ORGANIZATIONAL STRUCTURE OF PKK AND NON-PKK-LINKED TURKISH DRUG TRAFFICKING ORGANIZATIONS: THE INFLUENCE OF SOCIAL BONDS

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Tugrul Turhal
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George Mason University
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DEDICATION

This study is dedicated to those who fight for humanity, and those who put efforts to increase the quality of life of human beings.

It is dedicated to those who devote their life to peace, love, and science.

It is dedicated to those who value humanity in the first place, rather than nationality, ethnicity, religion and ideology.

It is dedicated to those who think independently, and those who produce and work for all living creatures.

A wise man doesn't say every single thing he thinks of, but thinks of every single thing he says.

Mevlana Celaleddin
Rumi

Wait for a moment, look behind and remember those you forget… If you lost, look for them; if you broke, ask mercy from them; if they broke you, forgive them… because life is very short.

Shems Tebrizi

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LIST OF ACRONYMS/ABBREVIATIONS

ADL	The Anti-Defamation League
AKSh	Armata Kombëtare Shqiptare (Albanian)
ASG	Abu Sayyaf Group
ASOCD	Anti-Smuggling and Organized Crime Department
DEA	Drug Enforcement Agency
DTO	Drug Trafficking Organizations
ELN	Ejército de Liberación Nacional (Spanish)
EMCDDA	European Union, European Monitoring Centre for Drugs and Drug Addiction
ETA	Basque Fatherland and Liberty
FARC	Fuerzas Armadas Revolucionarias de Colombia (Spanish)
FBI	Federal Bureau of Investigation
HT	Hizb-ut-Tahrir
IMU	Islamic Movement of Uzbekistan
IRA	Irish Republican Army
KADEK	Freedom and Democracy Congress of Kurdistan
NLA	National Liberation Army
MILF	Moro Islamic Liberation Front
PKK	Kurdistan Workers' Party
RQ	Research Question
SNA	Social Network Analysis
TDAOC	Turkish Department of Anti-Smuggling and Organized Crime
TUBIM	Turkish Monitoring Center for Drugs and Drug Use
TNP	Turkish National Police
UN	United Nations
UNODC	United Nations Office on Drugs and Crime

ABSTRACT

ORGANIZATIONAL STRUCTURE OF PKK AND NON-PKK-LINKED TURKISH DRUG TRAFFICKING ORGANIZATIONS: THE INFLUENCE OF SOCIAL BONDS

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George Mason University, 2015

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Drugs and drug-related crime problems pose major threats to societies around the world in terms of their negative consequences at both individual and societal levels. Turkish drug-trafficking organizations (DTOs) have ethnic, social, geographic, and economic ties with Turkey's eastern neighbors, the Balkan Region, and Europe, and are considered to play major roles in the drug trade. The Kurdistan Workers Party (PKK) has also had a longstanding presence in the drug trade in this region.

The goals of this research are (1) to identify the social and demographic characteristics of people in drug-trafficking organizations in Turkey; (2) to elucidate the differences, if any, of the social and structural characteristics in PKK-related and non-PKK-related drug organizations; and (3) to analyze the impact of social bonds on the Turkish drug trafficking organizations (DTOs), their networks and relationships.

The data used in this study are official Turkish Police records of drug trafficking cases between 1984 and 2010. Several statistical techniques were used to analyze the data: relationship analysis, analysis of difference, and social network analysis. An analysis of these relationships at both the individual and network level was conducted using original data on 773 members from 100 drug-trafficking organizations (50 of them PKK linked and 50 of them non-PKK linked).

The results indicate that while there are some similarities with PKK and non-PKK linked organizations there are also distinct differences in both their individual and organizational characteristics, structure, role distribution, nationality, and social ties and bonds. In addition, the study found important evidence connecting the terrorist organization (PKK) with several non-PKK organizations. These connections are quite strong for a portion of the networks. This study significantly contributes to the related literature; it provides a general overview of drug and drug related crime problems and their connection to terrorist organizations throughout the world particularly for those located in Turkey and the Middle Eastern regions.

CHAPTER 1 – INTRODUCTION

1.1. Statement of Problem

Drug trafficking is a significant problem that constitutes serious threats around the world. First, drug trafficking is attractive to most criminal organizations and gangs because of the huge revenue it generates for its members (Caulkins, Kleiman, and Reuter, 2002). Second, the drug trafficking connection with terrorism is a major concern for governments, security agencies, and intelligence services (Vargas, 2002; Thoumi, 2005). Third, the negative effects of drug trafficking on communities' social, economic, and cultural life cannot be underestimated (MacCoun, Reuter, and Schelling, 1996; Hutchinson and O'Malley, 2007). Fourth, drug trafficking cannot be underrated as it pervades every country in the world, creating ungoverned and unstable territories difficult to control (Thoumi, 2005; Caulkins and Reuter, 2006). Researchers have long studied and investigated drug trafficking problems to create policies to remedy the negative consequences of the drug problem around the world.

In the last several decades, Turkey has increasingly suffered from drug trafficking. Being a transit country between drug producing Asian and Middle Eastern countries and Balkans and Europe, Turkey has often been a popular route for drug traffickers (Roth and Sever, 2007, Dorn et.al., 2005, Galleotti, 1998). Several factors are

important in explaining why traffickers prefer Turkey for their activities, including: 1) Turkey's ethnic, cultural, and economic ties with its bordering countries, as well as many Eastern and Western countries; 2) security problems and the civil unrest at the Eastern and Southeastern borders; 3) the availability of legal trade and transportation channels along the Balkan route (Sahin, 2002; Unal, 2012); 4) geographically, Turkey serves as a bridge between the major drug source countries in Asia and the destination countries in Europe along the Balkan Route; and 5) Turkey's proximity to the Southern Mediterranean and the Northern Black Sea routes provides attractive access points to drug trafficking groups.

Starting from the early 1980s, Turkey has suffered from terrorist conflict in its Eastern and Southeastern regions (Sahin, 2002; Unal 2011; 2012b; 2014; 2015). An ethnic Kurdish insurgent group, Kurdistan Workers' Party (PKK), has created serious social, economic, and political problems for the country (Unal, 2012a; 2012b; 2014). Since the start of its armed activities in 1984, Turkish officials reported that about 35,000 Turkish citizens have been killed in this battle (including military members, police officers, other government officials including teachers, civilians from Turkish and Kurdish ethnicity, children, and even babies). According to estimates, Turkish government spent around $400 billion dollars in fighting against this conflict (Teymur and Smith, 2008; Unal. 2012a; 2014). In addition, the immeasurable negative effects of PKK terrorism on Turkey's tourism, education, health, social life and culture have been costly (Unal 2014; 2015). More importantly, Turkish authorities have blamed PKK for generating huge income from a wide range of criminal activities such as drug trafficking,

organized crime, violent activities, and kidnapping and murdering of government officials and civilians both in Turkey and Europe, to support and finance its terrorist activities (Kule, 2007; Unal 2011; 2012b; 2014).

Among those criminal activities, drug trafficking has been a major source of income for PKK (Unal 2012a; 2014). Studies have demonstrated that the Kurdistan Workers' Party (PKK) controls a major part of the drug trade in Europe and Turkey (Roth and Sever, 2007, Dorn et.al., 2005, Galleotti, 1998). To illustrate, according to Tudor (2002), 80 percent of drugs confiscated in Europe have been linked to the PKK and other Turkish/Kurdish DTOs. Some investigators claim that the PKK and Turkish/Kurdish DTOs control European markets through their highly developed and structured networks (Hutchinson and O'Malley, 2007; Roth and Sever, 2007, Van Solinge, 1998).

Despite the fact that Turkish DTOs control a large portion of European drug markets and drug trafficking from Afghanistan to the Western countries, their organizational structures, relationships among group members, and other related factors have not been analyzed by researchers. As noted in prior research, understanding the characteristics of drug networks, their motivations, relationships among the organization members, their structure, and connection with the terrorist groups are critical in regulating drug trade problems (Fuentes, 1998; Paoli, 2001; Caulkins, Kleiman, and Reuter, 2002; Reuter, 2004). Although there are significant obstacles for researchers in terms of availability of data, these factors nonetheless are important factors influencing the drug trade industry (Reuter, MacCoun and Murphy, 1990; Natarajan and Belanger,

1998; Reuter and Haaga, 1989; Natarajan, 2000, Levitt and Vankatesh, 2000; Bery et al. 2002; Zaithch, 2005).

