



**SOCIAL SCIENCES UNIVERSITY OF ANKARA
INSTITUTE OF GRADUATE STUDIES IN
SOCIAL SCIENCES**

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**THE EFFECT OF WAR ON RISK PREFERENCES AND SELF-CONTROL
BEHAVIOR: THE CASE OF SYRIAN CHILDREN**

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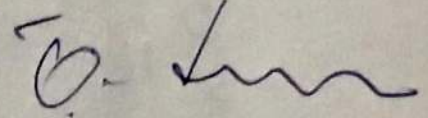
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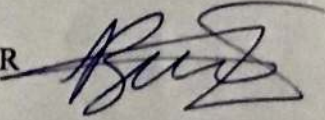
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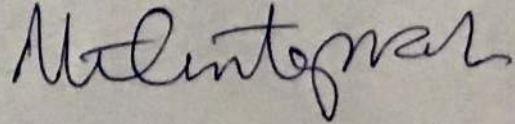
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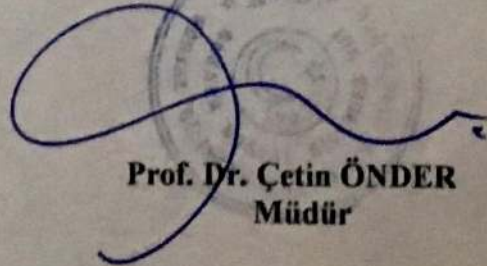
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ABSTRACT

THE EFFECT OF WAR ON RISK PREFERENCES AND SELF-CONTROL BEHAVIOR: THE CASE OF SYRIAN CHILDREN

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War may have even consequences for people who get away from war-ridden places. A growing literature examines how natural disasters and other catastrophes affect human's preferences in a long-lasting manner. Syrian War has been particularly worth close examination as it caused 2nd largest human movement in the world after the 2nd World War. In this study, we examine the effects of Syrian war on the risk, time preferences and self-control ability of children at very young ages. Following Gneezy and Potters (1997), we measure children's risk preferences by playing an incentivized game. We also measure their self-control behavior with another incentivized game. To identify the effect of the war from other confounding effects, we compare children born in Syria and exposed to the war with Turkish children who are not exposed to the war. We restrict our sample to 5-14-year-old children. We find that conflict affects behavior: children exposed to war are more risk seeking and more patient, also being exposed to war teaches them controlling themselves better.

Keywords:, Behavioral Economics, Risk-Taking, Self-Control, Syrian War, Trauma, Time Preferences

ÖZET

SAVAŞIN RİSK TERCİHLERİNE VE ÖZKONTROL DAVRANIŞLARINA ETKİSİ: SURİYELİ ÇOCUKLAR ÖRNEĞİ

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Savaşın çatışma alanlarını terkeden insanlar için bile sonuçlar getirmesi muhtemeldir. Gelişen bir literatür doğal afetlerin ya da diğer katasrofik olayların insan tercihlerini uzun vadede nasıl etkilediğini incelemektedir. Bu noktada Suriye Savaşı İkinci Dünya Savaşı'ndan sonra en büyük kitlesel göçe sebep vermesi nedeniyle araştırmaya değer bir konu haline gelmiştir. Bu çalışmada, Suriye savaşının 5-14 yaş arası çocukların risk ve zaman tercihleri ile özkontrol kabiliyetlerine etkileri araştırılmaktadır. Gneezy ve Potters (1997)'den yararlanarak çocukların risk tercihlerini deneysel bir oyun ile ölçülmüştür. Özkontrol kabiliyetleri de gerçek teşvik içeren bir deney ile ölçülmüştür. Savaşın etkisini diğer etkilere ayırarak ortaya koymak için ilk olarak Suriye'de doğup savaşa maruz kalan Suriyeli çocuklar ile savaşı hiç görmemiş ve Suriyeli çocuklar ile aynı okula giden Türkiye'de doğmuş çocuklar karşılaştırılmıştır. Sonuç olarak savaşa maruz kalmanın çocukların davranışlarında önemli değişimlere sebep olduğu tespit edilmiştir. Savaşa maruz kalan çocuklar maruz kalmayanlara göre daha fazla risk almakta oldukları, daha sabırlı davrandıkları ve kendilerini daha iyi kontrol ettikleri tespit edilmiştir.

Keywords:, Davranışsal İktisat, Risk Alma, Özkontrol, Suriye Savaşı, Travma, Zaman Tercihler

LIST OF ABBREVIATIONS

DEMA	Disaster and Emergency Management Authority of Turkey
DGMM	Directorate General for Migration Management, Republic of Turkey
MFA	Ministry of Foreign Affairs, Republic of Turkey
MFSP	Ministry of Families, Social Policies, Republic of Turkey
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
UNHRC	United Nations Human Rights Council
UNICEF	United Nations Children's Fund

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1. Introduction

War causes to lose lives of millions of people. War is known to have bad consequences for those who were injured. It may have even consequences for children who get away from war-ridden places.

A growing literature examines how natural disasters and other catastrophes affect human's preferences in a long-lasting manner. Voors et al. (2012) examines the casual effect of exposure to violence on individual's behavior with using data from domestic war in Burundi between 1993 and 2003. A series of experiments are conducted to the victims of civil war in Burundi to measure 3 dimensions of individual's utility function: risk preferences, time preference and social preferences. More specifically, they examine whether victimization influences their pro-social behavior, propensity to save and risk-taking behavior. With a sample of 300 household heads from pre-visited 35 communities¹ in rural Burundi who are exposed to conflict at different levels and 11 out of them were not exposed to any violence, they conducted the experiment in Spring 2009. They find strong evidence that those individuals who are exposed to more violence was found to show more altruistic behavior toward their neighbors, behave in a more risk seeking manner and were less patient. In these experiments, the most significant variable affecting the outcome variables is the level of exposure to conflict which measured by experience of death, theft, torture and so on and its level determined by the way of the total number of deaths during 1993-2003 relative to population size in the community. This method is also consistent with Yehuda (2002) which argues that experiencing a more general community level conflict is

¹ To conduct research and gather data, these communities were selected from among a set of 100 communities those were visited in advance in 1998 and 2007.

more important than that of individual level as in the former, individual could feel the conflict throughout the community even if the person was not directly exposed to violence.

Besides Burundi, another study is conducted by Callen et al. (2014) in which they investigate the relationship between violence and risk preferences which studies the effect of the conflict in Afghanistan. In their research, they focused on three items to examine the relationship between traumatic experiences and risk preferences: First is to identify risk preferences in a case of certainty and uncertainty separately, they conducted an experiment following uncertainty equivalents of Andreoni and Sprenger (2011) in which the certainty has a big impact on risk attitudes and Expected Utility Theorem (hereafter EU) violations. Secondly, they conducted an experiment with 1,127 participants in Afghanistan merging their results with the detailed official registers of violent cases in Afghanistan. Lastly, they utilized psychological tests to the participants to understand how their memory was affected from the events in which they were scared. Combining the last two items they differentiated the participants who were exposed to violence from the unaffected ones. They concluded that the participants who were exposed to violence show more risk-aversion behavior elicited under certainty compared to uncertainty, from this fact they suggested that it may stem from the specific preference for certainty called “Certainty Premium” in contrast to EU theorem and which could be aggravated by the remembrance of scary incidents. Additionally, fearful recollections influence risk and certainty preferences for those who experienced violence and this impact is found to be long-lasting in that study.

In order to understand how wars affect human behavior, we can look into the effect of other catastrophes such as hurricanes, earthquakes and floods on risk preferences. Page et al. (2014) investigated that the impact of Australian floods, that is, how bearing big real losses change the person’s risk taking behavior. In their experiments, the participants were

offered to choose one out of a risky and a riskless option. They suggest that if the participant consider losses as a reference point, the individual is found to be risk-seeking and if an individual takes gains as a reference point, the participant behaves in a risk averse manner. They compare the risk behavior of ones who were influenced by the floods and the others who were not affected. To do so, they choose the participants who have common characteristics such as the similar socio-demographics, living the same region and having house at similar prices and so on to minimize impact of other variables. Researchers offer them to select one between a fixed sum of AUD 10 and a gamble sold at price of AUD 10 which offers gaining AUD 500,000 with a probability of $1/285.000$. They concluded that individual whose houses were affected by the flood tends to prefer the gamble compared to individuals whose houses were not affected. This finding supports the risk-seeking behavior after a big loss found as argued by Kahneman (1979)'s prospect theory. However, Cameron and Shah (2015) found contrary results in which they examine the risk-taking behavior of rural Indonesian households after 3 years of experiencing disasters such as earthquakes and floods. Mainly they compare risk-taking behavior of individuals who are randomly selected and experienced these adverse shocks with those who were not exposed, and they found that individuals who were exposed to natural disasters exhibit more risk-aversion behavior. These studies present contradictory results, but these differences might be due to the substantial differences in the context of natural disasters. Therefore, we can look into the results from other catastrophes examples in the world.

In this regard, Eckel et al. (2009) studied the impact of hurricane Katrina on risk preferences of evacuees through psychometric and demographic variables. To explore different relationships between game conditions, social-background factors, and answers to psychometric survey, they took advantage of Bayesian Networks. To conduct their research, they analyzed samples of three poor different populations which are: first group was marked

as Katrina Wave 1 evacuees who initially moved from New Orleans to Houston, Texas a very short time after Katrina disaster, second group which was marked Katrina Wave 2 also experienced the disaster, but reached to Houston ten months later than first group, and last one is control group of inhabitant Houstonians, not affected by the hurricane and have a similar socio-economic background with the evacuees. The participants filled a psychometric survey which includes 11-related questions. With these questions, participants' emotions and demographic variables like marital status, education, gender, income level so on are collected and participants played a lottery game with 50/50 chance with different options. There are 6 options in the gamble which are [(\$15, \$15), (\$25, \$10), (\$35, \$5), (\$45, \$0), (\$55, \$-5), (\$60, \$-10)] and firstly the participant choose one of gambles and then each individual took a chip out of a hat including 10 red chips and 10 blue chips, at the end participant's total payoff were determined according to the chip red or blue with equal probability and the gamble preferences. Wave 1 participants were interviewed between 10-19 September 2005 while the evacuees were still coming, and Wave 2 and the control group between 11-29 July 2006. They observed in total 923 participants and only risk-loving individuals who determine their decisions consistently can choose the sixth gamble (\$60, \$-10) because it has the same expected values as the fifth gamble (\$55, \$-5), but has a higher variance. They found that for Katrina Wave 1 around 40% of men chose the riskiest gamble whereas that ratio is above 40% in women, although women chose the riskiest gamble slightly less than men in the other 2 groups which are less or not affected by the hurricane. This finding is consistent with the idea that emotional state could distort one's behaviors from making standard calculations. Thus, they conclude that being exposed to the Hurricane Katrina put evacuees under stress and lead them behave in a more risk-taking manner on average. Their results show that positive feelings predict participants' gamble preferences, and this does not differ too much among 3 populations and their second result is that gender's

effect on risk preferences is much weaker in Katrina evacuees compared to women who are not exposed to the hurricane.

We also look into how time preferences and self-control behavior change and their effects on major outcomes. In this regard, Akerlund et al. (2014) examined the link between time preferences and criminal behavior. To do so, they used survey which was conducted in 1966 and includes children's time preferences based on hypothetical questions and answers to cognitive ability test at age 13 with information of their families' socio-economic backgrounds. Combining survey data and administrative registers they observed almost 13,606 children and their criminal involvements from age 15 to age 31 taking into account their time preferences. To measure children's time preferences, they were asked to answer question of "If you had to choose between SEK 900 [USD 138] now versus SEK 9,000 [USD 1,380] in five years, which would you choose?" and possible set of answers ranged from 1 (Certainly SEK 900 now) to 5 (Certainly SEK 9,000 in five years).¹ Only 13% of the participants preferred to take SEK 900 today instead of SEK 9,000 in five years, and almost half of those chose first option, certainly prefer the SEK 900 now despite the high annual discount rate of 58%. They found that individuals with short time preferences tend to commit a property crime more than those who chose to take SEK 9,000 [USD 1,380] in five years. Associated with this, although time preference is statistically significant for explaining criminal behavior of individuals with low intelligence, the effect of time preference gets weaker for individuals with at least mean intelligence. In short, individuals with high discount rate and low intelligence show higher tendency to commit a crime in future. In addition, Golsteyn et al. (2014) found that there is strong relationship between high discount rates and lower educational attainment as well as many indicators of human capital such as

¹The answers are "Certainly SEK 900 now" (1), "Probably SEK 900 now" (2), "Cannot choose" (3), "Probably SEK 9000 in five years" (4), "Certainly SEK 9000 in five years" (5).

school performance, health, lifetime income, and this conclusion is consistent with the survey in which children from poor socio-economic background preferred to take small-amount of money without waiting. Consequently, we can arrive at a conclusion that lower educational investments may lead children to be less patient and less-future oriented or not able to delay gratification and this could be linked to crime (Hjalmarsson, Holmlund, & Lindquist, 2015; Lochner, 2004). A growing number of studies show that children from poor socio-economic family-background are weak in self-control and have low cognitive abilities and they have also difficulty in postponing gratification (Blair, 2010; Hackman, Farah, & Meaney, 2010). Another study conducted by Evans and Kim (2013) examines the impacts of childhood poverty on human development and they find that many stressors stemmed from poverty in childhood damage the capability of self-regulation and struggling capacity with difficulties for children. These findings lead us to investigate the relationship between traumatic events and time preferences.

Syrian war has been particularly bad as it caused 2nd largest human movement in the world after the 2nd World War (Kingsley, 2015). In the last decade, Syrian war have negatively influenced many parts of world especially Middle East and Europe in terms of all social and economic aspects. At now the war enters its eighth year and, still continues. More than 400,000 people have lost their lives so far, half of the population relocated from their home, over 6 million people have to abandon their homes and migrate to neighboring countries: Lebanon, Jordan and Turkey (Specia, 2018). As the crisis deepened from day to day, the daily life was also ruined in Syria. Although over 13 million people, including 6 million children need humanitarian aid, ongoing violations among armed groups and bureaucratic obstacles keep aid workers from delivering humanitarian assistance in many parts of Syria. During the war, many women were subjected to rape and sexual violence, many children were forced to fight in armed groups and many of civilians were executed

(Goldman, 2017; Rodgers, Gritten, Offer, & Asare, 2016). Undoubtedly the conflict devastated all victims psychologically and economically and host countries to migrants have experienced many troubles due to economic and social conditions for years. United Nations and many international relief organizations try to eliminate Syrian War's consequences on victims to some extent, so it is worth to investigate the effect of this war on children.

