998). The HSO were more likely to experience **general stress** or just characterize more events as stressful than the control group (people without Holocaust background) did (Yehuda et al., 1998).

The HS were very overcaring towards their children (Scharf & Mayseless, 2011), which might have caused the HSO to rebel (e.g. misusing alcohol/drugs) e.g. because they might have felt that they are under too strict control. In some cases too strict control might have caused the HSO to feel socially outcasted because they were not allowed to do the same things as their friends.

The HSO did not develop helpful ways to cope with their feelings and traumas because of the biased ways of responding "learned" from the parents (Solomon et al., 1988, cited in Yehuda et al., 1988), which led to **anxiety** (Yehuda et al., 1988). Parental PTSD might also have contributed negatively to the child's maladaptation following a trauma, and parental trauma responses might have affected the child in the way that the child has **biased the perception of the impact of risk factors** (Nugent, Ostrowski, Christopher & Delahanty, 2006). This can lead the HSO to see a risk factor as bigger and more life-threatening than it really is, and furthermore cause them to experience more general stress than a healthy individual.

The survival issues are strongly linked to the HS, for example the issue of preparing to a catastrophe, which might have resulted in the HS to overfeeding their children (Scharf & Mayseless, 2011), which in the worst cases caused obesity and e.g. school bullying. The constant money-saving by the HS might have caused the

HSO to feel that they are out of something and did not necessarily have all that they would have needed (Scharf & Mayseless, 2011).

2.1.3 Differences between the experiences and symptoms of HS and HSO

The major difference between the HS and HSO is that the HS have first-hand experiences from the Holocaust, whereas the HSO's experiences are second-hand, which has an effect on the symptoms also; The HS's symptoms can be considered as more severe and to occur in a larger scale than the HSO's. The HS demonstrated problems in learning and memory, whereas such problems are at least not yet found from the HSO. On the other hand, the HSO might have difficulties in their studies due to the PTSD symptoms, e.g. learning difficulties because of sleeping problems caused by nightmares. The HS also experienced the survival guilt, whereas the HSO did not. However, survival issues were experienced by the HSO, not the HS.

It can be said that the HS's symptoms were more severe, because they had probably experienced more traumatic events than HSO. The HSO's symptoms are mainly repercussions of HS, e.g. the biased trauma coping mechanisms. The HS's symptoms can be described as more psychological, whereas the HSO's symptoms can be said to be more linked to their cognitive and social skills.

2.2 Mechanisms of PTSD transmission

2.2.1 Family-dynamic mechanisms

Social and other **external support** affects the severity and prevalence of PTSD symptoms. Usually the effects are positive, but in some cases also negative (Callahan & Borja, 2008). E.g. people might underestimate the severity of one's trauma by telling the victim that s/he should already "get over it". On the other hand, social support is important, because then the victim has people who support him/her and somebody to whom they can talk to, because discussing and going through the trauma are important treatment methods of PTSD (Duodecim, 2013). The external support links to **parental response to child trauma.** The responses are very important when thinking about the child's future symptoms (Nugent et al., 2006), and the way in which the parents react to the child's trauma can predict future PTSD in the child (Daviss et al., 2000; MacFarlane, 1987; cited in Nugent et al., 2006).

Lack of emotional resources, a typical feature in HS families, means that the parents are unable to give the child the protection, support and closeness that are needed and the child feels neglected. The parents who neglect their child are often cold and distant because of the constant preoccupation of their own problems.

The HS might have **underestimated the HSO's need for** support and expect them to survive on their own, because they experience much worse things on that age, and they are unable to put the child's problems into context (Mayseless & Scharf, 2011).

Children must share their feelings and fears with someone trustworthy (Ofonsky, Cohen & Drell, 1995, cited in Davis & Siegel, 2000), which in most cases means their parents. At the same time, children are very vulnerable to their parent's distress and might try to avoid any future conversations about topics that would stress the parents (Hopkins & King, 1994, cited in Nugent et al., 2006). If the parents are unavailable, at least in the cases of younger the children, the child might not know to whom s/he can talk to, and a young child might not be willing to open up to a therapist, which makes help-giving more difficult (Hopkins & King, 1994, cited in Nugent et al., 2006). As mentioned earlier, the rate of PTSD among the HS is very high, which probably caused problems in their family lives and in some cases neglect of the HSO also. Thus it can be stated that **parental unavailability** might lead the HSO to experience PTSD symptoms, and became oversensitive to traumas, and to the decreasion of the child's trauma-stimuli adaptation abilities (Hopkins & King, 1994, cited in Nugent et al., 2006).