This study provides an important contribution to the research because it employs original data extracted from Turkish police case files that are rich sources of information that may lead to a better understanding of factors related to drug trafficking organizations. Access to these case files allow the first of its kind examination that may shed light on the local and national effects of terrorists in Turkey. Although the focus of the study is on Turkish DTOs, it does increase the body of knowledge that can be applied to other countries facing terrorist threats. This study explores how the DTOs are structured and identifies their various functions.

1.2. Research Questions

There are three primary goals of to this research (1) to identify the social and demographic characteristics of people in drug-trafficking organizations in Turkey; (2) to elucidate the differences, if any, of the social and structural characteristics in PKK-related and non-PKK-related drug organizations; (3) to analyze the impact of social bonds on the Turkish drug trafficking organizations (DTOs), their networks and relationships. In order to address all three goals the research examines four research questions:

1. *What are the individual characteristics of PKK and non-PKK-related DTO members?*
    a. *What are the individual characteristics and profiles of drug offenders within the drug trafficking organizations in Turkey?*
        i. *Individual social and demographics factors*

b. What is the distribution of DTO members in terms of geographic regions in Turkey (differences between the 7 geographic regions of Turkey)?

c. Are there any regional differences between PKK-linked and non-PKK-linked DTOs?

2. *What are the organization characteristics of the PKK-related and non-PKK related DTOs?*

    a. *Is there any specific structure of the Turkish DTOs?*

    b. *Are there any similarities between the Turkish DTOs and the other DTOs?*

    c. Is there any hierarchic structure that position the DTO members in Turkey; how do their networks operate?

    d. Is there any hierarchic relationship between the PKK-related DTO members in Turkey; how do their networks operate?

3. *Are there any differences between the PKK- related DTOs and the non-PKK related DTOs in Turkey in terms of their network characteristics?*

4. *Are there any differences between the PKK-related DTOs and non-PKK-related DTOs in terms of any individual member characteristics?*

5. *What is the scope/impact of social connections among the individual DTO members?*

    Is there any personal relationship (Did they know each other before the drug trafficking activity) and familial connection of DTO members

in Turkey? (members from the same family, relatives including father, uncle, cousin, brother in law).

The goal of this study is to explore each of these research questions based on the data obtained from police case files in Turkey. It is believed that official datasets are more reliable due to their consistency and accuracy of recording compared to self-report datasets.

1.3. Definition of Key Terms

For the purpose of this study definitions are provided to clarify what is meant by drug trafficking crime, drug networks, and the structure of drug networks.

1.3.1. Drug Trafficking Activities

A drug trafficking activity involves a leader who financially supports the group and owns the drug, high-level managers who coordinate and organize the trafficking activity, mediators/communicators who communicate with transporters/storage providers, and other helpers, drivers/carriers who carry the drugs and money for the organization (Kenney, 2007; Natarajan, 2000; Natarajan and Belanger, 1998).

For the purpose of this study, the following operational definition will be used to define Drug Trafficking Activities:

An illegal group activity process that involves individuals related to each other with strong or weak (irregular) organizational structure in different levels and

roles based on the pattern of each DTO to produce, transfer, distribute, and use of illicit drugs.

1.3.2. Drug Trafficking Organizational Structure

Understanding and defining of the term "organizational structure of a drug trafficking organization" is also critical for the purpose of this study. "Organizational structure" is defined as the formation of individuals who come together and operate for the purpose of drug trafficking activity at various levels. Individuals in these organizations have different roles and responsibilities and somehow, they are connected to each other at various levels. The group of people related to each other for the purpose of drug trafficking is referred to as the "drug-trafficking organization." The term drug-trafficking is interchangeable in the research with the terms "drug trade, drug smuggling, narcotics trade, and narcotics smuggling" (Roth and Sever, 2007; Schmid, 2005; Natarajan, 2000, and Natarajan and Belanger, 1998). This study also uses these terms interchangeably.

Based on their activities, coordination, and communication skills, four categories of drug trafficking organizational structure have been developed for the purposes of this study: hierarchical structure, horizontal structure, independent individual traffickers, and interrelated drug trafficking organizations. For example, even though some drug trafficking organizations are categorized as having hierarchical structure, they may have interrelationships with other organizations or there may be some independent individuals

within those organizations. Nevertheless, these exceptions are disregarded because they do not affect the general structure of those organizations.

In parallel to these structural differences, the study analyzes ethnic, social, family, and geographical ties of the members of Turkish DTOs, their characteristics and organizational structures. Drug experts and previous research indicate that trust and knowing each other in drug networks are important factors. Drug traffickers prefer to cooperate with individuals who they know and trust (Haaga, 1989; Paoli, 2001; Reuter, 2001b). Also, coming from the same ethnic background, living in the same geographic regions and using the advantages of these regions (security problems, having relatives and friends at the other side of the country border, speaking same language, etc. are also important (Keser and Ozer, 2008; Van Solinge, 1998; Paoli and Reuter; 2008; Unal, M., 2009).

1.3.3. Drug Trafficking Process

The cases and organizations included in this particular study are part of a criminal activity referred to as the drug trafficking process. It is critical to better understand the samples and networks to explain the drug trafficking process and how the samples and cases are chosen. (See Figure 1). Individuals in drug networks operate at different stages of this process based on their roles. The first organizational process starts with the pre-production stage that includes illegal cultivation of plants, bringing or exporting other required chemicals for production, bringing experts for chemical operations, arranging inaccessible and secure locations (ensuring security) or laboratories for production,

providing finance, other necessary materials, and security. The second organizational stage is the production stage that includes bringing labor and capital together to produce drugs. The third stage includes transportation of produced drugs to dealers in the same country or to other countries where usually demand and price are very high. Fourth and last stage, involves the distribution of drugs to the consumers in small amounts on the streets or in secure locations. Many individuals are involved in this process, and it usually requires a long time.