In this study, we examine the effects of Syrian war on the risk, time preferences and self-control ability of children at very young ages. Many researchers study to highlight the relationship between trauma and individual behavior due to its potential outcomes on economic welfare. We know that risk-taking and time preferences play a significant role in economic decisions; because both are critical determinants of health and human capital development (McClelland et al., 2007; Moffitt et al., 2011; Sutin, Ferrucci, Zonderman, & Terracciano, 2011). Additionally, as it is shown in the study of Akerlund et al. (2014) time preferences has also important implications for criminal behavior as well as Çelik (2019) specifies in her thesis that majority of teachers think that Syrian children have a tendency for engaging in violence and criminal behavior.

In this research, we seek to understand how traumatic events especially Syrian war shape individual preferences, whether its impacts on behavior are long-lasting or temporary. In particular, we want to study how these are related and how both of them influence real decisions. A common way to elicit both preferences is by observing individual behavior while taking risk and delaying of gratification which has real consequences. Therefore, we focus on measures of risk aversion and time preferences by utilizing an economic experiment. With this game, we are testing whether trauma of experiencing war has any direct or indirect effects on individual choice. Following Gneezy and Potters (1997), we measure their risk preferences by playing an incentivized game and also measure their time

preferences by another incentivized game. To identify the effect of the war from other confounding effects, we firstly compare ones born in Syria and experienced the war and the other children born in Turkey and did not experience the war. If traumatic incidents affect the way in which people make decisions, we expect these to be correlated to our suggested measures of risk aversion and impatience.

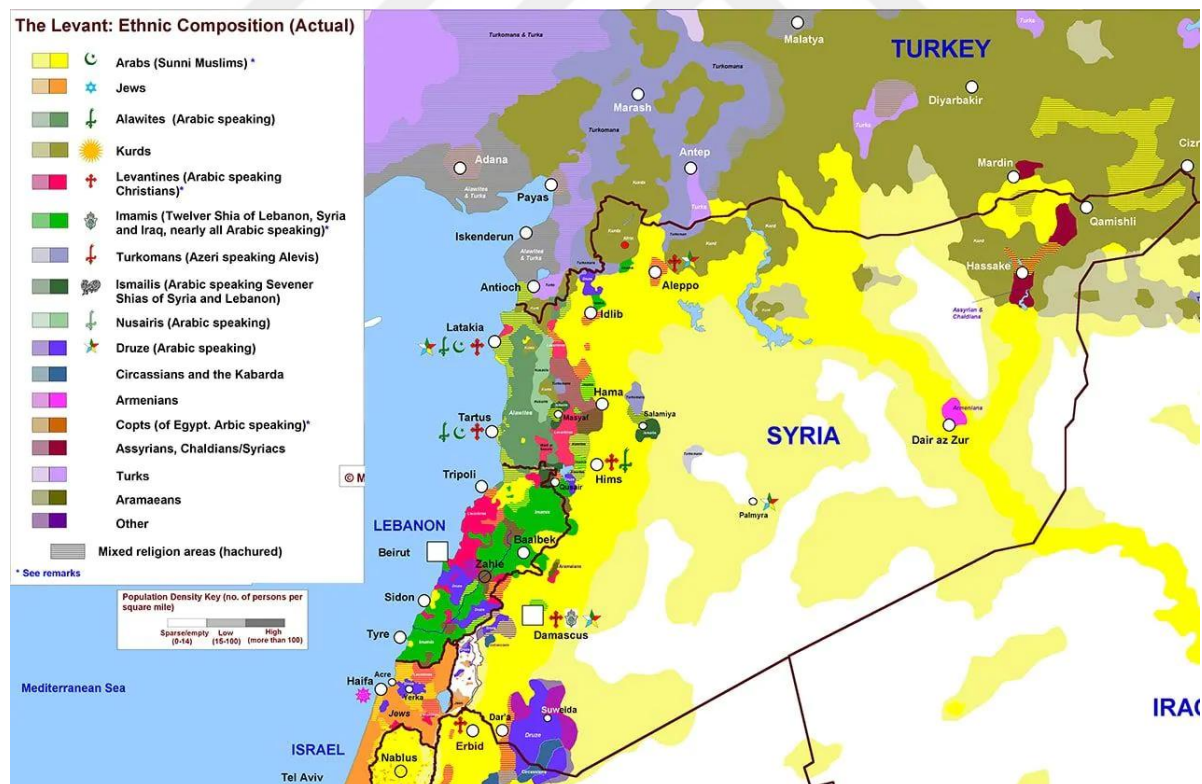
Through understanding how the process works, policymakers could adopt better strategies in favor of economic development. For example, if a specific pattern exists for the individual who are exposed to violence, it involves policy implications for the policymakers. Related to this, it is found that these traits are malleable for individual at young ages and they could be taught to be future-oriented by better education up until adolescence (Heckman et al., 2010, 2006). We contribute to this literature by studying the association between traumatic events and individual choices which influence on economic welfare.

This study proceeds as follows: Section 2 shows background of Syrian war. In section 3 and 4 present data and experiment design with results. In section 5 provides discussion with regarding other research findings and lastly section 6 presents conclusion.

2. Background of the Syrian War

In this section, we focus on how the Syrian civil war develops. Before the starting of war, we shortly specify the ethnic structure of Syria that played a critical role in both the division of Syria and emerging of many armed groups. The country has an ancient history, and throughout human history, its territories has hosted many ethnicities like Arabs, Kurds, Armenians, Jews, Levantines (Arab speaking Christians), Nusairis and Turkomans (Turkmens) as well as many other minorities. We can see ethnic composition of Syria at Figure 1 as of 2010. During the war, Syria's ethnic distribution has radically been changed by ethnic cleansing and half of the population have fled their home (UNHCR, 2018; UNHRC, 2015).

Figure 1: Ethnic Composition of Syria, 2010



Source: Fisher (2013)

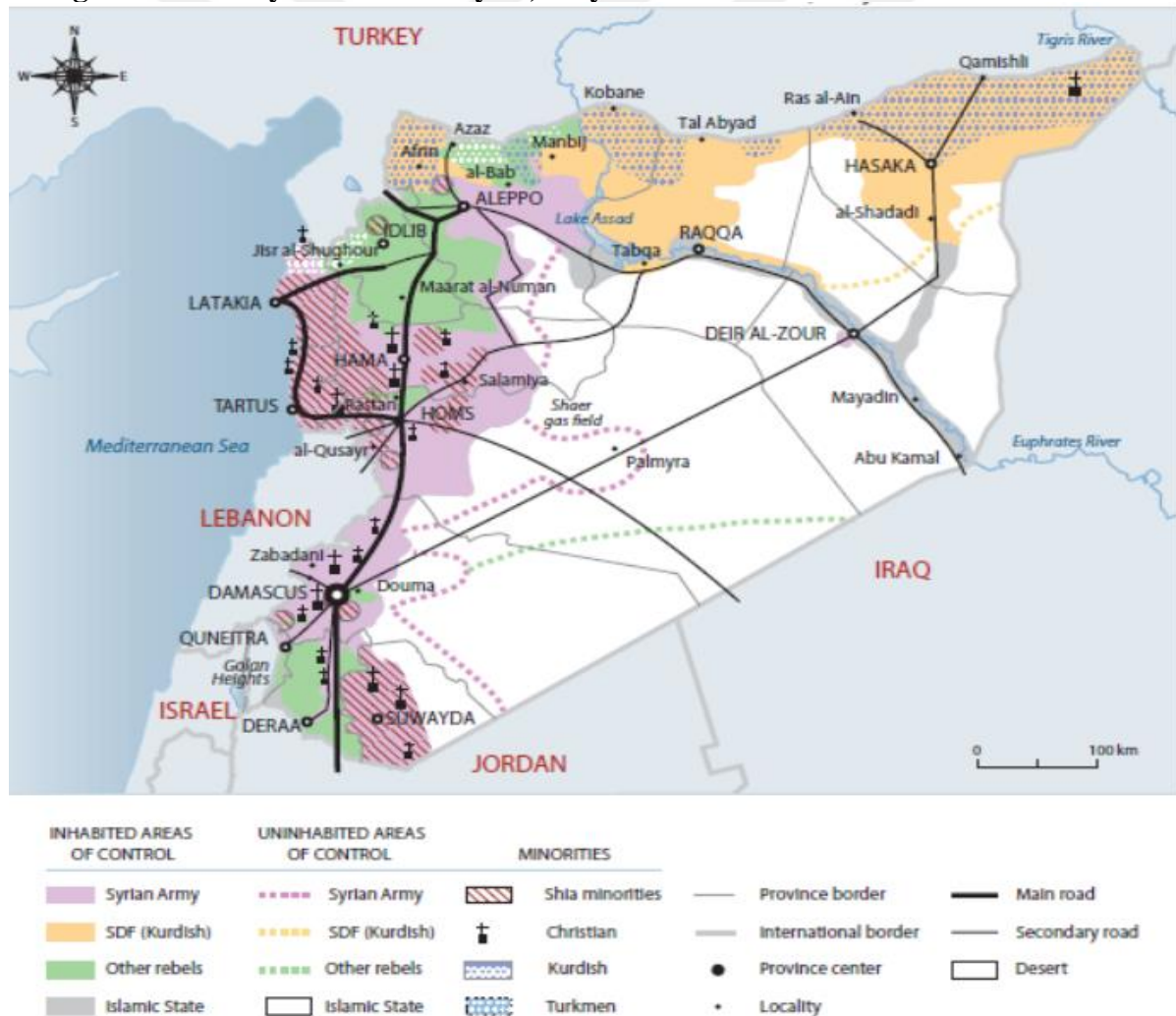
As a continuation of the movements in Arab countries which is known to be Arab Spring, in March 2011, in the city of Deraa, the first protests have occurred in Syria (Sterling, 2012). Initially, some teenagers painted anti-government slogans on school walls against Beshar Al-Asad, current president of Syria and who run the country in an authoritarian manner. Beshar Al-Asad punished these activists in city of Deraa severely and after the arrest of 15 teenagers, pro-democracy protests increased rapidly in that city in March 2011. During the protest security forces opened fire on all participants and killed several people which caused to escalate the conflict between the regime and protesters. The unrest initiated nationwide protests and the pre-democracy activists demanded President Al-Asad's resignation. The government's use of force to oppress the protestors made the solution more complicated. By July 2011, many people were taking to the streets across the country. At the beginning the protestors took up weapons to defend themselves against the regime and later their aim turned into to expel the regime's forces from their neighborhood. Violence increased rapidly and all country fell into a domestic war. Initially, the rebels began to fight with regime forces for control of areas in countryside, towns and then lastly in cities. After a short time, the war even spread over the capital Damascus and the second city of Aleppo in 2012 (Rodgers et al., 2016).

As the conflict continues, number of actors to protect themselves against other armed groups increased and as the years have gone many countries were involved in the Syrian war. Initially opponents gathered under the name of Free Syrian Army against the regime forces. Then, some of Syrian Kurds formed their own army called "Syrian Democratic Forces" abbreviated as PYD. Turkey argues that PYD¹ is affiliated with PKK which is as a

¹ Turkey claimed that during the authority gap in Syria, the PKK came from the mount Qandil and established PYD to fight for PKK's interests and also saw it as an extension of PKK. Due to this reason Turkey saw PYD as a terrorist group (BBC, 2017b; MFA, 2019).

terrorist group accepted by many international organizations. 2 years after the initial conflict, another group emerged and they declared themselves as founders of a new state called “Islamic State of Iraq and Damascus” (ISIS), but UN identified ISIS as a terrorist group and requests UN members to fight against ISIS (BBC, 2015). On the other side, the regime forces fight in favor of the president Bashar El-Asad. Figure 2 shows the Armed Groups and the areas they control as of 2017. Due to these many armed groups, the domestic war rapidly spread all over the country and, millions of Syrian people trapped between armed groups and lost their lives.

Figure 2. Military Situation in Syria, May 2017



Source: Balanche (2018)

By June 2013, the UN reported that 90.000 people lost their lives in the Syrian war and the number of deaths rose to 250,000 by August 2015 (Rodgers et al., 2016). According to UN commission, there are many evidences which show that all armed groups have committed war crimes such as using chemical weapons, brutal murdering and torture. Hundreds of civilians including children and women were killed by Syrian Government through chemical attacks (Goldman, 2017; Reuters, 2013). Many women and girls were exposed to sexual and gender-based violence, some of them were raped or abducted by armed groups (Stanton, Region, & Alliance, 2013; UNHRC, 2015). All sides have also been accused of limiting people to access food, fresh water and health services. UN stated that so called “Islamic State” were responsible of widespread terror including systematic patterns of torture and kidnappings (UNHRC, 2015). Those who refuse to obey its made-up rules were punished by ISIS through public executions or amputations including mass killing religious minority groups such as Yazidis, and beheaded hostages (UNHRC, 2015).

Millions of people have been forced to abandon their homes since the start of the conflict, more than 3 million most of them women and children. Syrian refugee flow is one of the largest human movement in last century and neighboring Lebanon, Jordan and Turkey have struggled to alleviate its negative impact on their own countries. Besides, European countries have hosted almost 10% of Syrian refugees so far (Rodgers et al., 2016).

Half of the population are internally displaced inside Syria, most of them are women and children. More than 4 million people migrated to other countries including Turkey, European countries, Lebanon and Jordan. Besides refugees, 7.6 million people were internally displaced by August 2015 (UNHRC, 2015). According to UNHRC (2018)’s last report, total number of refugees increased to 5,5 million.