The HS experienced many traumatic events, and because 20 out of 30 HSO experienced maternal unavailability (Scharf & Mayseless, 2011), it can be said that there is a link between parental PTSD rate and the HSO's problems, e.g. because the HSO might have experienced maltreatment as children and thus e.g. show higher levels of dissociation as adults (e.g. Briere & Runtz, 1988; Frischolz, 1985, cited in Halligan & Yehuda, 2002). *Dissociation*[8] is often conceptualized as a maladaptive trauma coping mechanism, which is possibly due to childhood mistreatment (e.g. Spiegel, 1991; Terr, 1991, cited in Halligan & Yehuda, 2002).

Being a female increases the risk for PTSD, even though men experience more traumatic events than women. This might occur because the risk for sexual assault, which may cause more suffering on the emotinal level than other traumatic events, is greater in women than in men (Tolin, 2006, cited by APA, 2006), and women might be more prone to blame themselves for the traumatic events than men (U.S Department of Veteran Affairs, 2014). Usually the risk for the HSO to have PTSD was greater when there was maternal PTSD (Davison, 1993, cited in Davis & Siegel, 2000). Maternal PTSD can also be linked to the historical context, because until the mid-90's it was a standard that children spent more time with their mother, when the father of the family was working. The father being more absent, and the mother more present, the children were more influenced by the mother and socially learned her biased coping mechanisms etc.

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[8]Feeling detached from reality

2.2.2 Socio-cognitive mechanisms of transmission

The offspring vulnerability for PTSD after their own traumas is high because of the responses **"learned" from the parents** (Solomon et al., 1988, cited in Yehuda, Schmeidler, Wainberg, Binden-Brynes & Duvdevani, 1998). The HSO experienced their parents' abnormal trauma responses as normal in the absence of any other examples. The HS's own traumas could lead to behavior that was frightening in the eyes of the child (e.g. numbness, depression, dissociation) and instead of the child's needs, the parent's actions were ruled by their emotional state (Scharf & Mayseless, 2011).

The negative effects of parental coping mechanisms can be explained through Alfred Bandura's **Social Learning Theory** (1971). According to this theory children learn by observing other people, and children learn how to act in a certain situation by observing their parents' actions (Bandura, 1971, cited in Gray, 2010). This can be applied to the transmission of PTSD symptoms, because through observing their parents the HSO learned the biased trauma coping ways.

A child who is being raised in bad conditions and has traumatized may develop a biased image about his/herself and others. The child's behavior reflects his/her expectations of an adult who is rejecting, untrustworthy and non-available. This damage is in some cases visible in the child's later life and development (Sinkkonen & Kalland, 2003). Teenagers are very vulnerable to traumas and PTSD symptoms, because they are in age in which development and understanding of one's personal identity is highlighted (Hardin et al., cited in Davis & Siegel, 2000) and the identity might become biased because of the trauma experienced. The damage can cause e.g. trust-issues between the parent and the child, and the child might be overly familiar towards other adults, because of the absence of good parental relationship (e.g. Chrisholm, 1998, cited in Sinkkonen & Kalland, 2003). This information can be applied to the situation of HSO, because as mentioned, in many cases there were many issues in the families (e.g. mistrust towards the world, shame, parental PTSD) which can have caused traumatization in HSO.

2.2.3 Biological mechanisms of transmission

One traumatizing event can be survived well, and almost everyone experiences one during their lifetime, but frequently occurring horrible events seem to wear down the resilience[9], which may be due to the long-term **debilitating effects on stress hormones** (Kolassa & Elbert, 2007, cited in Gray, 2010). The individuals who repeatedly experience traumatic events or live in distressing conditions are more prone to suffer from PTSD symptoms than the ones who only go through one traumatic event (seen in the results of a Vietnam

[9]Mental ability to recover from a setback, or rebuild life after traumatic events, (APA, 2007 cited in Psychcentral, 2014)

War veteran study by King at al., 1995, cited in Gray, 2010). In many cases the HSO were raised in unideal conditions, which might have affected their stress hormones.

In the cases of maternal PTSD, transmission via **early glucocorticoid programming** is one possible mechanism responsible for low cortisol levels, which are often linked with PTSD (Matthews, 2002, Seckl & Meaney, 2006, cited in Yehuda, Bell, Bierer & Schmeidler, 2008). Glucocorticoids, e.g. cortisol are steroid hormones that affect the metabolism in adrenal cortex. This transmission can "program" an individual to be more vulnerable to PTSD, which can cause **epigenetic changes in glucocorticoid receptor genes** (e.g. McCormick et al., 2000 cited in Yehuda et al., 2008).

Age is also found to be an important factor when it comes to the severity of the PTSD symptoms. The way how children react to traumatic events depends a lot on the level of their understanding (Siegel & Lawrence, 2000). Traumatic events that occur before the age 11 triple the risk for PTSD (Davidson & Smith, 1990, cited Siegel & Lawrence, 2000). If the HSO have had some traumatizing experiences in their childhood, e.g. because of their parent's frightening behavior caused by their own traumas (Scharf & Mayseless, 2011), the HSO are more prone to experience PTSD symptoms.