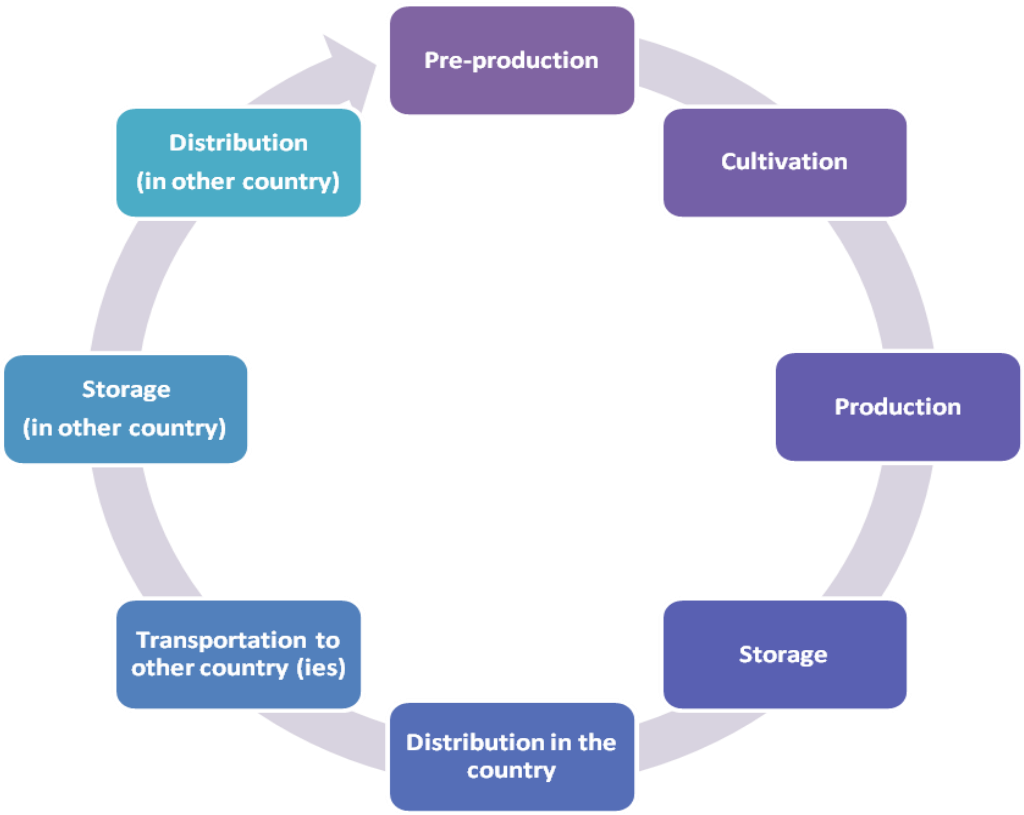

Figure 1 - Drug Trafficking Process

1.3.4. Definition of Structural Differences in Turkish DTOs

Like most of their counterparts, Turkish DTOs operate and act at various structural levels and types. These organizational differences are formed mainly by the organizational leaders and money providers. In other words, a central authority coordinated by the leaders' controls and shapes relationships, the communication and coordination skills of organizational members. Organizational structure of a drug network is influenced by factors such as trust to each other, knowing each other, being relative and friend, previous criminal experiences (staying together in the same prison, committing crime together etc.), strict control mechanisms by government authorities and harsh penalties, and doing drug business before. Based on these explanations, this study categorizes drug organization into four different structures including hierarchical, horizontal, independent (irregular), and interrelated organizations. Following paragraphs explain these categories.

a - Hierarchical Structure: This type of organizational structure refers to existence of one or a few individuals at the top layer of the network and they coordinate and shape the main activities of drug trafficking organization. These drug organizations are usually coordinated by a central authority (a leader or leaders) with one or a few individuals. They are more disciplined and have certain internal control mechanisms. The individuals at the top layer of the organization are called as "organization leaders." The second layer of the organization is "high-level managers" who help the top leader(s) to coordinate and operate the drug trafficking activity. The other layers involve

"mediator/communicator," "broker," "transporter/driver," "carrier," "street dealer," and "others" (See Figure-2). To measure this structure a variable called "role of the individual in the organization" that refers to the hierarchical status of the offender in the organization is developed. This model is commonly used in the literature of drug trafficking organizational research (Natarajan and Belanger, 1998; Natarajan, 2000; Kenney, 2007). This type of structure is more common among organizations that transport and deliver hard drugs such as cocaine, heroin, and methamphetamine, which are harshly punished and transported across cities or countries.

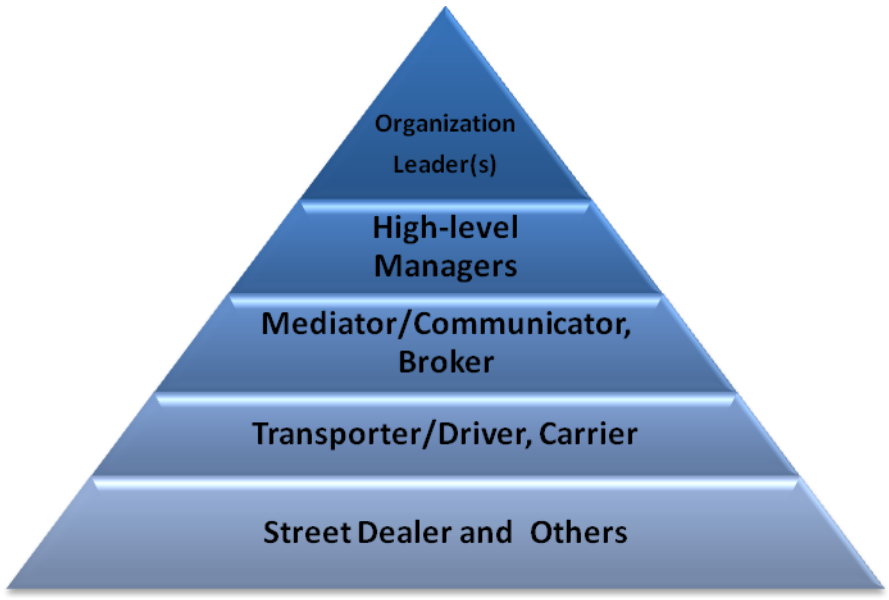

Figure 2 - Hierarchical Structure

b - Horizontal Structure: Another type of organizational structure of Turkish drug trafficking organization is horizontal organizational structure, which involves individuals that operate at the same or closer layers. In this type of organizations there is no strict hierarchical layers and control mechanisms as stated above. However, individuals in those organizations are not totally independent, as they are in irregular structures. In other words, no strict hierarchical structure and central authority exists for the coordination of drug trafficking organization. Individuals in this type of organization are more flexible in their relationships and decision-making. Their roles and responsibilities are equally distributed within the organization. There may be individuals who have more responsibilities or roles within those organizations but there is less central authority or leaders who have influence on members' activities. They do not have strict control mechanisms and discipline in their communication and coordination skills (See Figure-3) (Reuter and Haaga, 1989; Natajaran, 2000).

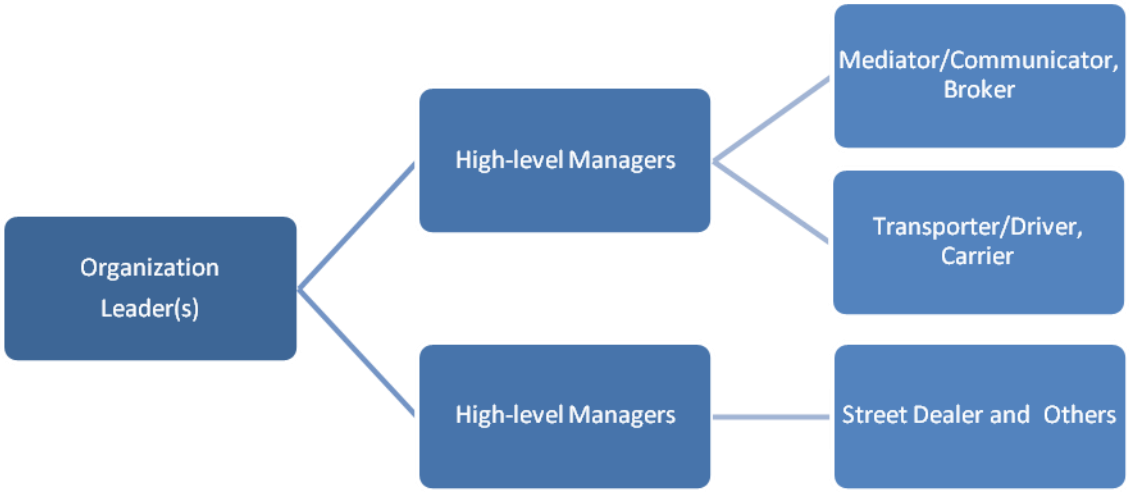

Figure 3 - Horizontal Structure

c - Independent individual traffickers (Irregulars): If individuals in a drug trafficking network are not acting by a certain hierarchical and horizontal structure they are identified as independent individual traffickers or simply irregular networks. These individuals operate very independently in comparison to hierarchical and horizontal networks. They do not have responsibilities against other individuals in the organization. In this group, each individual work for their own benefits. They are separated from each other and each individual is responsible for their own behavior. They make decisions at the individual level rather than by coordination of upper level individuals. However, for their benefits they may independently work or cooperate with other drug networks during a drug trafficking activity without taking a specific role in a drug organization. This

structure is more common at street level organizations and organizations that transport and deliver soft drugs and those have less punishment (Reuter and Haaga, 1989; Reuter, 2004).

d - Interrelations among Organizations: This study also looks at the interrelations among drug networks. To be able to determine these interrelationships, the assigned individual and organizational ID numbers are used. For example, if an individual(s) from organization A have relationship with an individual(s) from organization B during a drug trafficking activity, this relationship is considered to be inter-related organizations. There are three key variables to measure these interrelations, which are "relationship with other organizations," "type of other organization if linked," and "type of relationship with other organizations."