Ongoing violations caused poverty to increase at highest level and destruction of infrastructure have blocked many children to get basic education, health services and nutrition across the country. More than half of the population cannot access to fresh water, one in three people are under official hunger limit, and one out of three people cannot satisfy basic needs. Since 2011, the rate of children who have been deprived of basic education increased from 3% to 70%, or in other words school attendance decreased from 97% to 30% in 2013, since institutions providing these services have been devastated considerably (UNICEF, 2013).



Figure 3: Timeline of Syrian War

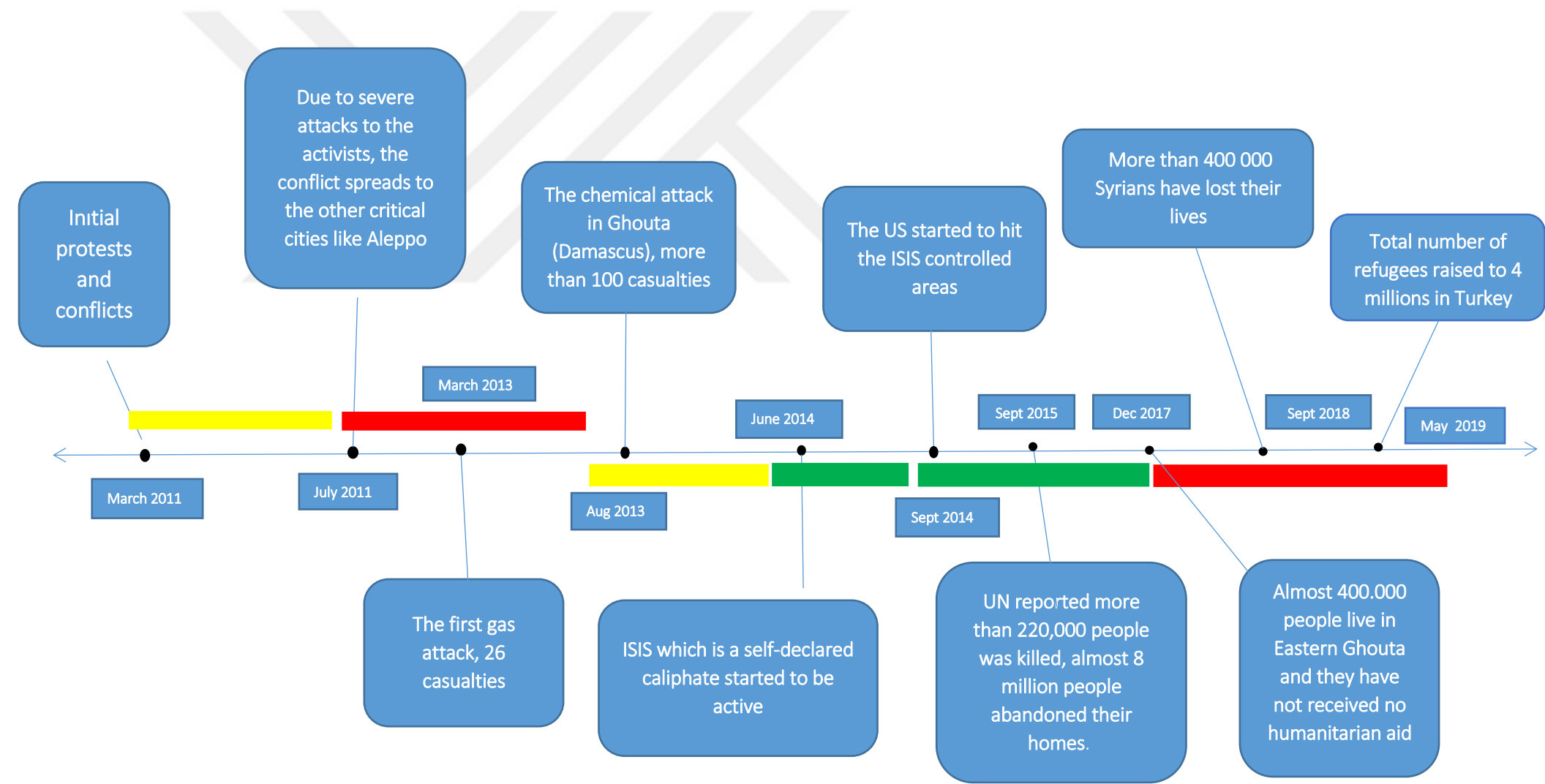


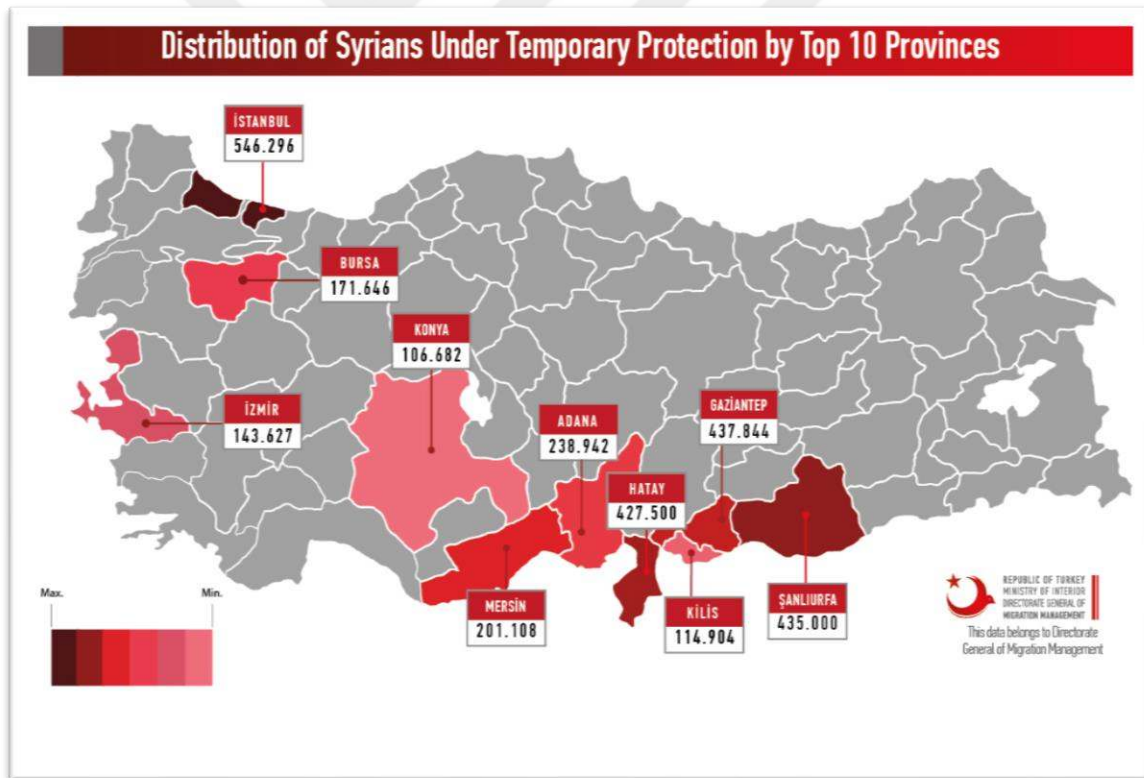
Figure 3 shows the main events of the Syrian war. As of 2018, Syria's conflict entered its eighth year and due to great military and financial aid which Russia and Iran have provided, Assad's forces have advanced on many fronts since the beginning of the Syrian war. Therefore, Assad is still in the power although eight years have passed after the first protest. The ISIS was able to control one-third of the country at a certain time (2014-2017) with taking advantage of the authority gap across the country, but its self-declared caliphate is about to end with the militants largely pinched between the zone of Syrian-Iraqi border by 2018. As of 2019, the war continues, and more than 400.000 Syrians have lost their lives in the conflict and relocated half the population from their homes. After Syrian government lost the control of the country and the daily life could not be conducted properly and many people could not satisfy their basic needs such as nutrition, sheltering, security and so on. Therefore, more than 11 million people have been forced to abandon their lands according to official statistics (UNHRC, 2015).

As a conclusion millions of people have been enforced to abandon their lands and again millions of people migrated to neighboring 3 countries: Turkey, Lebanon and Jordan. While Jordan and Lebanon put a restriction on entrance for Syrian refugees, Turkish government announced to run an open-door policy for the refugees. Therefore, many of them preferred to come to Turkey, Turkey's availability and its social and economic conditions such as development level, kind attitude toward immigrants and public aids have also big impact on this preference (Ferris & Kirişçi, 2015).

Disaster and Emergency Management Authority in Turkey popularly known as AFAD (hereafter DEMA) investigated the conditions of Syrians' lives in Turkey

(DEMA, 2017), according to that report, as of 2017 there are approximately 3 million refugees in Turkey and 8% of them are living in refugee camps and the rest live all around Turkey. The largest immigrant group is from Aleppo (34%) and after that from Homs (10%) and then from İdlib (9%). Besides, as of 2017, most of Syrians live in Istanbul (22.6%) and in Hatay (21.3%) and in Gaziantep (17.2%). As June 2019, we can also see current statistics at Directorate General for Migration Management's official web site as well.

Figure 4. Distribution of Syrians over Provinces of Turkey:

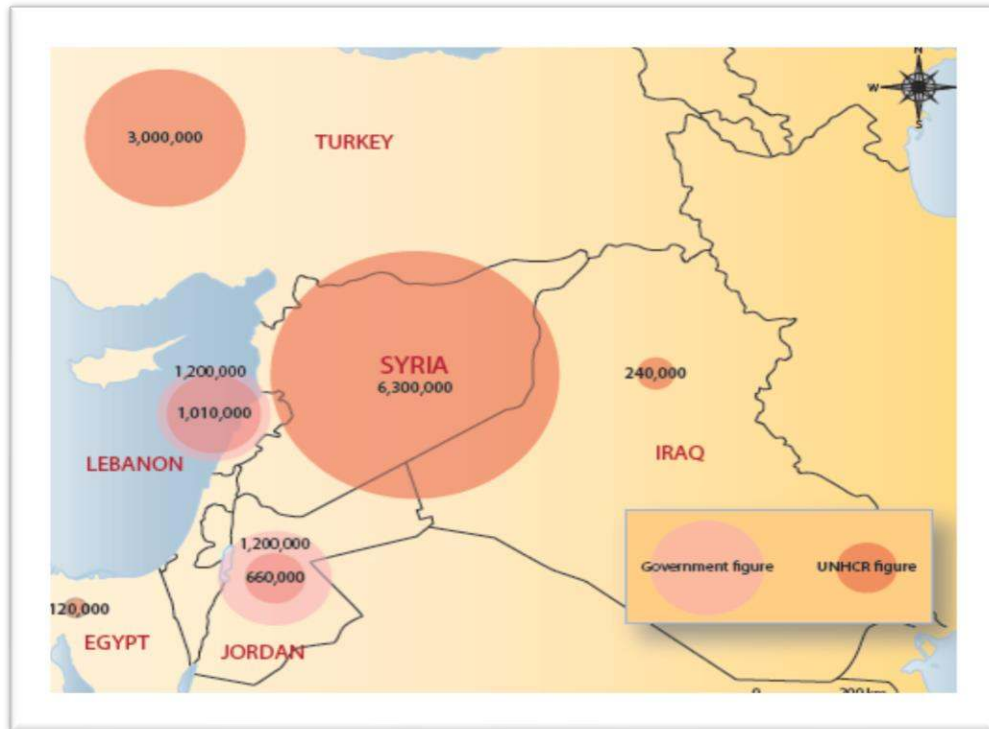


Source: www.goc.gov.tr

Furthermore 91.3% of the refugees stated that they abandoned their lands due to life-threatening circumstances. When we look their living standards in Turkey, we can easily see that their life conditions are very upsetting. DEMA reported refugees'

average income level, 83% of them get lower than 75\$ per month which is under the minimum wage determined by the Turkish government (MFSP, 2017).

Figure 5. Distribution of Syrian Refugees as of May 2017



Source: UNHCR (2017)

Probably due to this fact many Syrians tried to cross the Aegean Sea and reach to affluent European countries, some still try it at the expense of their lives. Nevertheless, as of 2015, more than 2,000 Syrian refugees have drowned in Aegean Sea while trying to reach Europe since 2011 (UNHRC, 2015). However, why people take this huge risk to cross sea is an open question. Which circumstances lead them to take these huge risks and at the end of the day they may lose their lives with a considerable probability and they know definitely that risk because Syrian refugees losing lives in Aegean Sea becomes news very often (BBC, 2017a).

3. Methodology

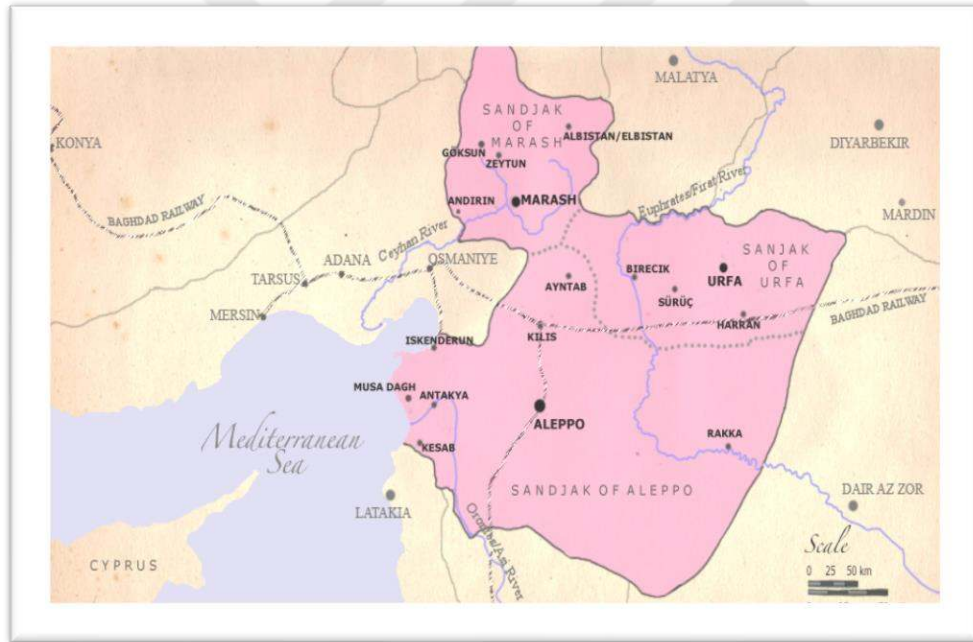
To study the impact of war on risk and time preferences of children, we conducted a set of experiments in slums of Ankara and Gaziantep, two cities in Turkey. Initially we can note that our study was approved by the Ethics Committee of our university and throughout the research, informed consent was obtained from each participant. Moreover, this study was conducted with the permission of the Ministry of National Education of Turkey. We met many obstacles while satisfying the conditions of all required institutional permissions¹. Then We begin our study in Ankara, because we think that Syrian families who would like to stay in Turkey would choose to live in Ankara. Moreover, Ankara can be an attractive option for those who are refugees in Turkey in terms of job opportunities, standard of living, attitudes toward immigrants and access to official aid and so on as it is the capital of Turkey. According to Directorate General of Migration Management of Turkey, Ankara is the 11th city which hosts highest amount of Syrian refugees in terms of distribution of Syrian refugees in the scope of temporary protection by province as of May 2019 and has many advantages due to being capital of Turkey (DGMM, 2019). In addition, as researchers we are living in Ankara and our knowledge about its districts which is home for majority of Syrians was also a factor for choosing Ankara as a place of study. We conducted our field experiments in Ankara between September 2018 and May in 2019.