2.3 Evaluation of the relevance of the transmission mechanisms

According to the evidence introduced, it can be speculated that the most relevant transmission mechanisms are parental unavailability and problems derived from it. Parental emotional numbness and lack of emotional resources are comprehensive things that have an effect on all aspects of the child's life. E.g. if the child does not get enough attention and support, it might cause rebellion (alcohol use, drugs, violence, etc.) or on the other hand, perfectionism in school or hobbies, because the child aims to seek attention in all possible ways. In a situation in which the HSO are seriously traumatized this mechanism is very relevant, because in such situations the importance of parental support is increased.

Parents' biased coping mechanisms are also a relevant transmission mechanism, because especially for younger children the parents might be the only role models present. This transmission mechanism can be explained through Bandura's Social Learning Theory. This explains the transmission of the biased trauma-coping mechanisms, which are in many cases then transmitted to the third generation HSO, in the absence of healthy coping mechanisms. The child might also be traumatized because of the parent's coping mechanisms, e.g. a dissociative or emotionally numb parent might seem frightening in the eyes of the child.

3 Discussion and Conclusion

This investigation shows that PTSD prevalence among the HS and HSO is very high. However, the historical context must be taken in consideration when discussing the PTSD rate. PTSD diagnosis was not established until after the Vietnam War, and directly after the Second World War the health care system was not very developed and most probably focused mainly on the victims of the battles. This increased the risk for PTSD onset, because the HS were unable to get, or even seek help. This might explain why some PTSD symptoms, such as re-experience of the trauma, avoidance of trauma-related stimuli and increased arousal were more severe in the HS group than in the control group (Prot, 2009). Traumatization might also have been increased within the HSO, because in many cases the Holocaust was experienced as families, and in some cases the whole family suffered from PTSD and they were unable to support each other. The experience of Holocaust and also its aftermath had a huge effect on the severity of the symptoms.

The intergenerational transmission can also be partly due to the level of the post-war mental health care. Without any treatment the HS suffered PTSD symptoms for years, and in the absence of the knowledge of e.g. secondary traumatization, which Figley introduced not until the 1983, the symptoms were easily transformed. Another factor that needs to be taken in consideration is that most of the investigation focuses on the long-term effects of the Holocaust, not on the short-term.

With correct treatment, the transmission could have been at least partially avoided. In the future, the mental health care system should take the family members and relatives of a traumatized individual in careful consideration, in order to prevent secondary traumatization.

The HS have shown that "Holocaust background is a risk factor for less favorable psychosocial functioning by the second generation" (Scharf, 2007, p.617). This investigation also demonstrates the notable amount of PTSD symptoms experienced by the HSO also. The symptoms differ quite a lot, but some symptoms, such as increased arousal is found both in HS and HSO.

The symptomatology can be transmitted in many ways, but the most relevant one seems to be the parental unavailability and emotional numbness, and the biased ways of coping trauma, such as avoidance. These transmission ways had serious effects on the HSO, because they were unable to learn the right ways of coping and parenting, and thus might have transformed the biased manners to the third generation HSO. The third generation HSO described their parenting manners of similar as those of their own parents, who had learned them from the HS (Scharf & Mayseless, 2011). This shows that the Holocaust affects the survivors even in the third generation.

It can be said that the transformation of PTSD symptoms is some kind of a chain reaction; the HS has certain symptoms, which effects are seen in the HSO, and again in their offspring. For example, if the HS as a parent are cold and distant as a result of their PTSD symptoms, the HSO don't get the tenderness and support that they need, which can set off some symptoms in them, and later in life cause them to mimic these parenting models.

PTSD on HS can also have some serious effects on the relationships between different generations. According to Scharf and Mayseless (2011) the third generation survivors didn't seem to have very good relations with their parents. This can also cause problems in the grandchild-grandparent relations, which can thus lead to bigger problems in the families.

There are also numeous personal factors that need to be acknowledged. Negative personality traits and neuroticism (Callahan & Borja, 2008) increase the risk for PTSD. PTSD symptoms are thus a combination of the interaction of one's individual factors and the external factors, which both affect also to the severity of the symptoms.

As a conclusion to this investigation it can be stated that the most significant PTSD transmission mechanisms are parental emotional unavailability and biased coping mechanism learned from the parents. It can also be stated that PTSD is easily transmitted between generations, and parental PTSD can have crucial and serious effects on the offspring, and radically affect the offspring's quality of life. In the future, more attention should be paid to the family members of the trauma victim, so that these kinds of negative phenomenona could be avoided.

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