"Strong or weak (irregular) organizational structure" refers to strict or flexible commutation and coordination skills. Since drug-trafficking activities require coordination of many people, how organization leaders and high level managers handle this coordination is quite important during the trafficking activity. Here, if the DTO operates in a strongly hierarchical and centralized structure it is assumed to have a strong organizational structure.

On the other hand, if coordination of members is orchestrated more horizontally and if organizational members are less connected with hierarchical ties, then the organization is assumed to have weak or irregular organizational structure.

1.4. Significance of the Study

No scientific research and study has been conducted on the nature and characteristics of Turkish/Kurdish DTOs. Turkish DTOs have played important roles in transporting heroine and morphine base from Afghanistan to Europe (Office of National Drug Control Policy, 1997; Department of Anti-Smuggling and Organized Crime, 2008). Besides, they play a key role particularly in transport of- acetic anhydrite, in addition to cocaine, raw materials, ecstasy, captagon, and other synthetic drugs into Turkey, Middle East, and Central Asia (Committee on Government Reform House of Representatives, 2001).

Both Turkish officials and their European counterparts blame PKK for their involvement in drug-trafficking as a source of financing for its terrorist activities in Europe and Turkey (Office of National Drug Control Policy, 1997; Department of Anti-Smuggling and Organized Crime, 2008). While this argument was supported in the literature (Curtis and Karaca, 2002, Roth and Sever, 2007, Tudor, 2002), research has never focused on the link between DTOs and PKK. This study is unique in that it attempts to fill a gap in the literature by analyzing drug trafficking cases to measure the link -if any- between DTO and PKK, by using the Social Network Analysis (SNA) technique.

Despite the fact that there are studies focusing on the connection between DTOs and terrorism, most studies lack scientific data. Instead, they rely on agency documents and reports developed for government reporting purposes rather than for the purpose of

research (Ekici, 2006). In other words, current research on the link between drugs and terrorism is more on the exploratory and descriptive level (Reuter, 2004). Based on an empirical analysis using a large primary data set, individually created and never used before, this study has a significant potential to make a unique contribution in two distinct areas. First, this study analyzes the organizational structure nature and characteristics of Turkish DTOs. Second, the study explores the linkages between DTOs and PKK in Turkey using original case evaluations from 1984 to 2010. Third, it explores the relationships among network members, their communication skills, regional effects, information sharing techniques, and influence of social bonds and ties as a means to better understand the inner workings of a drug trafficking organization.

CHAPTER 2 - LITERATURE REVIEW

This section reviews the drug trafficking related literature from different economic, social, cultural, geographical, and political aspects. The chapter, first, discusses the generic characteristics of drug trafficking organizations (DTOs) across the world. Then, it examines the role and activities of different types and levels of dealers (i.e. street level, mid-level, or higher level). Third, it briefly reviews the theoretical explanations for drug trafficking behavior. Fourth, it discusses the gaps in drug trafficking organization research and literature. Fifth, it emphasizes the complexity of drug and terror problems. Sixth, it explains the similarities and differences between DTOs and terrorist organizations. The final section discusses the link between the DTOs and terrorist organizations. In a separate chapter, study explores the drug problem in Turkey, structure of drug trafficking groups and networks, and PKK and its connection with drug trafficking.

These discussions are critical to understand the drug trafficking crime and organizations. The regional and geographical factors are discussed in depth in the literature section because their role cannot be underestimated in drug trafficking crime. Another important factor that needs to be examined is the theoretical explanation of drug crime to understand and examine the motivation of these criminal groups. Organizational

structure of drug traffickers and their connection with terror groups in different parts of the world is worthy of investigation for clear understanding. A separate chapter is needed to discuss Turkish drug problem and the connection of the PKK and its link with DTOs. Following sections discuss above-mentioned issues in a broad sense.

2.1. Regional Approach to Drug Trafficking: Routes and Cultivation

Existing drug research and governmental reports demonstrated that geography and location are important factors in drug trafficking (Schmid, 2005; Thoumi, 2005). Drug producers and traffickers prefer inaccessible places and areas that are difficult to control by law enforcement and where they feel themselves more secure (Cornell, 2007). Second, DTOs need unstable environments to continue their illicit trade and production (Cornell, 2007; Makarenko, 2004). Instability undermines governmental authority, public trust to government, its legitimacy, and feeling of safety. Such chaotic environments offer significant opportunities for organized crime groups including DTOs. Third, DTOs seek secure and safe transportation routes. Fourth, they need secure places to store their drugs. Finally, drug dealers prefer secure and specific locations they know well and feel safe to transport, store, and sell drugs to their customers (Weisburd, 2008; Wiesburd and Lum, 2005).

Drug organizations operate not only in different areas and cities at the domestic level, but they also actively operate at the international level. Illicit drug manufacturing not only negatively influences the source countries, but also the neighboring and regional

countries as well (United Nations Committee of Expert of Afghanistan Report, 2001; Committee on Government Reform House of Representatives, 2001).

Countries struggling with drug problems try to increase the collaboration efforts among them for secure and stable areas. Those countries often fail to develop effective and successful counterdrug policies, as a result of which drug crimes and drug-related problems lead to chaotic and unsecure environments. International agencies and leading countries of the world increased the support of these collaborative efforts in those regions to reduce negative effects of drug and related problems in the last several decades (Caulkins, Kleiman, and Reuter, 2002; 2003).

Rabasa et al (2007) use the term "ungoverned territory" for problematic areas that have more terrorism and crime problems related to instability across the globe. They define ungoverned territory as an area where the government authority cannot establish control (Pg-29). These areas usually exist in nations struggling with terror and border problems, near poorly controlled harbors, airports, and borders or areas where law enforcement cannot enforce laws effectively. For instance, Rabasa et al (2007) investigated two important regions in the world; first is the Pakistani-Afghan border, which is the major opium production and transportation area and second is the Colombia and Venezuela border, which is the major cocaine production area. Their investigation demonstrated that drug trafficking and terrorism are highly linked in these areas. The following sections examine areas including South America, Europe and Middle East, the Balkans, and Central Asia.

2.1.1. South America

In South America, cocaine production is a major threat not only to America Continent but also to the rest of the world. Colombian drug traffickers are the primary producers and suppliers of cocaine in the world. They have also involved in heroin and marijuana production in recent years. Since U.S. sees illicit coca production as a serious threat to its own people, they are highly interested in the local drug policies and their implementation in Colombia. In addition to the problem of cocaine use in the US, in 1999, US Senator Biden reported that their investigations demonstrated that drug traffickers and guerilla groups have strong links in Colombia (Committee on Foreign Relations, 1999).

Similar to Senator Biden's argument, in December 2000, the director of the Andean Affairs at the U.S. Department of State Philip T. Chicola claimed that 60 to 90 percent of the money to Colombian guerillas comes from drug trafficking. He stated that "cutting this source would decrease the level of violence and terrorism problems in Colombia" (Berry et al, 2002).

Financial gains of drug trafficking organizations and terrorist groups in South America were examined by several researchers. Different assumptions were made to estimate the revenues of terrorist groups such as ELN and FARC in Colombia. Hutchinson, Davis, and Davis (2002) report that 90 percent of the cocaine in the US comes from Colombia, and FARC control all the cocaine trade in the region for the last twenty years. Colombian Government estimated that FARC's total revenues from drug

trafficking reached to $551 million in 1998. Alfredo Rangel, a Colombian military analyst claims that 48 percent of the FARC's income comes from drug trafficking, which is almost equal to $180 million a year. Refael Pardo estimates this number close to $600 million in the late 1990s (Berry et al, 2002). After a decade, in another study, Curtis and Karacan, (2002) report that FARC revenues from drug trade reached almost $ 1 billion. Sanchez (2001) claims that 50 percent of FARC's annual revenue is from drug trafficking. According to the estimates of the US State Department officials, FARC receives $300 million annually from drug trade (Hutchinson, Davis, and Davis, 2002)

Bibes (2000) claims that the primary source of Colombian guerillas is the taxation of cocaine producers. Based on a DEA study, she notes that FARC does not export cocaine to the U.S. but they gain money from traffickers by using indirect methods such as taxing them and sharing their profit. In July 1997, DEA reported that FARC receives money from drug traffickers in return for providing them security and charging a certain amount of money to growers for each kilo of coca leaf and for other necessary chemicals. This huge amount of income from drug trafficking made the Colombian guerrillas the most well-known and powerful terrorist organization in the world (Berry et al, 2002).