Secondly, to enhance our results with controlling the effect of cultural differences on individual preferences, we decided to continue with a city in Turkey which have many similarities to Syria in terms of culture and historical ties. We picked

¹ To satisfy all conditions, we spent 3 months.

the city of Gaziantep (Ayntab) as it has a border with Syria. Gaziantep is far only 92 kilometers away from Aleppo in where 51.4 percentage of all Syrian refugees come from. Both cities are located at the same geographic location and both share common historical background with each other, linked by a long tradition of trade and cultural relations. As shown in Figure 6, during the Ottoman Empire, Gaziantep was under the Aleppo district. Therefore, Gaziantep become a natural destination for refugees after the outbreak of war. Also, as shown in Figure 4, according to Migration Office of Turkey, Gaziantep is the 2nd city which hosts the highest number of Syrians as of May 2019 (DGMM, 2019).

Figure 6. The Map of the Aleppo District in Ottoman Empire



Source: www.houshamadyan.org

To observe influence of the conflict on children, we work with poor families because struggle for survival as a consequence of losses of war might be more difficult for poor families compared to rich or moderate ones. Thus, we select our experiment and control group sample in slums in Altındağ, Pursaklar and Çubuk districts of

Ankara and three different undeveloped districts of Şehitkamil (8 Şubat and Güzelyurt Neighbourhoods) and Şahinbey (Kozanlı Neighbourhood) in Gaziantep.

3.1 Experimental Design

In our study we follow a three-step process; first we conduct a survey to explore socio-economic backgrounds of participants; second, we measured their cognitive abilities and physical development indicators and lastly, we elicit their risk and time preferences with incentivized tasks.

To begin with, we ask all participants almost ten questions to understand their socio-economic backgrounds. Through the survey, we collect all substantial information: where they live in Syria before arriving to Turkey, any family members being tortured or injured or lost because of the civil war, the date they come to Turkey and the number of people working to support the family etc (See Appendix A for more details). Then, to elicit their cognitive ability, the Raven's IQ test (See Appendix D for more details) is administered to participants. We measured their IQ scores to be able to understand whether there is any correlation between IQ scores and risk and time preferences. Lastly, we measured their height and weight to control for physical developmental differences.

To measure children's risk preferences (See Appendix B for more details), we conducted an experiment inspired by Gneezy and Potters (1997), and played an incentivized game with Syrian children who were exposed to the civil war and unaffected children who live in the same neighborhood and go to same schools with Syrian students. According to our design, we gave 10 chocolates to all children as a gift and ask them to divide their chocolates between a risky and a riskless option.

According to this game, the chocolates put into riskless option are given at the end of the game for sure without any loss. The chocolates put into the risky option has a 50/50 chance of bringing 3 times of the amount they invested. To clarify the game, we gave several examples. For instance; if a child put 3 chocolates on riskless option and 7 on the risky option, then we play a gamble in which we put extra 21 (3×7) chocolates and the participant choose tail or head of the coin and we flip the coin. If the side which the child selects comes then (s)he wins and takes all chocolates (28) in the gamble plus the 3 chocolates in riskless option. On the other hand, if the side which the child does not select comes then (s)he loses just 7 chocolates which he puts in the risky option, but (s)he has still 3 chocolates which is put in the riskless option. Then, to make sure that children understand the details of the game and experiences how it feels to lose, we played 2 round trials (for some children 3-4 trials are played).

To measure children's time preferences (See Appendix C for more details), each child is given 3 marked chocolates. We write the participant's name on a paper and we punched chocolates and the paper for them not to exchange other chocolates which is bought from market. Then we explained the game of that if the participants wait for one day and prove it with bringing the same marked chocolates and show us how many of them are not eaten then, they earn additional one for each chocolate that they did not eat. After the explanation of game and make sure the participant understands the details, we ask them whether they want to eat any of the chocolates at that time. Then, we note how many of them they intend to wait, and this number is called intended number of chocolates. One day later, we ask them to show their marked chocolates and give them their rewards and we called this number as their realized value. To be more specific, after the participant takes 3 chocolates, (s)he specifies how many chocolates (s)he intends to wait for one day. For example, (s)he would like to eat 1

chocolate right away and wants to bring back 2 of them. One day later we look how many of them the participant brings back without eating. If 1 chocolate is brought, then we give 1 extra chocolate. If 2 chocolates are brought, we give 2 extra chocolates. If no chocolate is brought that is the participant could not afford to wait, the participant cannot get anything.

In the literature, self-control is defined as the capacity to override short-term desires for long-term rewards (Baumeister, Heatherton, & Tice, 1994). To control children's self-regulation problems, we measure the self-control problems in our game by comparing the difference between their initial commitment and the final realization. Thus, we can see how much the participant deviate from the targets, and we can detect whether the participants keep their promise or not. In other words, we can observe whether they could give up to their impulses.

3.2 Data

We conduct our series of experiments between September-December 2018 and May 2019 in Ankara and in March 2019 in Gaziantep with almost 500 children between ages of 5 and 14 years. We collect our data in two schools and two masjids and over 50 families at their own homes in Altındağ, Pursaklar and Çubuk districts in Ankara. At the beginning of study, we interviewed more than 50 families at their homes for 3 weeks, so we could observe and rank the economic conditions of families and in this way, we aimed at conducting our study in a more rich information set that includes families' experiences about the war. However, it was not feasible to conduct research with families at their homes as they need to know and trust us. In family interview process, a Syrian national helped us for visiting the families. That person knows many Syrian families and can easily connect with them. With the help of our

Syrian expert, we interviewed an adequate number of families separately. This was the pilot phase of our study. We took detailed information about the development and consequences of the civil war at firsthand, after that point we prepare last version of our survey and continue our research in mosques and schools.

Table 1. Summary of Sample

	Exposed to War		Not Exposed to War		Total
	Female	Male	Female	Male	
Ankara	104	113	47	76	340
Gaziantep	55	62	44	46	207
Total	159	175	91	122	547

In Ankara, we interviewed with 340 participants and 217 out of them are Syrian children as a treatment group and 123 of them are Turkish children who have similar socio-economic background as a control group. Raven's IQ test is administered to all participants and we measured the children's height and weight. Not every child participated into risk and time preference game. We play risk game with 174 Syrian and 92 Turkish children in Ankara. For time preferences, we play the patience game with 74 children and 40 out of them are Syrian children in Ankara.

After we completed our data collection in Ankara, we continued our study in Gaziantep. We conducted our study in three schools which are located different slums of Gaziantep. We play incentivized games with 207 participants who are randomly selected from their schools and 117 out of them are Syrian children and 90 out of them are Turkish children. Poor families' children are studying in these schools. In those schools, Syrian and Turkish children study together in the same classrooms. As we did in Ankara, we administered the Raven IQ test to all participants, and we measure their

weight and height. We play the risk game with 181 participants and 103 out of them are Syrian children and the rest are Turkish. For time preferences, we play the patience game with 124 participants and 73 out of them are Syrian children and the 51 out of them are children born in Turkey.

4. Results

Figure 7: Risk Taking by Being Exposed to War

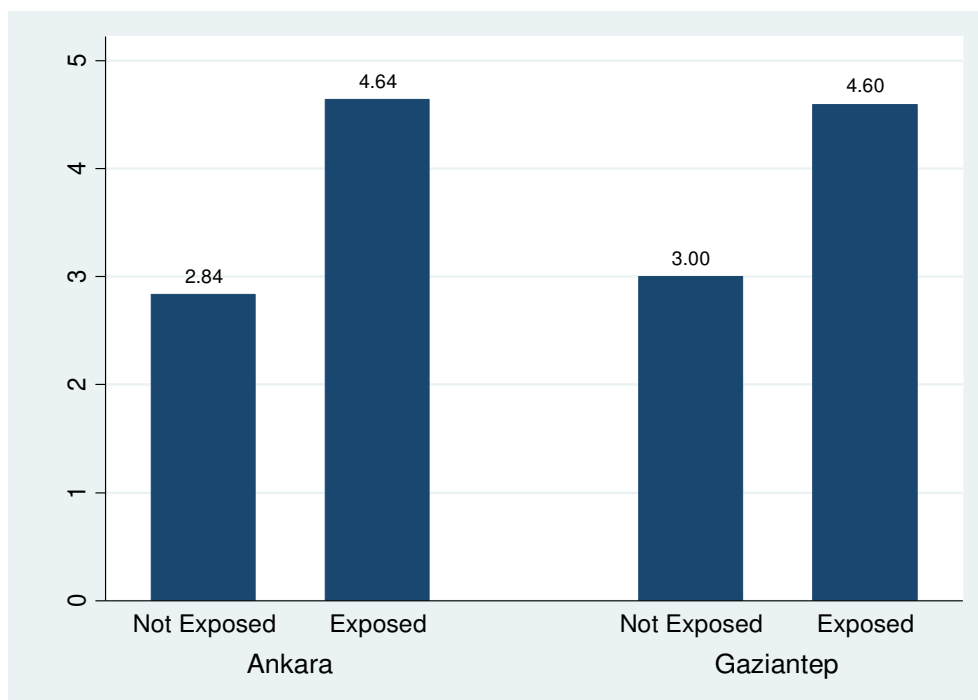


Figure 7 shows how average risk-taking change depending on being exposed to war both in Ankara and in Gaziantep. We observe that children who are exposed to war are taking more risks compared to children who are not exposed to war both in Ankara and Gaziantep. To be more specific, children in Ankara who are exposed to war invested 4.64 chocolates in our risk game whereas children in Ankara who are not exposed to war only invested 2.84 chocolates on average. In the same vein, children living in Gaziantep who are exposed war on average invested 4.60 chocolates whereas children who are not exposed to war but lives in Gaziantep invested 3 chocolates. In

both places, on average children exposed to war took 59% more risk compared to children not exposed to war which suggests that war makes children more risk seeking.

Figure 8. Time Preference by Being Exposed to War

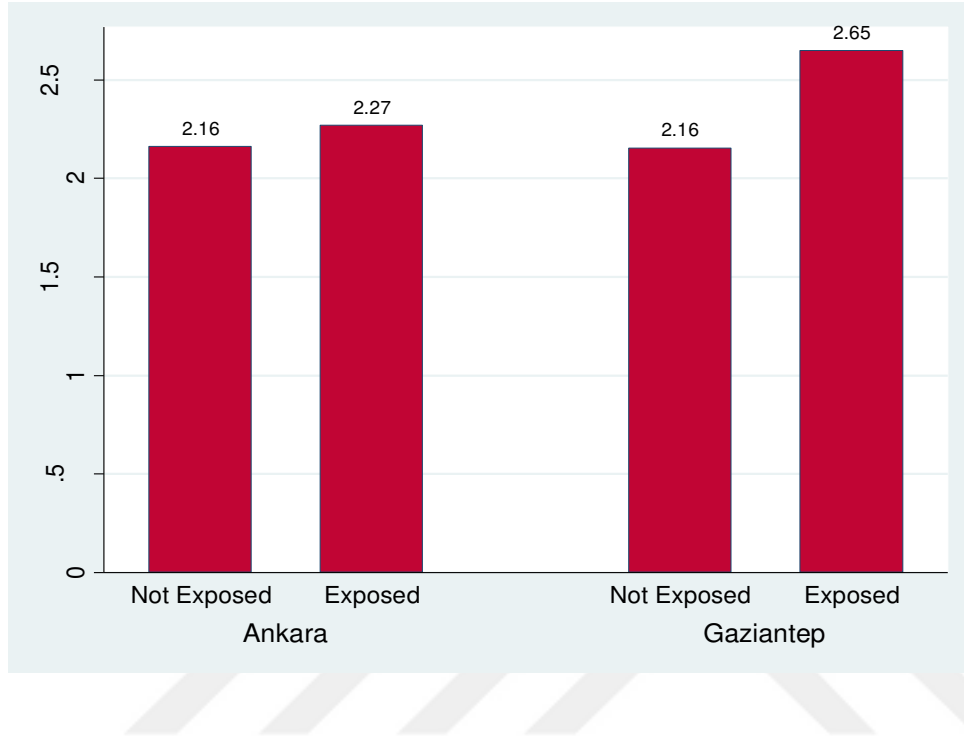


Figure 8 demonstrates how time preferences change depending on being exposed to war both in Ankara and in Gaziantep. We observe that children who are exposed to war have lower discount rates compared to children who are not exposed to war both in Ankara and Gaziantep. In other words, being exposed to war makes children more patient whereas children in Ankara in Gaziantep who are not exposed to war are less patient. In our sample, children in Ankara who are exposed to war brought back on average 2.27 out of 3 chocolates in our patience game whereas children in Ankara who are not exposed to war brought back 2.16 chocolates on average. Similarly, children in Gaziantep who are exposed war on average brought back 2.65 out of 3 chocolates in our patience game whereas children who are not exposed to war but lives in Gaziantep only brought 2.16 chocolates. In both places,

on average children who are exposed to war brought 16 % more chocolates compared to children not exposed to war which suggests that war makes children more patient.