Colombian authorities emphasize that DTOs invest their drug profit in legitimate businesses. Their high profit from the drug trade helps them to find legal business partners in the region and in other parts of the world. They always try to maximize their profit from drug trade, and for this reason they always look for new partners and markets in the region and other places (Committee on Foreign Relations, 1999).

After increased restriction and territorial controls in Afghanistan and Pakistan, some evidence showed that FARC also involved in heroin trafficking. Based on the satellite images in October 2001, it was estimated that there were 420 hectares of poppy plantations observed in the areas controlled by FARC in Colombia (Berry et al., 2002). The authors also state that Pakistani and Afghani poppy producers visit Colombia and contacted the Cali Cartel, which is one of the most well-known drug cartels in Colombia, and taught them how to produce heroine from poppy plants. This claim is confirmed by Colombian police sources who blamed Afghan citizens for entering the country with false visas and teaching local traffickers how to produce heroine (Berry et al, 2002).

Peru's Shining Path is another serious terrorist organization, which is actively involved in drug production and trafficking in the South America region. According to Office of National Drug Control Policy report (2002), Colombian drug traffickers provide poppy seeds, financial and technical assistance to Peruvian poppy producers. Berry et al. (2002) report that, in 2000, Shining Path guerillas and Colombian drug traffickers discovered the additional huge revenue from heroin, which generates more profit than cocaine. They realize that while cocaine is $25,000 per kilogram in the US, heroin is $200,000 per kilogram, which attract them to manufacture and transport heroin into the US. Besides, poppy cultivation process is easier than the cocaine production, and farmers can harvest twice a year. An important evidence of increased opium poppy cultivation is that Peruvian police destroyed 25 hectares of illegal poppy areas in 2000, and this number increased to 1,150 hectares in 2001.

2.1.2. Europe and Middle East

Having the highest drug consumption rates in the world, Europe has always been a lucrative market for drug traffickers. Increasing demand for illicit drugs has been a major concern especially in Western Europe in the last decades (Curtis and Karacan, 2002). The involvement of terrorist groups in drug trafficking activities has also been a concern for European Officials. Kiser's study argues that there is some evidence that Basque Fatherland and Liberty (ETA) organization based in Spain, Irish Republican Army (IRA) based in Northern Ireland, and Kurdistan Workers' Party (PKK) based in Turkey to have engaged in drug and arm trafficking (Kiser, 2004).

These terrorist groups cooperated with other insurgent and terrorist groups around the world such as FARC in Colombia (Curtis and Karacan, 2002). The authors report that there is strong evidence that IRA plays a major role in drug trade and arm smuggling in Europe. The insurgent group is connected with Latin American insurgent groups; particularly with FARC. ETA's drug involvement was first reported in 1984 in Spain (Arostegui, 2002). They use similar tactics with IRA to exchange drugs with arms to support their activities (Curtis and Karacan, 2002). PKK and Turkish DTOs are discussed in a separate section to provide a more comprehensive perspective.

Drug cultivation in Middle East region was also a concern in the 1990s. Cannabis and opium poppy cultivation were common among Syrian and Lebanese farmers. Before the 1990s, cannabis cultivation was very common in Beka'a Valley, which was controlled by Hezbollah and Syrian government. After the 1990s, Syrian and Lebanon

joined and supported eradication campaigns and destroyed opium poppy and cannabis plants and laboratories in their regions. By the year of 1999, the drug production problem in the area was almost completely removed. The most important evidence of success was the removal of Syria from the list of drug producing countries by the U.S. in 1997.

Berry et al (2002) state that their research does not indicate any evidence of Hezbollah involvement in drug trafficking. They note that even if there is such involvement, it is not at significant levels. International Policy Institute for Counterterrorism located in Israel report that there are some efforts to curb drug cultivation in the region. They emphasize that Syrian and Lebanese drug traffickers are no longer cultivating cannabis and opium poppy, rather they engage in cocaine and heroin trafficking. These reports argue that raw materials for the production of drugs reach the area through two main routes. First is called as "The Latin-American Route," which includes the countries such as Colombia, Brazil, and Peru. The second is called the "Far East Route," which includes Pakistan, Afghanistan, Iran Turkey, and Syria. According to these reports, Lebanese immigrants in Latin American countries send hydrochloride, which is needed for cocaine production, through the Latin America Route. On the other hand, Lebanese drug traffickers import the main material of morphine to Latin America to produce heroin. However, contrary to those allegations, U.S. Department of State's International Narcotics Control Strategy Report in 2001 report that Lebanon is neither a major drug producing country nor a transit country, but it is also noted that there are still some concerns about the drug activities in the country.

Hezbollah's involvement in drug trafficking has not been proven; however, Berry et al (2002) claims that there are some minor indications of Hezbollah's involvement in drug trade in Beka'a Valley. Hezbollah is very active in some parts of Syria and Lebanon, which has also become one of the main routes of drug trafficking from Afghanistan passing through the region to Turkey and Europe. Another route for cocaine trafficking comes from the South America and passes through the region to other Middle Eastern and Arab countries. The regional countries are also both destination and transit countries for synthetic drugs coming from Europe (Department of Anti-Smuggling and Organized Crime, 2008).

2.1.3. Balkans

Berry et al (2002) report that even while there is no strong evidence, intelligence agencies declare that guerilla and terrorist organizations operating in the Balkan region are highly involved in drug trafficking activities. In 2002, Daily Telegraph and a Macedonian newspaper reported that United Nations and law enforcement agencies of some European countries confirmed the involvement of the AKSH and the NLA in human, drug, and weapon smuggling. Berry el al. (2002) stress that drugs are the most common smuggled materials in the region. The famous "Balkan Drug Route" begins from Afghanistan and passes through Iran, Turkey, Bulgaria or Greece, Macedonia or Albania to other Western European countries (Department of Anti-Smuggling and Organized Crime, 2008; Committee on Government Reform House of Representatives, 2001). An alternative route comes from the same direction but after passing Turkey it

goes to Bulgaria, Serbia or Romania, Poland, Hungary or Slovenia to Western European nations, where the demand and price of the trafficked drugs reaches the highest point (Reuter and Greenfield, 2001; Curtis and Karacan, 2002, Paoli, 2001).

Dorn (2004) reports that 90 percent of the heroin entering the European markets comes from Afghanistan and European officials are highly concerned about this situation. According to the Department of Anti-Smuggling and Organized Crime report, (2008) Afghanistan produced 93 percent of the opium in the world in 2008. Felbab-Brown (2005) states that Afghanistan produces more than 75 percent of heroin in the world and 95 percent of heroin market in Europe. More specifically, UNODC reported that total opium production in Afghanistan in 1998 was 2,500 tons, in 1999 it was 4,600, and reduced to 3,100 tons in 2000 (United Nations Committee of Expert of Afghanistan Report, 2001). In addition, Fazey (2007) reports that Albanian and Turkish crime groups control the drug and other organized crimes in Europe.

The reverse of this direction (from European Countries to Balkans, to Turkey, and to Middle East or Central Asia) is also reported as an important route by the United Nations, the United States, European countries, and nations in the region for cocaine and synthetic drugs (Department of Anti-Smuggling and Organized Crime, 2008). In recent years, positive developments and stability in the Balkan region disarmed most of the guerilla activities, and their involvement in drug trafficking declined or stopped, but some groups are still under observation by Western countries and international organizations.

2.1.4. Central Asia

The biggest concern in Afghanistan is opium production that is controlled by the Taliban. The investigative intelligence from Western governments explain the existence of the link between the Taliban and Al-Qaeda (Hutchinson, Davis, and Davis, 2002). The Committee on Government Reform House of Representatives (2001) reported that Taliban controlled almost 96 percent of opium production in Afghanistan and they collect so-called "tax" from drug traffickers. The Committee report also stated that Taliban participation in drug trafficking was evident and their revenue from drug trade could be over $50 million.

In Central Asia, insurgent and terrorist groups' involvement in organized crime is very common (Berry et al, 2002; Croissant and Barlow, 2007). These groups may move away from their ideological and political goals and join criminal activities to gain financial support and strengthen the unstable conditions in their areas (Garces, 2005). Drug trade is one of the main crimes of Central Asian terrorist groups, besides the arms trade, human trafficking, and kidnapping (Fazey, 2007). For instance, according to Philippine officials MILF, which is an active terrorist group in the region, actively involves methamphetamine production and trade (Croissant and Barlow, 2007).

The United Nations International Drug Control Program reported that terrorists or organized crime groups control trafficking; with around 60 tons of opium passing through Central Asia annually (McAllister and Khersonsky, 2007). One of the most widespread and financed organization in Central Asia is the Islamic Movement of Uzbekistan (IMU).

They are highly connected to the Taliban regime and Al-Qaeda, which is also active in the region. Berry et al., (2002) report that IMU's involvement to drug trafficking is very high, and they play a very active role in smuggling heroin from Afghanistan through Tajikistan, Uzbekistan, Kyrgyzstan, to Russia and Western European Nations. The same study reports that IMU controls almost 70 percent of the opium trafficking that goes through Kyrgyzstan.

Ahmed Rashid a well-known terrorism expert assumes that IMU will continue to be active in Central Asia and its political position will influence the region in the near future. Related to this, the role of IMU as an international connecter of drug trafficking will remain in the region (Berry et al, 2002). Other terrorist groups such as Hizb-ut-Tahrir (HT) and Abu Sayyaf Group (ASG)'s connections with drug- trafficking organizations are not clear. However, there are some reports that show some involvement of ASG members to drug trafficking, particularly marijuana and methamphetamine in Philippines.

2.2. Role and Activities of Various Types of Traffickers

In the literature of drug-trafficking research, scholars found three types of DTOs. First, scholars focused on the low-level markets, their characteristics, and structural formation. "Low level markets" refer to the activities at the street and distribution level of the DTOs and the individuals who are involved in drug trafficking activities at this level (Levitt and Venkatesh, 2000; Paoli, 2000a; Reuter and Haaga, 1989).The second group focuses on high-level markets. "High –level markets" refer to the upper level drug dealing, high amounts of drug producing, transportation, and selling activity and

individuals involved in this process (Adler, 1985; Reuter and Haaga, 1989). The final group focuses on irregularly structured organizations. “Irregular markets” refer to the organizations that do not have any structure in their organizational formation and operate in an irregular and often chaotic manner (Reuter and Haaga, 1989).

The characteristics and structure of DTOs changes according to the country and their social, economic, and political environment (Berry et al, 2002). In addition, scholars investigate drug-trafficking in similar ways but from various aspects. For example, Reuter (2004) reports that drug-trafficking has been studied in two different aspects. A few studies focus on the international side of drug-trafficking and many focus on street and retail markets.

Fazey (2007) focus on the other types of crimes that drug-traffickers are involved in. He expresses that individuals who are involved in drug trafficking are usually the same individuals who are also involved in other organized crime activities, such as human trafficking, arms smuggling and smuggling of other valuable materials (Fazey, 2007). Curtis and Karaca (2007) and Berry et al (2002) focused on the relationships between DTOs and terrorist groups around the world and argue that drugs are important materials, which offer high profit to these criminal groups to obtain/acquire arms and support their other activities (Curtis and Karacan, 2002).

2.3. Organizational Approach to Drug Trafficking

The existing literature has inconsistent definitions of drug-trafficking as a crime. For example, it is usually considered an organized crime activity. Having clear definitions is important that policy makers, courts, law enforcement, and other professionals operate under the same definitions. Drug trafficking organizations, as well as other criminal organizations, may have similar motives and patterns but their structures, communication skills, activities, secrecy and trust levels may differ in various ways. For instance, the United Nations Office on Drugs and Crime (UNODC) defines organized crime as:

> "It is a multi-faceted phenomenon and has manifested itself in different activities, among others, drug trafficking, trafficking in human beings; trafficking in firearms; smuggling of migrants; money laundering; etc. In particular drug trafficking is one of the main activities of organized crime groups, generating enormous profits" (UNODC, 2009).

In this definition drug trafficking is accepted as part of organized crime activity but not considered a different category of crime by the UNODC. According to it is formation, activities of its members, their relationship and network structure at the national and international level, their influence on social, economic, and cultural development, and gains and losses as a consequence, drug trafficking varies from other organized crime activities. For this reason, many countries and law enforcement agencies establish

separate professional units which are fully equipped and financially supported to fight against drug trafficking.

US Department of Justice and DEA defines drug trafficking in simple terms such as “smuggling, selling, and distributing illegal and legal drugs” (US Department of Justice, 2009). It appears that important organizations including the Office of National Drug Control Policy, FBI, European Union, European Monitoring Centre for Drugs and Drug Addiction and Turkish Department of Anti-Smuggling and Organized Crime have no specific and clear definition for drug trafficking and drug trafficking organizations.

An important question to ask is: “Do DTOs operate differently than other organized criminal networks?”“Do we have to consider drug trafficking as a separate criminal activity or we can accept it in the general organized crime category?” If the answers are that drug trafficking involves different motives and patterns than other organized crimes and it has a different nature and characteristics from other illegal organizations, it is important to use a separate definition and clarify its processes, steps, and elements.

Some researchers examined whether drug trafficking activity needs to be separated from other organized crimes. However, there is no consensus among them. For example, Politi (1997) claims that drug trafficking cannot be separated from organized crime and it offers important opportunities not only for organized crime groups but also for insurgent and terrorist groups. On the contrary, the argument to approach drug trafficking as a separate category is supported by some scholars. Reuter and Haaga

(1989) claim that drug markets, their organizational structures, and characteristics and motivation of individuals are different than other crime groups. Accordingly, both researchers and practitioners need a different approach to these criminal groups and their activities.

According to the Office of National Drug Control Policy (1997), DTOs can operate as multinational agencies. They continually seek to find new markets to increase their profit and reduce their risks. They commonly use violence and act with informal, disorderly and ruthless rules. Different than the regular criminal networks, they operate as dark networks (Everton, 2012). Their secrecy level and activities are not observable as other criminal organizations. Other than the normal networks and organizations, these networks and organizations try to reduce their relations to minimum levels and keep their interactions secret as much as possible. Compared to classic criminal networks, investigating their relationships and structure is highly difficult (Everton, 2012).

There are several reasons why drug trafficking behavior is difficult to investigate. The first, is the secrecy and the risk of the drug trafficking crime. Second, is that classified data that are controlled and protected by the government institutions (Fazey, 2007; Cornell, 2007; Thoumi, 2005). Despite these formidable barriers to researchers, it is still possible to conduct some research about DTOs. The following paragraphs discuss this issue broadly.

One of the earliest studies about drug organizations was conducted by Reuter and Haaga in 1989 in the U.S. In the drug market literature, there is a belief that drug markets

are operated by a few organizations and they are connected to the Mafia organizations; however, Reuter and Haaga (1989) state that it is not a reality and not always the case. Their study indicates that there is little evidence to argue that drug organizations are strict hierarchical entities and they are not durable organizations. Most times, those organizations are rather structured as temporary and frequently changing organizations.

In addition, Reuter and Haaga (1989) argue that entering those markets and replacing old organizations with new ones is not very difficult. Besides, it is possible for new and efficient organizations to emerge as a result of the expansion of drug markets. Different studies conducted at different locations and settings find a similar conclusion that drug organizations can fragment very quickly (Lieb and Olson; 1976; Langer, 1977; Redlinger, 1975). All those studies support upward mobility only with little evidence. Those scholars claim that DTOs have flexible workforce that we need to understand how each individual in a DTO and/or each DTO operate, their roles, jobs, and goals.