Figure 9. Self-Control Problems by Being Exposed to War

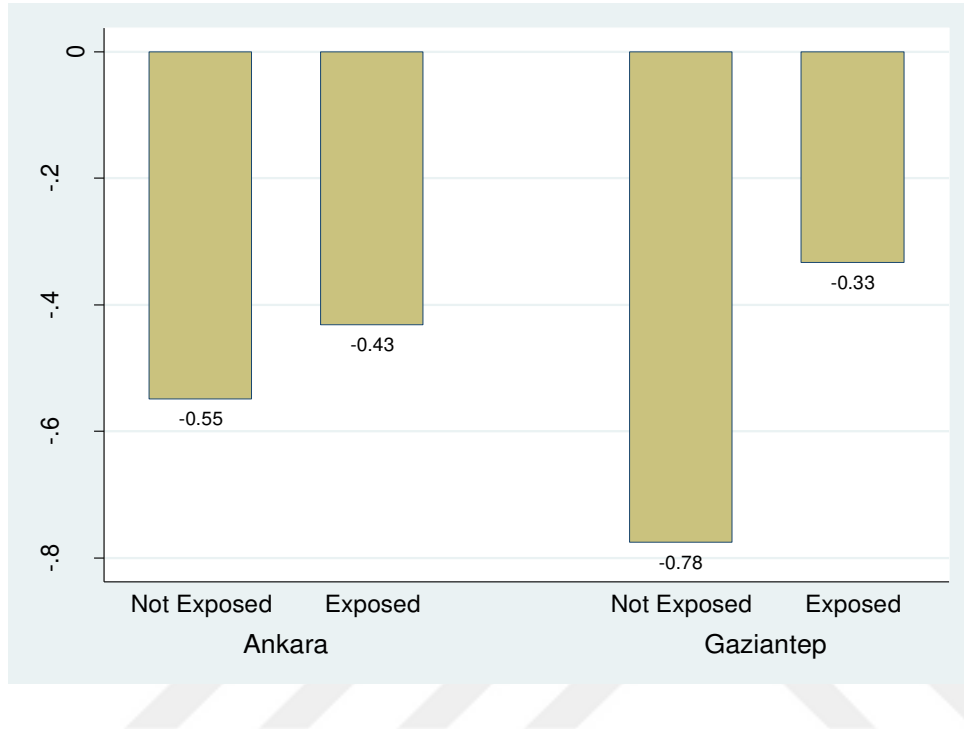


Figure 9 displays how the self-control ability changes by being exposed to war both in Ankara and in Gaziantep. We observed that children who are exposed to war has less difficulty regulating their impulses compared to children who are not exposed to war both in Ankara and Gaziantep. In other words, we think that experiencing war strengthens the ability of managing some behavior, emotions, and thoughts in the pursuit of long-term goals whereas children in Ankara who are not exposed to war have more trouble in controlling themselves. More specifically, children in Ankara who are exposed to war show -0.43 discrepancy between the number of chocolates they intended to bring back and the real number of chocolates they brought back whereas children in Ankara who did not experience war show -0.55 discrepancy on average. In the same lines, children who saw the war and now lives in Gaziantep on average brought 0.33 chocolates less than their first commitment whereas children

who did not see war but lives in Gaziantep deviate 0.78 chocolates less than their targets. In both places, on average children not exposed to war perform almost double discrepancy compared to children exposed to war which suggests that being exposed to war teaches them controlling themselves better.

Table 2 Descriptive Statistics

	Total	Exposed	Not exposed
Risk Taking	3.96 [2.19]	4.63 [2.10]	2.91*** [1.91]
Time preference	2.34 [1.05]	2.51 [0.88]	2.16* [1.19]
Self-control	-0.53 [0.97]	-0.37 [0.77]	-0.70* [1.13]
Height (in cm)	135.16 [12.62]	135.60 [13.76]	134.57 [10.91]
Weight (in kg)	32.97 [13.52]	32.94 [11.37]	33.01 [16.25]
Raven's IQ score	4.57 [3.89]	4.49 [3.74]	4.71 [4.10]
Female	0.46 [0.50]	0.47 [0.50]	0.43 [0.50]
Age	9.61 [1.92]	9.81 [2.06]	9.31 [1.64]
<i>N</i>			547

Notes: Mean coefficients and standard deviations in brackets are provided, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Descriptive statistics are presented in Table 2. When we look into Table 2, we can easily see that participants' major characteristics are very close to each other between two groups. More specifically, average weight and height are 32.94 kg and 135.6 cm for those who exposed to war, and 33.01 kg and 134.57 cm for unaffected children respectively. We conducted t-test to be able to see the statistical significance of the difference and did not find any statistically significant difference. This suggests that both groups are similar in terms of physical development. Likewise, when we compare the Raven's IQ score, treatment group scored 4.49 points, and the control group scored 4.71 points on average, there is no critical gap between both groups in terms of IQ score and the difference is not statistically significant. Lastly, we examine

age and gender composition of the groups as these are two important determinants which affect risk and time preferences which is established in the literature. Generally, people take more risks when they get older up until a certain age, also it is known that in general men take more risk than women (Charness & Gneezy, 2012; Slovic, 1966), therefore age gap and gender proportion between groups is an important consideration for the robustness of our results. There is no statistically difference in age and gender distribution for both groups on average. On the other hand, as we expect, there is statistically difference between children who exposed to war and experienced children in terms of risk taking, time preferences, as well as self-control problems on average.

To be able to control for other factors that would be relevant for our dependent variables, regression analysis is conducted.

Table 3 Regression Results

	Risk		Time Preference		Self-Control	
	(1)	(2)	(1)	(2)	(1)	(2)
exposed	1.650*** (0.207)	1.676*** (0.205)	0.331** (0.162)	0.332** (0.162)	0.348** (0.152)	0.348** (0.152)
female	-0.191 (0.195)	-0.183 (0.195)	0.110 (0.153)	0.149 (0.155)	0.047 (0.142)	0.080 (0.144)
age	0.147*** (0.049)	0.127** (0.050)	0.030 (0.049)	0.026 (0.049)	-0.024 (0.046)	-0.027 (0.046)
IQ		0.054** (0.026)		0.028 (0.020)		0.024 (0.019)
R-squared	0.163	0.172	0.035	0.047	0.031	0.041
N	444	444	185	185	185	185

Std. errors are robust, clustered at household level and provided in () *** p<0.01, ** p<0.05, * p<0.10

Regression results are shown in Table 3. Initially, to monitor the impact of the civil war on risk taking behavior, time preferences and self-control abilities, we include age, gender and IQ score variables into our regression model. Thus, we can see whether there is any relationship between variables of characteristics and individual preferences. According to regression results, experiencing war has a clear

impact on risk taking or time preferences of participants. Indeed, children who are exposed to war invested 1.68 more chocolates in our risk game after controlling for age, gender and IQ scores. In other words, risk preferences are affected by being exposed to war at 99% confidence interval. Also, in line with previous studies, we observe that age is positively related to risk taking and women have a lower risk preference albeit insignificant. Moreover, IQ scores have a statistically significant effect on risk preferences at 95% confidence interval.

Besides, being exposed to war is related to higher time-preferences and lower self-control problems at 95% confidence interval. On the other hand, we did not find any statistically significant relationship between age, gender and IQ scores for time preferences and self-control problems. That is, those children who are exposed to war were able to wait 0.3 chocolates more than children not exposed to war after taking into account the effect of age, gender, IQ scores.

5. Discussion

In the literature, there are controversial results about impact of trauma on human behavior. Voors et al. (2012) find that individuals who are exposed to violence are less patient and more risk-lover compared to unaffected individuals. Also, other researchers like Page et al. (2014) and Kahneman (1979) find that after a big loss, individuals generally display risk-seeking behavior. Contrary to that finding, many researchers like Eckel et al. (2009); Eckel and Grossman (2008a) and Callen et al. (2014) show that rather than traumatic events per se, remembering those days like fearful recollections or being under stress influence risk and certainty preferences for those who experienced violence.

Our findings demonstrate that children who exposed to war behave in a more risk-taking manner and our results support the findings of Kahneman (1979); Page et al. (2014); Voors et al. (2012) in the aspect of risk-seeking. However, contrary to Voors et al. (2012), we find that being exposed to war make children to be more patient. This difference might be stemming from the different groups that are studied. In Voors et al. (2012), the effects of violence are studied on adults. However, we studied with children. Heckman et al. (2009) and Heckman (2008) shows that these traits such as risk preferences and time preferences are formed in childhood and early adolescence. Therefore, being exposed to war might have lasting consequences for children even if it might not affect adults in a long-lasting manner. Besides this, the difference may stem from that in a conflict environment, resources get scarcer due to many reasons. For example, in a conflict places, shelter are devastated, infrastructure like health care system and schools to conduct daily life are shattered and because of the destroyed trust, firms are not likely to invest and this gives rise to unemployment rate. This lead parents who are responsible of nourishing their children to rush for accessing food as soon as possible, and this may change their time preferences towards impatience. However, children cannot reach or take whatever they want in the war environment, because there is scarcer resources and their family can not satisfy even their basic nutrition needs, therefore they learn to deal with scarcity, and it may make them to be more patient. Shortly, whereas being exposed to war may make the parents to rush and be impatient due to their instincts or responsibility of sustaining their families, it may make their children to learn how to withstand the challenges and to be more patient.

The differences in results might also stem from the nature of trauma. Although Eckel et al. (2009) did not find permanent effects of Hurricane Catherina on risk

preferences, hurricane is a such an event which happens and disappears suddenly. However, war that we study is a traumatic event that lasts for years. Therefore, risk preferences and time preferences might be molded by these causalities of war more than other disasters.

Gender and age are two factors which are positively correlated with risk preferences in our study, but the effect of gender is not statistically significant. Our findings are also in line with Slovic (1966) as they also find statistically significant effect of age on risk taking. Although Eckel and Grossman (2008b) found statistically significantly lower risk taking among women, Eckel et al. (2009) did not find the effect of gender to be statistically significant for those who are affected from Hurricane. This supports our finding, that is, although women might be less likely to take risks, their risk taking is similar to that of men when exposed to a traumatic event.

6. Conclusion

To understand the underlying effects that determine individual behavior become an important research topic in this decade, because of risk-taking and time factors impact consequential decision making like saving and investment decisions. These decisions can affect economic development. Both policy makers and academics have an increasing interest in how risk and time preferences change after large adverse shocks like catastrophes, domestic wars or any traumatic cases, because if their impacts on individual behavior is known, it would be beneficial for rehabilitation of victims as well as for fostering positive social and economic outcomes later. In addition, psychology literature provides evidence that temporary shocks might have permanent effects on one's life. For economics literature, how one's preferences are

permanently altered is also important as these preferences may have long run consequences on economic development even though the shocks are temporary.

In this study, we examine the impact of the civil war on risk and time preferences as well as self-control ability of children. To elicit participants' preferences, we utilize a series of economic experiments in which unaffected children and Syrian children who experience the civil war are studied. For this aim, we conduct our research from September 2018 to May 2019 using a sample over 500 children in Ankara and Gaziantep respectively. We observe that there is a strong relationship between conflict and behavior, or in other words, being exposed to war is robustly correlated with children's risk and time preferences. That is, children who are exposed to war take more risks and they are more patient. In addition, they have less self-control problems.

References

- Akerlund, D., Golsteyn, B., Gronqvist, H., & Lindahl, L. (2014). *Time Preferences and Criminal Behavior*. IZA Discussion Paper No: 8168. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2441464
- Andreoni, J., & Sprenger, C. (2011). *Uncertainty equivalents: Testing the limits of the independence axiom*, NBER Working Paper No:17342. Retrieved from <https://www.nber.org/papers/w17342>
- Balanche, F. (2018). Sectarianism in Syria's civil war: A geopolitical study. Retrieved from <https://halshs.archives-ouvertes.fr/halshs-01702640/document>
- Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation*: San Diego, CA: Academic Press.
- BBC. (2015). Paris attacks: UN backs 'all necessary measures' against IS. Retrieved from <https://www.bbc.com/news/world-europe-34886971>
- BBC. (2017a). Migrant crisis: Six children drown as boats sink off Turkey. Retrieved from <https://www.bbc.com/news/world-europe-34941414>
- BBC. (2017b). Who are the Kurds? Retrieved from <https://www.bbc.com/news/world-middle-east-29702440>
- Blair, C. (2010). Stress and the development of self-regulation in context. *Child Development Perspectives*, 4(3), 181-188.
- Callen, M., Isaqzadeh, M., Long, J. D., & Sprenger, C. (2014). Violence and risk preference: Experimental evidence from Afghanistan. *American Economic Review*, 104(1), 123-148.
- Cameron, L., & Shah, M. (2015). Risk-taking behavior in the wake of natural disasters. *Journal of Human Resources*, 50(2), 484-515.
- Çelik, H. K. (2019). *Does teacher's attitudes affect Syrian students' educational outcomes in Turkey?*, Master Thesis. (Master Thesis), Social Sciences University of Ankara.
- Charness, G., & Gneezy, U. (2012). Strong evidence for gender differences in risk taking. *Journal of Economic Behavior & Organization*, 83(1), 50-58.
- DEMA. (2017). *Türkiye'deki Suriyelilerin Yaşam Koşulları (The Conditions of Syrians' Lives in Turkey) (A Field Experiment)*. Retrieved from [https://www.afad.gov.tr/upload/Node/24384/xfiles/17a-Turkiye deki Suriyelilerin Demografik Gorunumu Yasam Kosullari ve Gelecek Beklentilerine Yonelik Saha Arastirmasi 2017.pdf](https://www.afad.gov.tr/upload/Node/24384/xfiles/17a-Turkiye%20deki%20Suriyelilerin%20Demografik%20Gorunumu%20Yasam%20Kosullari%20ve%20Gelecek%20Beklentilerine%20Yonelik%20Saha%20Arastirmasi%202017.pdf)
- DGMM. (2019). Temporary Protection. Retrieved from https://www.goc.gov.tr/icerik6/temporary-protection_915_1024_4748_icerik
- Doyle, O., Harmon, C. P., Heckman, J. J., & Tremblay, R. E. (2009). Investing in early human development: timing and economic efficiency. *Economics & Human Biology*, 7(1), 1-6.
- Eckel, C. C., El-Gamal, M. A., & Wilson, R. K. (2009). Risk loving after the storm: A Bayesian-Network study of Hurricane Katrina evacuees. *Journal of Economic Behavior & Organization*, 69(2), 110-124.
- Eckel, C. C., & Grossman, P. J. (2008a). Forecasting risk attitudes: An experimental study using actual and forecast gamble choices. *Journal of Economic Behavior & Organization*, 68(1), 1-17.
- Eckel, C. C., & Grossman, P. J. (2008b). Men, women and risk aversion: Experimental evidence. *Handbook of Experimental Economics Results*, 1(113), 1061-1073.

- Evans, G. W., & Kim, P. (2013). Childhood poverty, chronic stress, self-regulation, and coping. *Child Development Perspectives*, 7(1), 43-48.
- Ferris, E., & Kirişci, K. (2015). What Turkey's open-door policy means for Syrian refugees. *The Brookings Institution*. Retrieved from <https://www.brookings.edu/blog/order-from-chaos/2015/07/08/what-turkeys-open-door-policy-means-for-syrian-refugees/>
- Fisher, M. (2013). The one map that shows why Syria is so complicated. *Washington Post*. Retrieved from https://www.washingtonpost.com/news/worldviews/wp/2013/08/27/the-one-map-that-shows-why-syria-is-so-complicated/?utm_term=.f5281b0fa547
- Gneezy, U., & Potters, J. (1997). An experiment on risk taking and evaluation periods. *The Quarterly Journal of Economics*, 112(2), 631-645.
- Goldman, R. (2017). Assad's History of Chemical Attacks, and Other Atrocities. *The New York Times*. Retrieved from <https://www.nytimes.com/2017/04/05/world/middleeast/syria-bashar-al-assad-atrocities-civilian-deaths-gas-attack.html>
- Golsteyn, B. H., Grönqvist, H., & Lindahl, L. (2014). Adolescent time preferences predict lifetime outcomes. *The Economic Journal*, 124(580), F739-F761.
- Hackman, D. A., Farah, M. J., & Meaney, M. J. (2010). Socioeconomic status and the brain: mechanistic insights from human and animal research. *Nature Reviews Neuroscience*, 11(9), 651-659.
- Heckman, J. J. (2008). The case for investing in disadvantaged young children. *CESifo DICE Report*, 6(2), 3-8.
- Hjalmarsson, R., Holmlund, H., & Lindquist, M. J. (2015). The Effect of Education on Criminal Convictions and Incarceration: Causal Evidence from Micro-data. *The Economic Journal*, 125(587), 1290-1326.
- Kahneman, D. (1979). Prospect theory: An analysis of decisions under risk. *Econometrica*, 47(2), 263-292.
- Kingsley, P. (2015). Arab spring prompts biggest migrant wave since second world war. *The Guardian*. Retrieved from <https://www.theguardian.com/world/commentisfree/2015/jan/03/arab-spring-migrant-wave-instability-war>
- Lochner, L. (2004). Education, work, and crime: A human capital approach. *International Economic Review*, 45(3), 811-843.
- McClelland, M. M., Cameron, C. E., Connor, C. M., Farris, C. L., Jewkes, A. M., & Morrison, F. J. (2007). Links between behavioral regulation and preschoolers' literacy, vocabulary, and math skills. *Developmental Psychology*, 43(4), 947-959.
- MFA. (2019). PKK. Retrieved from <http://www.mfa.gov.tr/pkk.en.mfa>
- MFSP. (2017). Minimum Wages by Years (Yıllar İtibariyle Asgari Ücretler). Retrieved from <https://www.ailevecalisma.gov.tr/media/3666/asgari-uecret-guen-ay.pdf>
- Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., . . . Ross, S. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences*, 108(7), 2693-2698.
- Page, L., Savage, D. A., & Torgler, B. (2014). Variation in risk seeking behaviour following large losses: A natural experiment. *European Economic Review*, 71, 121-131.

- Reuters. (2013). Massacre of over 100 reported in Syria's Homs. Retrieved from <https://www.reuters.com/article/us-syria-crisis/massacre-of-over-100-reported-in-syrias-homs-idUSBRE90G09R20130117>
- Rodgers, L., Gritten, D., Offer, J., & Asare, P. (2016). Syria: The story of the conflict. *BBC News*, p. 2016. Retrieved from <https://www.bbc.com/news/world-middle-east-26116868>
- Slovic, P. (1966). Risk-taking in children: Age and sex differences. *Child Development*, 37(1), 169-176.
- Specia, M. (2018). How Syria's death toll is lost in the fog of war. *The New York Times*. Retrieved from <https://www.nytimes.com/2018/04/13/world/middleeast/syria-death-toll.html>
- Stanton, G., Region, B., & Alliance, A.-G. (2013). *Genocide Watch*. Retrieved from http://genocidewatch.info/images/Genocide_Watch_Package.doc
- Sterling, J. (2012). Daraa: The spark that lit the Syrian flame. *CNN*. Retrieved from <https://edition.cnn.com/2012/03/01/world/meast/syria-crisis-beginnings/index.html>
- Sutin, A. R., Ferrucci, L., Zonderman, A. B., & Terracciano, A. (2011). Personality and obesity across the adult life span. *Journal of Personality and Social Psychology*, 101(3), 579-592.
- UNHCR. (2017). Syria Regional Refugee Response. Retrieved from <https://data2.unhcr.org/en/situations/syria>
- UNHCR. (2018, 19 April 2018). Syria emergency. Retrieved from <https://www.unhcr.org/syria-emergency.html>
- UNHRC. (2015). *Report of the Independent International Commission of Inquiry on the Syrian Arab Republic ((A/HRC/30/48))*. Retrieved from UNHRC: <https://www.ohchr.org/EN/HRBodies/HRC/IICISyria/Pages/Documentation.aspx>
- UNHRC. (2018). *Report of the Independent International Commission of Inquiry on the Syria Arab Republic* Retrieved from <https://www.ohchr.org/EN/HRBodies/HRC/IICISyria/Pages/Documentation.aspx>
- UNICEF. (2013). *Syria Crisis: Education Interrupted*. Retrieved from www.unicef.org: https://www.unicef.org/media/files/Education_Interrupted_Dec_2013.pdf
- Voors, M. J., Nillesen, E. E., Verwimp, P., Bulte, E. H., Lensink, R., & Van Soest, D. P. (2012). Violent conflict and behavior: a field experiment in Burundi. *American Economic Review*, 102(2), 941-964.
- Yehuda, R. (2002). Post-traumatic stress disorder. *New England Journal of Medicine*, 346(2), 108-114.

APPENDICES

Appendix A: Survey Questions

Appendix A.1: Survey Questions in English

- 1- Name and Surname:
- 2- Age:
- 3- Body weight & height: &
- 4- Nationality:
- 5- Where were you born?
- 6- Where had you being lived before arriving to Turkey (only Syrians)?
- 7- When did you come to Turkey after the beginning of war (only Syrians)?
- 8- Have any of your family members been killed or injured in the war?
- 9- Who is working in your family or who satisfy needs of your family?
- 10- Raven's IQ Test Answers: 1.) 2.) 3.) 4.) 5.) 6.)
- 11- Risk Preferences:
- 12- Intended Number of Chocolates:
- 13- Realized Number of Chocolates:

Appendix A.2: Survey Questions in Arabic and Turkish

1- Adınız ve Soyadınız nedir?

ما اسمك وما شهرتك أو ما كنييتك ؟

2- Yaş

عمرک

3- Kilo ve Boy

الوزن والطول

4- Milliyet

قومية

5- Nerede Doğdun?

اين ولدت؟

6- Suriye’de hangi şehirde yaşıyordunuz?

في أي مدينة كنتم تسكنون في سوريا ؟

7- Türkiye’ye ne zaman göç ettiniz? (Ay ve yıl)

منذ متى هاجرتم إلى تركيا منذ كم سنة أو كم شهر ؟

8- Suriye’deki savaş sebebi ile 1. Derece (çekirdek aile, eş, kardeş, çocuk, baba veya anne) veya 2. Derece (amca, hala, teyze, kuzenler vb....) akrabalarınızdan herhangi birini kaybettiniz mi yahut yara alan oldu mu?

هل من أقربكم (أب. أم. زوج. أخ. أولاد) أو أقارب الدرجة الثانية مثل (عم. خال. عمه. خالة.

أو أولادهم...) من مات أو جرح أو فُقد في الحرب.

9- Ailenizde kim çalışıyor?

من يعمل في عائلتك

10- Raven IQ Test Cevapları: 1, 2, 3, 4, 5, 6

إجابات اختبار ذكاء الغراب: 1، 2، 3، 4، 5، 6

11- Risk Tercihi

تفضيل المخاطر

12-Beklenen Çikolata Sayısı

عدد المقصود من الشوكولاته

13-Gerçekleşen Çikolata Sayısı

عدد الشوكولاته في النهاية

Appendix B: Risk Preferences Game

- Step 1- We gave 10 chocolates to all children as a gift.
- Step 2- We ask them to divide their chocolates between a risky and a riskless option.
- Step 3- We explain the rules of game:
- a) The chocolates put into riskless option are given at the end of the game for sure without any loss.
 - b) The chocolates put into the risky option has a 50/50 chance of bringing extra 3 times of the amount (s)he invested.
 - c) At the end of game, if he wins, he takes all chocolates on riskless and risky option.
 - d) At the end of the game, if (s)he loses, (s)he takes only chocolates on riskless option.
- Step 4- To clarify the game, we gave several examples and we played 2 round trials at least and we sure that (s)he understands very well.
- Step 5- We ask her(him) to ask one side of the coin for the game.
- Step 6- We flip the coin and finally, (s)he takes the chocolates according to that (s)he wins or loses

Examples;

1-) If a child put 3 chocolates on riskless option and 7 on the risky option, then we flip the coin. If he wins, he gets $(4*7) + 3 = 31$ chocolates, if (s)he loses, (s)he gets only 3 chocolates that he puts in the riskless option.

2-) If a child put 0 chocolates on riskless option and 10 on the risky option, then we flip the coin. If he wins, he gets $(4 \times 10) + 0 = 40$ chocolates, if (s)he loses, (s)he gets only 0 chocolates that he puts in the riskless option.

3-) If a child put 5 chocolates on riskless option and 5 on the risky option, then we flip the coin. If he wins, he gets $(4 \times 5) + 5 = 25$ chocolates, if (s)he loses, (s)he gets only 5 chocolates that he puts in the riskless option.

4-) If a child put 8 chocolates on riskless option and 2 on the risky option, then we flip the coin. If he wins, he gets $(4 \times 2) + 8 = 16$ chocolates, if (s)he loses, (s)he gets only 8 chocolates that he puts in the riskless option.

5-) If a child put 1 chocolate on riskless option and 9 on the risky option, then we flip the coin. If he wins, he gets $(4 \times 1) + 9 = 13$ chocolates, if (s)he loses, (s)he gets only 9 chocolates that he puts in the riskless option.

6-) If a child put 10 chocolates on riskless option and 0 on the risky option, then we flip the coin. If he wins, he gets $(4 \times 0) + 10 = 10$ chocolates, if (s)he loses, (s)he gets only 10 chocolates that he puts in the riskless option.

Appendix C: Patience Game

- Step 1- We gave 3 marked chocolates to all children as a gift
- Step 2- We explain the rules of game:
- a) If the participant waits for one day and prove it with bringing the same marked chocolates and show us how many of them are not eaten then, (s)he earns additional one for each chocolate that (s)he did not eat.
 - b) (s)he does not have to participate into the game and if (s)he wants, (s)he eats all chocolates right now or whenever (s)he desires.
- Step 3- To clarify the game, we gave several examples and we show 2 possibilities as a trial at least and we sure that (s)he understands very well.
- Step 4- We ask her(him) whether (s)he wants to eat any of the chocolates at that time or how many of them (s)he would like to wait, and we learn the exact number that (s)he waits.
- Step 5- (s)he specifies how many chocolates (s)he intends to wait for one day and we note this number called intended number of chocolates.
- Step 6- We write the participant's name on a paper and we punched chocolates and the paper for them not to exchange other chocolates which is bought from market.
- Step 7- One day later, we ask them to show their marked chocolates and give them their rewards and we called this number as their realized value.