The main focus of Reuter and Haaga's (1989) study was investigating the high-level drug markets where there was only little evidence. They interviewed 94 drug inmates in federal prisons at the lowest security level, level 1, because of security concerns. According to Reuter and Haaga (1989) high level drug dealers are much more difficult to reach and investigate because of the trust and secrecy. Their research also examines the differences between low-level markets and high-level markets. There are more low-level sellers, and accessing those markets is much easier than it is for the high-level markets. However, the number of high-level market dealers is few, and they feel

themselves in more and higher risk, such as long-term incarceration and loss of high value property and money. For this reason, organization members are not risk taking individuals who prefer to stay invisible and unreachable.

The study by Reuter and Haaga (1989) reveals important characteristics of high-level markets. First, they found that there are not strict barriers to entering the higher levels of drug markets. Second, they demonstrated that successful drug trade does not require establishing a large and long-term organizational structure. Their research showed that short-term organizations exist in the field and they can operate successfully. Third, interviewees describe high-level drug trade as a brokerage, except in smuggling and importing. Fourth, some supplier and customer relations continue long-term, but those relationships are not often exclusive. Fifth, high-level drug dealers do not prefer to use drugs very often. Sixth, the wholesale market operates on the national level rather than the regional level. Seventh, dealers who are more experienced and more opportunistic are not active and bound by particular locations. Later, they are open to do business with anybody who offers them a credible source or consumers, even in the trades happening in far parts of the country. Finally, individuals who have better leadership skills and qualities enlarge their organizations and make bigger trades.

Since entering these drug markets is not that difficult, arresting experienced dealers does not make an important difference in the overall marketing industry. Individuals at the higher levels continually train individuals at the lower levels. There is

too little difference between incarceration of a high-level dealer and a low lever dealer to disrupt the market.

Reuter and Haaga (1989) describe DTOs as small partnerships. Similar to Adler (1985) they did not find evidence for long-term relationships between consumers and dealers. There are some hierarchical organizations, but a structured-large scale organization is not necessary for successful operations, particularly in cocaine and marijuana wholesale and import.

Some organizations are structured to use the economic benefits and to operate with specifically defined roles, according to Reuter and Haaga (1989). The size of the organization does not grow indefinitely, even if they are very successful. Except some specific roles, like transporting the drug with a plane, which requires a pilot, there are no special skills required. Since suppliers transport large amounts of drugs, it requires more space and more workers to handle the job. Also, large amounts of drug transportation require using an appropriate vehicle, more labor, and careful planning and scheduling. Other additional work force may be required for large amounts of trade based on the type and location of the trade, such as loaders, sailors, and handlers. Finally, high-level drug sellers generally do not prefer to communicate with low-level dealers or consumers for trust and safety reasons.

Adler (1985) reported that DTOs in her study were stable in their relationships and organization members were close to each other. She observed little loyalty to the leaders or high-level managers in organizations. In the high-level drug dealing and

wholesale markets, the majority of the dealers were open to accepting other organizations and changing their alliances. The typical cocaine dealer network consisted of two or three people, whereas marijuana dealer organizations were much larger and usually consisted of three to eight people. She reported that there are strong barriers to leave drug markets, such as the difficulty of leaving an attractive lifestyle and fear from drug leaders. The sample size of Adler's study is very small, which can be considered an important limitation for drug research.

As described in the introduction section, drug-trafficking crime is mostly considered an organized criminal activity because of its nature. For instance, drug trade is always considered as an organized crime activity in Russia (Paoli, 2001). Similar to this study, Paoli (2001) conducted research by using law enforcement data, which includes 1,600 drug-trafficking cases in Russia. Russian authorities believe that those criminal entities act as business organizations with careful planning of activities by a central authority, financial management and technical skills, a disciplined and hierarchical structure among members, and division of labor. They have their own social control mechanisms and economic branches. Acting as an organizational entity increases the capability and practicality of these criminal groups (Paoli, 2001). Paoli (2001) also claims that Russian crime organizations have international and interregional relations. These organizations have members from different ethnic groups who help them to strengthen and expand their relationships in different regions and nations. Members of the organizations are usually armed and use up to date equipment and technology. They have connections with corrupt government officials and legal business organizations. Another

important finding of Paoli (2001) is that the nature of DTOs is different from other crime organizations in Russia. Drug trafficking organizations in Russia are not highly structured organizations and they are not powerful entities (Paoli, 2001). The disorganized nature of narcotic-smuggling organizations and their distribution is proved in other researches in Russia (Dunn, 1997; Sinisarenko, 1997).

Drug distributors prefer to buy drugs from dealers rather than harvesting or cultivating them on their own, particularly those in Russia. More organized drug organizations try to monopolize local drug markets, however; drug distributors usually operate alone or in small groups. This situation can be due to the fact that more organized or mafia-style groups act very invisible to control individual sellers or small groups. Those individuals and small groups commonly come from the same or similar ethnic or national backgrounds. Paoli (2001) also found that most dealers are also drug users in Moscow.

In Russia, officials believe that, being different from other drug networks, Caucasian drug sellers commonly belong to large crime organizations (Dunn, 1997). However, Paoli's (2001) interviews demonstrate that Caucasian drug dealers also act in small groups who are mostly their family members, people from their clans, or people having local ties (Snisarenko, 1997). This familial connection within their structure increases trust among them and their power against other organizations.

Afghan and Tajik drug dealers who have significant geographical advantages for supply and transportation of drugs are competing with Caucasian dealers in Russia (Paoli,

2001). According to Paoli (2001) long-term relationships may exist among drug traders. However, each dealer may also look for other partners and work with other networks at any time in Russia. In a regular drug network, the relationship between buyer and seller is not exclusive or centrally organized. Among those networks, each member only knows his instant and direct supplier or buyer. They usually do not have much information about the other levels of the organization or network members. Similar to Reuter and Haaga's (1989) study, Russian drug organizations can change, find new partners, or be replaced immediately like other drug organizations around the world (Paoli, 2001).

European drug traffickers show little differences in their characteristics from their Russian counterparts. Paoli (2000a) finds that in Germany and Italy the majority of drug trade, even large amounts of drug trafficking, is operated by small and often temporary crime groups. Some of these groups run family businesses and some include non-kin individuals around a powerful and charismatic leader who manage the group. Other types of groups include loosely connected people that come together when there is an opportunity. The majority of drug dealers work alone, especially at the lower and middle level of the organization to do drug business and finance their activities. Most of those dealers have no connections with the mafia, but they are different from other criminal networks (Paoli, 2000a; Reuter and Haaga, 1989; Adler, 1985).

Reuter (2001b) states that U.S. cocaine and heroin markets seem different from other drug markets in several ways. The first difference is that in the U.S. drug market the use of violence is a common characteristic compared to other drug markets. Second,

participants to drug networks may change very fast in the market. Third, [compared to European and Turkish DTOs], U.S. DTOs reflect individual member characteristics (type of lone perpetrators) than a typical organization acting in a collective manner for use and selling. Finally, price and quality of drugs varies across areas and network at any given time.

In addition, (Reuter, 2001b) reports that, while buyers cannot be replaced easily in drug markets, sellers can be replaced very easily. He makes a distinction between light drug users and heavy user and claims that every light user has the potential of becoming a heavy user. Light users may ask the dealer to lower the price and they are very sensitive to the risk of arrest, but heavy users usually do not concern themselves about those issues because of their addiction level. The increasing number of heavy users is an important concern because they demand more drugs and become more dependent on suppliers. Those are the people who commonly commit drug-related criminal activities (Reuter, 2001b).

Trust among buyers and sellers are an important factor in the U.S drug markets. For instance, a seller receives the same amount of money for a certain amount of drugs; however, its purity and quality cannot be understood at the time of the sale. Buyers can only understand the purity and quality by experiencing it. For this reason, it is important to understand the influence of trust at all levels of drug-trafficking business. It may be possible that previous experiences with the same supplier or dealer may affect the price and approach in dealing with one another. If parties know each from prior business, this

can possibly affect their current and future approach to dealing with one another in their drug business (Reuter, 2001b).