Examples;

1-) If (s)he would like to eat 1 chocolate right away and wants to wait for 2 of them. One day later we look how many of them the participant brings back without eating. If 1 chocolate is brought, then we give 1 extra chocolate. If 2 chocolates are brought, we give 2 extra chocolates. If no chocolate is brought that is the participant could not afford to wait, the participant cannot get anything

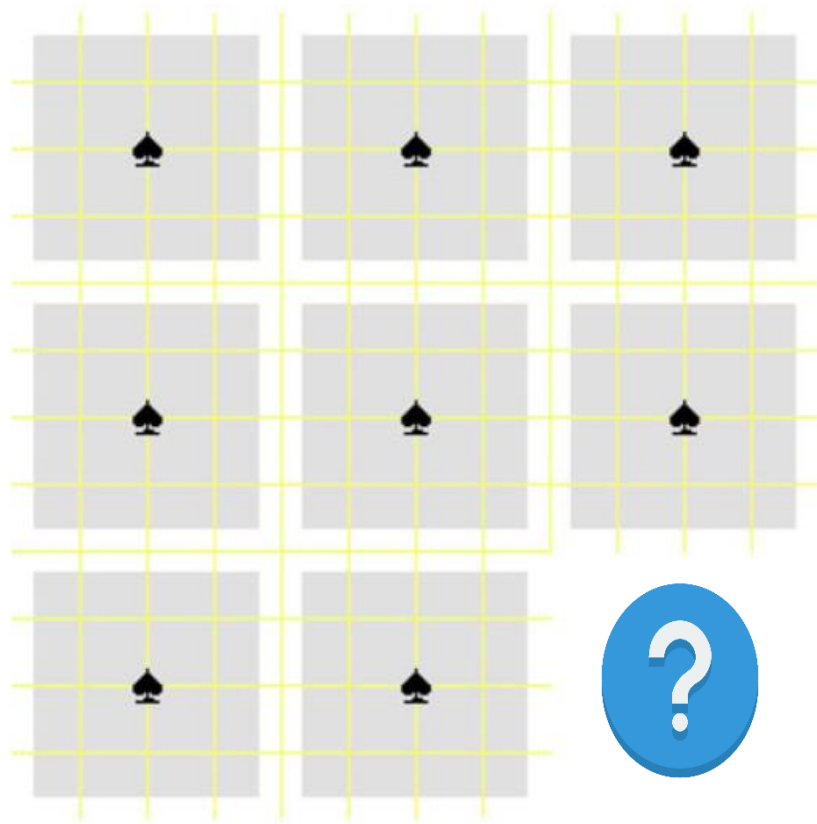
2-) If (s)he would like to eat 2 chocolate right away and wants to wait for 1 of them. One day later we look how many of them the participant brings back without eating. If 1 chocolate is brought, then we give 1 extra chocolate. If no chocolate is brought that is the participant could not afford to wait, the participant cannot get anything.

3-) If (s)he would not like to eat any chocolates right away and wants to wait for 3 of them. One day later we look how many of them the participant brings back without eating. If 1 chocolate is brought, then we give 1 extra chocolate. If 2 chocolates are brought, we give 2 extra chocolates. If 3 chocolates are brought, we give 3 extra chocolates. If no chocolate is brought that is the participant could not afford to wait, the participant cannot get anything.

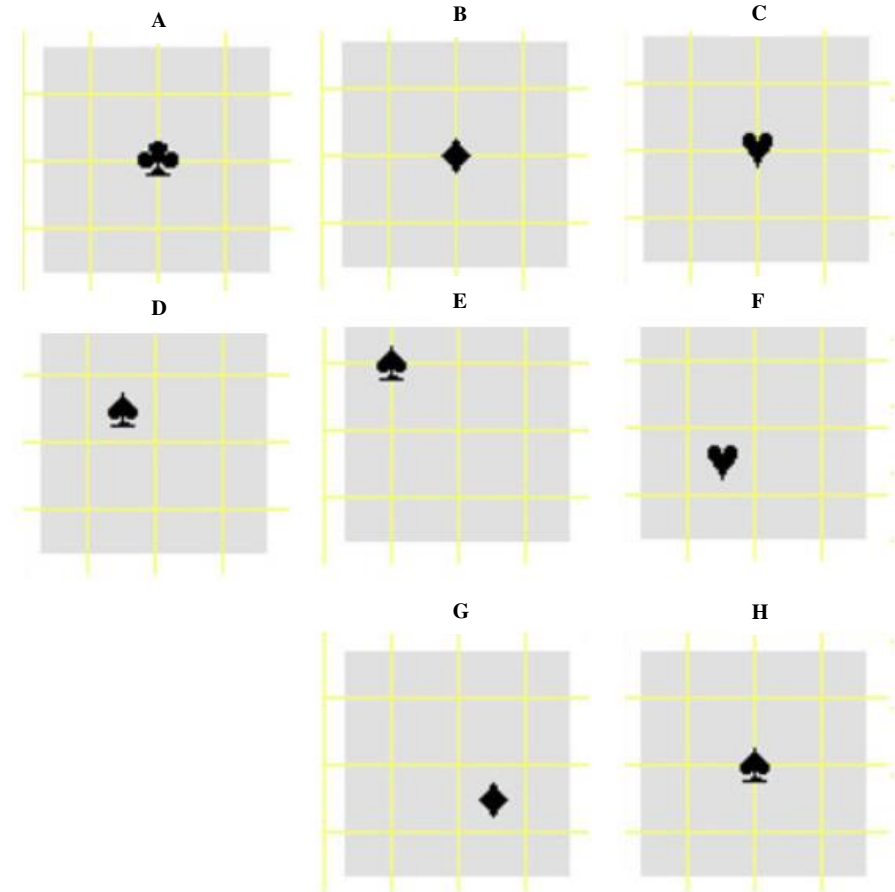
4-) If (s)he would like to eat all chocolates right away and wants to wait for 3 of them. One day later, the participant cannot get anything.

Appendix D: Raven IQ Test:

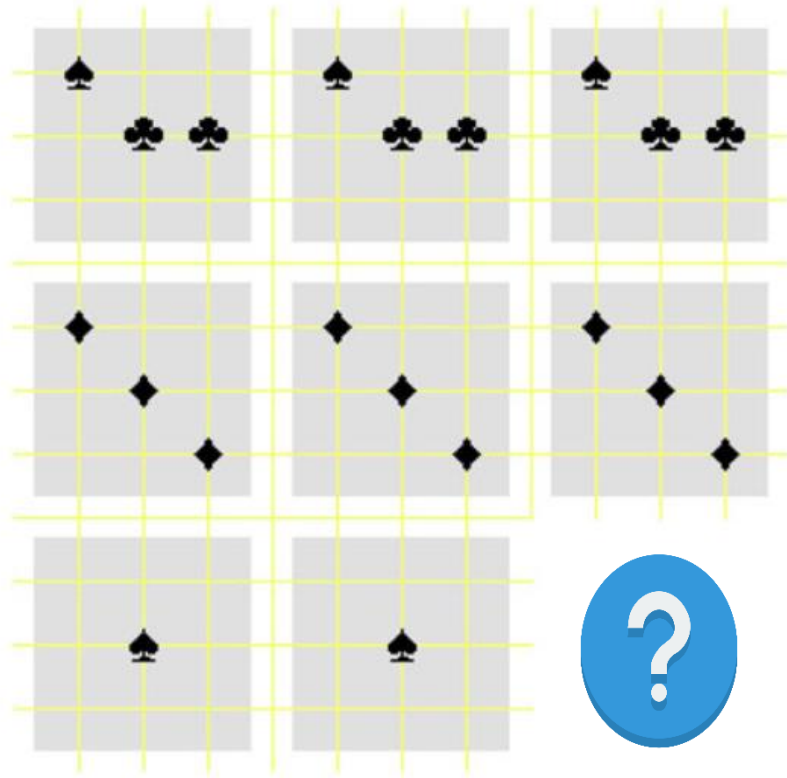
Question:1



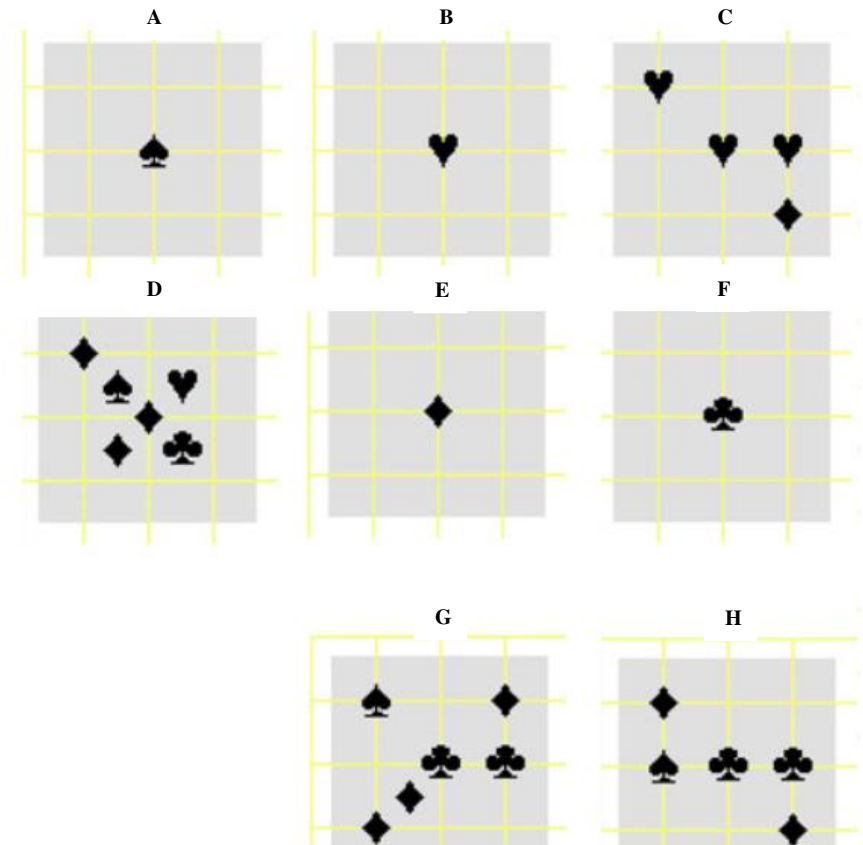
Which shape should replace the question mark?



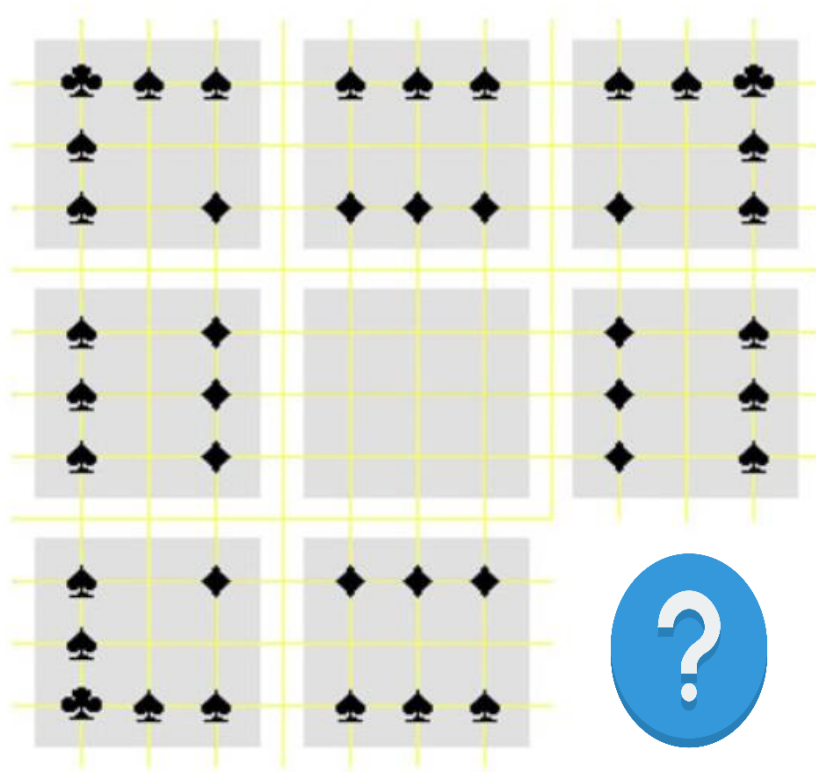
Question:2



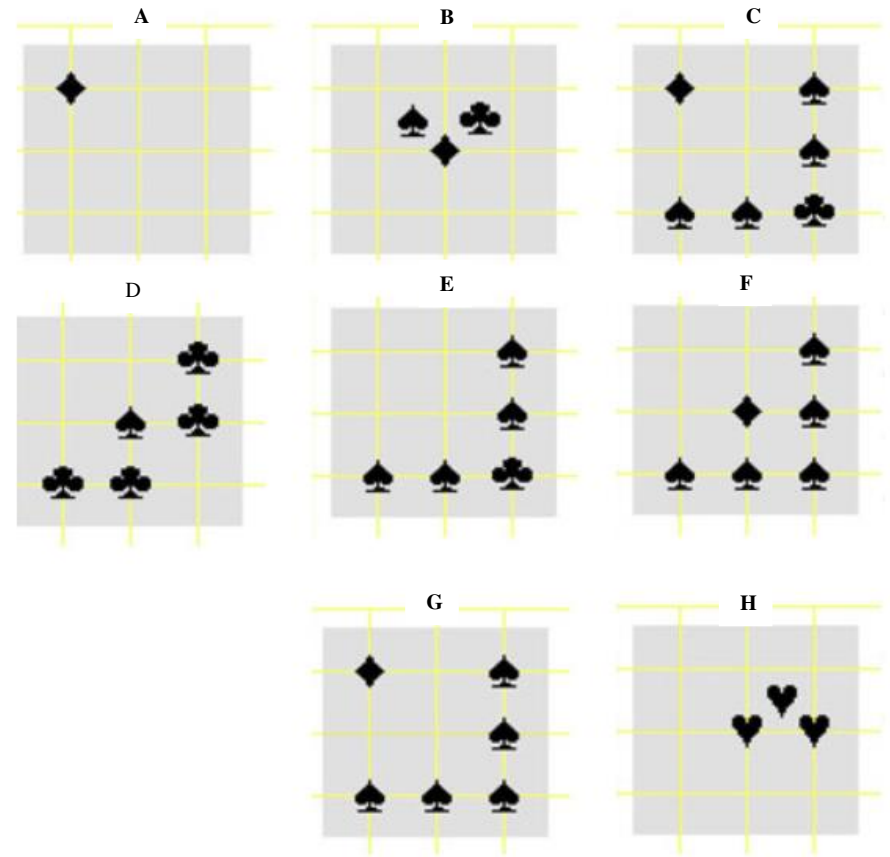
Which shape should replace the question mark?



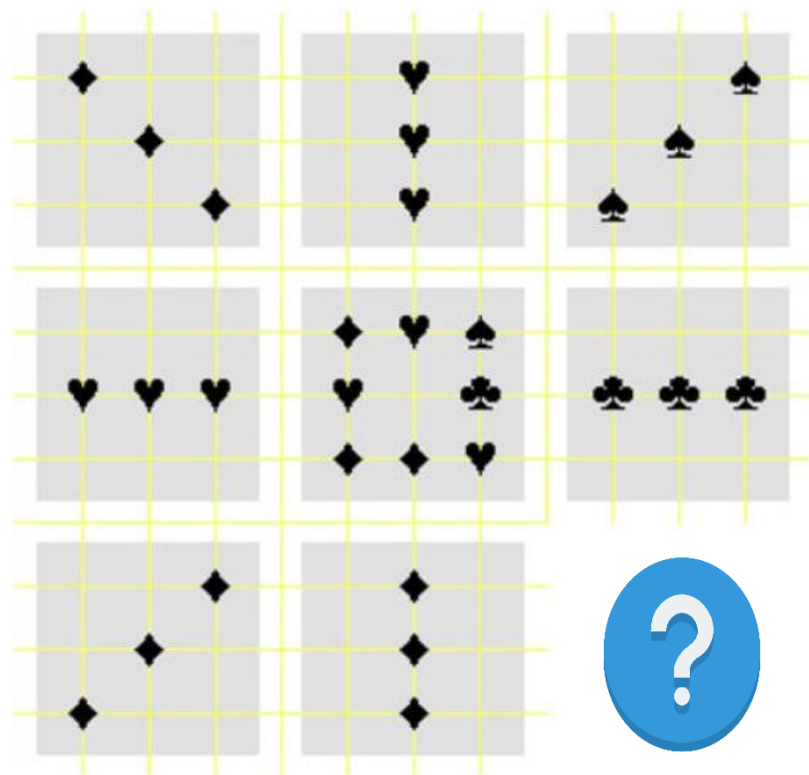
Question:3



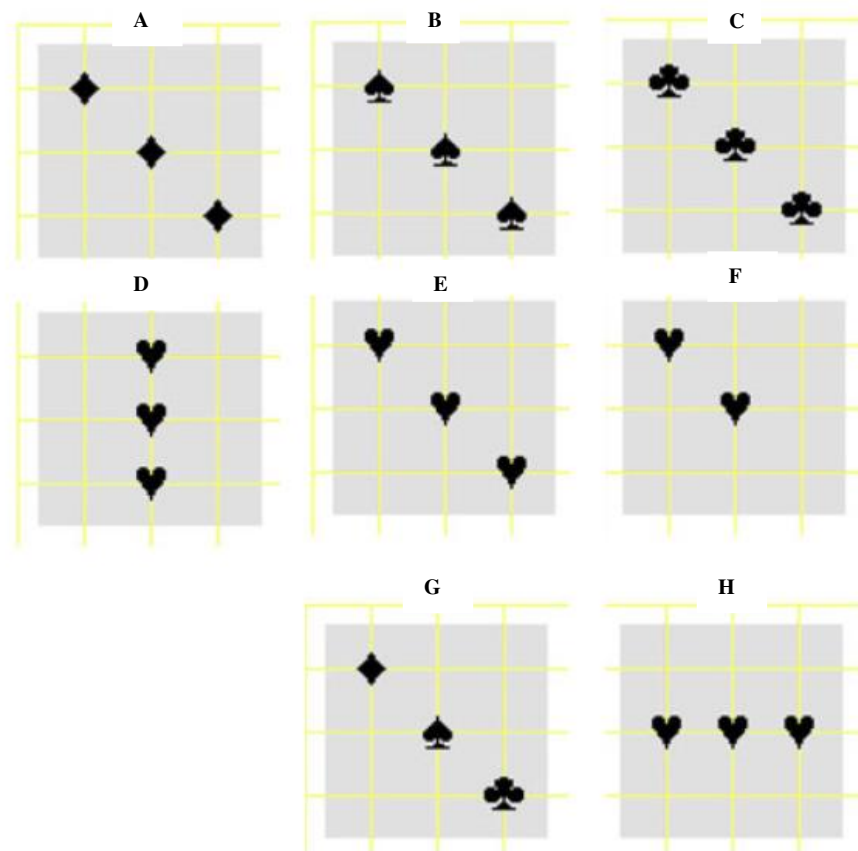
Which shape should replace the question mark?



Question:4

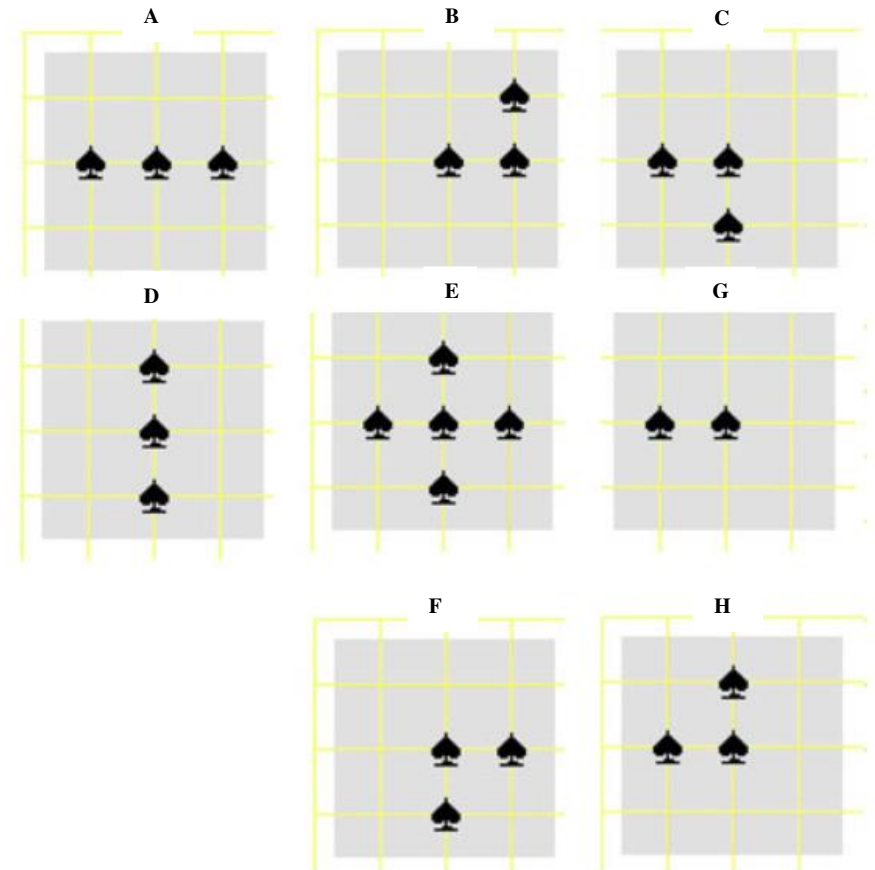
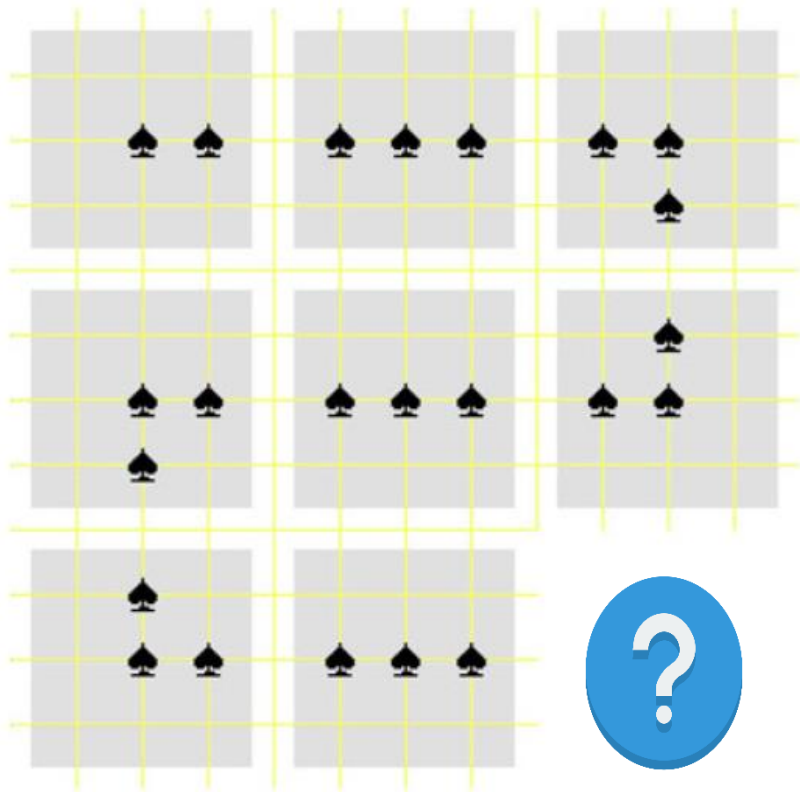


Which shape should replace the question mark?

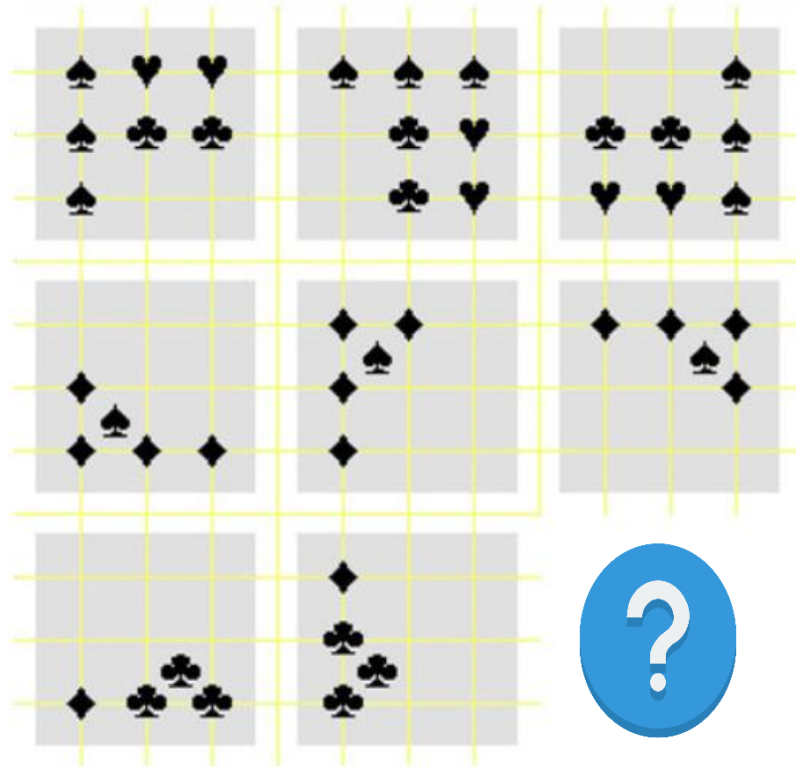


Question:5

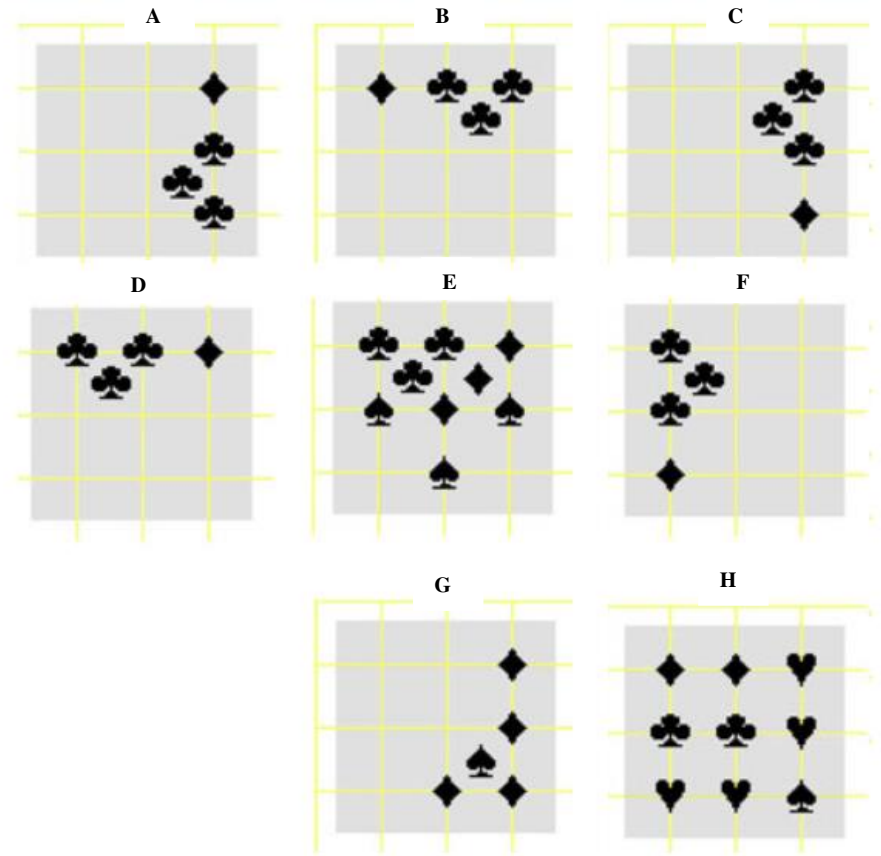
Which shape should replace the question mark?



Question:6



Which shape should replace the question mark?



RESUME

I was born in Ankara in 1991. After completing Ankara Atatürk High School (called as Ankara Sultanisi) I took the University Entrance Examination at which I was ranked as 305th out of nearly 2 million candidates. This performance helped me in getting admission into the Department of Economics in where English is the only medium of education. I graduated as an honor student from my department. After graduating and obtaining BA degree in 2015, I started to work as a specialist in the Ministry of Economy. I was responsible for high-tech automotive and defense industry and agricultural investment projects in Department of Government Incentives and Foreign Capital. Besides these, I represented the ministry in many official meetings, and I supervised many firms' investment projects (approximately 50) and evaluated the firms' performance and their investment projects. I have managed numerous investment projects in various companies in various sectors as a civil servant. I have visited various firms all over Turkey such as Bursa, Antep, İstanbul, Batman Konya, Samsun and so on. I have communicated with sector-leading investors and I prepared reports for formulating the right action to develop the region and ameliorate the investments and employment. Currently, I intend to continue my education with a Ph.D. in Management, then I would like to pursue a career in research.

SALİH DOĞANAY