Reuter (2004) reports that success in international drug trade is an important parameter for criminals' future career. It would lead them to entering new markets and finding new partners and customers. This is not limited only to drug organizations and can involve other criminal networks. For instance, in Britain many drug smugglers were active in other crime organizations such as armed robber groups.

In the U.S. drug markets, buyers and dealers unexpectedly leave the market because injury, death, or arrest and incarceration. The empirical evidence is limited about the statistics and number of these elements but Reuter (2001b) states that it is likely to have an optimal strategy that buyers have multiple suppliers because of those turnovers. Also consumers mostly do not want to be dependent on a single supplier. Due to frequent and unexpected changes in drug markets, it is very difficult to develop specific models of drug trafficking organizations in U.S. drug markets.

According to the report by the ex US Marine Corps Southern States Commander in Chief Charles E. Wilhelm, to the Committee on Foreign Relations in 1999, the US Marine knows the nature and operation methods of Colombian DTOs very well. He states that these organizations are very dynamic, flexible, and agile. They survive and transform through the dissolution of drug cartels. It is also observed that those organizations can quickly adjust their transportation routes and operation methods. Wilhelm states that their control over the Colombian economy and infrastructure is increasing over time by the

help of their high profit from drug trade (Committee on Foreign Relations, 1999). Colombian drug traffickers operate with impunity in some zones and they have control over the ports and rural areas of Andean Region (Vargas, 2002). Guerrilla groups are highly dependent on drug revenues to support their activities. It is obvious that Colombian insurgent groups and drug traffickers have mutual benefits from their relationships (Labrousse, 2005).

Organized crime groups, particularly DTOs, have been transnational in recent decades. Schmid (2005) argues that there is enough evidence to claim that organized crime groups, particularly, DTOs, are highly connected to each other and could not operate without this connection. According to a UNODC study, out of forty transnational organized crime groups in sixteen countries 35 percent is connected to another group operating in another country. For drug trafficking, an international partner is a requirement for the success of transportation and distribution (Schmid, 2005).

2.4. Studies on DTOs and Their Structure

The literature examined in the previous sections demonstrated that organizational structure of drug trafficking networks is worthy of investigation. Studies show that effective policies and implementation requires focusing on the organized structure and international aspect of the drug problem (Reuter and Haaga, 1989; Natajaran, 2000; Reuter, 2004). International drug control and domestic drug problems are connected to each other, but each requires different strategies, policy developments, and

implementations (Caulkins, Kleiman, and Reuter, 2002). This section examines drug organizations and their structures in depth.

Several studies focus on the attributes and features of drug networks. Reuter's (2004) study reports that DTOs have some common characteristics. First, street level drug distribution is not often integrated with trafficking activity. Suppliers of large amounts of drugs do not want to take risks at the street market and at the distribution stages since it is visible and less reliable, which increases the risk of arrest. Second, drug trafficking networks may vary in their forms and sizes. Third, monopoly is not very common in the investigated drug markets.

Reuter and Haaga (1989) interviewed high and middle-level American cocaine and marijuana traffickers in the late 1980s. Their study concludes that drug traffickers operate in small scale, act as niche-oriented groups, and are opportunistic. The authors conclude that the most important factor in drug business is a set of reliable drug buyers and establishing good connections. The majority of interviewees consider themselves as part of an organization. They describe those organizations as small partnerships.

Fuentes (1998) claim that drug organizations in Colombia were bureaucratic, violent, durable, and strategic. Cell leaders are usually well educated with college degrees. Members strongly prefer to have a relative as the organization leader. Leaving an organization is generally allowed and tolerated as long as there is no suspicion of law enforcement contact of the leaving member. They prefer to make shipments very fast, usually in twenty-four hours, to lower the risk and getting their money instantly. The

local organization within the target country has its own domestic transportation methods. A large cell may have up to three hundred members, and each member may have six different roles in Fuentes study.

Caulkins, Kleiman, and Reuter (2002) argue that understanding the structure of DTOs is an important tool for effective prevention and punishment efforts. For instance, Riley (1996) report that drugs coming from Colombia farms to U.S. streets for sale, pass through very different processes, and different individuals involved in the process that do not have much information about each other. Most commonly, in drug producing countries there are a few drug organizations producing drugs in large geographical areas and these are the main targets of law enforcement agencies (Garces, 2005). However, drug organizations are robust against the enforcement operations because they are not always structured in a hierarchical and monolithic nature.

Zaitch (2005) conducted an important study about Colombian DTOs in the Netherlands. His sample consists of 190 Colombian immigrants that includes 43 Colombian drug dealers. He tried to meet and establish personal relations with these individuals. Drug dealers included in his study were importers, retailers, distributors, couriers, helpers, informants, friends, and others that may have information about those groups. He also visited Colombia twice in the late 1990s and conducted interviews with lawyers, journalists and drug experts, relatives of immigrants in the Netherlands, local community leaders, a Dutch police liaison officer, friends, relatives, and others. According to his findings, Colombian cocaine dealers in the Netherlands are primarily

concerned with their profit. They always try to reduce their risks but also increase their profits. Those dealers use violence if other parties break the contract. Trust, violence, and secrecy among those members are important factors. Dealer groups use these tools as a strategy to defend themselves and increase their power and reputation. Trust in Colombian drug dealers in the Netherlands is gained over time. Their background and common sense about an individual entering the organization are important factors for them to build trust.

The study by Caulkins, Kleiman, and Reuter (2002) demonstrates that there are individual level relationships in the chain of trafficker-producer-supplier-dealer and their customers and those relationships are expandable. It is not difficult for those networks to create new branches and they always seek to develop such relationships to increase their profit. Both sides have various alternatives and abilities to expand their connections.

Structure of drug organizations can be analyzed in various ways but in the literature an important approach is to examine the position and income relationship in the organization. Levitt and Venkatesh (2000) use a unique data and estimated that income of drug organization leaders' changed from $50,000 to $130,000 a year. They find that amount to be much higher than a person's average income in a legitimate business. On the other hand, people in the lower levels of drug organizations cannot earn high amounts. For instance, people at the second level of the hierarchical structure are assumed to earn around $12,000 annually. Street dealers are the persons who actively sell drugs at the lowest level of the hierarchy and they earn minimum amounts. Their income

changes based on the amount of drugs they sell on a daily basis. It is estimated that street dealers make less than $2500 a year and work approximately 20 hours per week. Their wage is not bad compared to legitimate jobs and drug selling does not require too many skills and education (King, 2003; Levitt and Venkatesh, 2003). However, considering its risk, their job does not seem very attractive in comparison with legitimate work. Levitt and Venkatesh (2003) conclude that a possible motivation of drug dealers is not the money but their desire to move to the upper levels of drug organization and increase their wages and power.

Table-1 below presents key research studies that support the justification of need for conducting this study. These studies examine different aspects of drug trafficking organizations in various levels including street level, high level, and other types. The purpose of this table is to display and summarize the major studies in this field, their methods, samples, findings, and implications. The findings of these studies identify gaps in the current literature on PKK and non-PKK related DTOs particularly those based in Turkey. These studies also highlight the need for original research to explore and better understand drug trafficking organizations operating as PKK and non-PKK groups in and around Turkey.

Table 1- Table of Related Studies on Drug Trafficking Organizations

Author(s)	Year	Title	Samples	Study Technique	Major Findings	Implications
Caulkins, Kleiman, and Reuter	2002	Counter-terror and Counter-drug policies. Comparisons and Contrasts	No Sample (Exploratory)	Comparison of policies and literature suggestions	Understanding the structure of the DTOs is an important tool for effective prevention and punishment efforts	International drug control and domestic drug problems are connected to each other, but each requires different strategies, policy developments, and implementations
Reuter	2004	The Political Economy of Drug Smuggling	No Sample (Exploratory and Analysis of Economic and Social Factors	Literature Review and Analysis	Existing research is more qualitative, descriptive, and exploratory	-Street level distribution is not often integrated with trafficking activity. -Suppliers of large amounts of drugs don't want to take risks at the street market and at the distribution stages because of its visibility and less reliable consumers because this type of interaction increases the risk of arrest. - DTOs vary in their forms and size. - Monopoly is not very common in drug markets
Reuter and Haaga	1989	The Organization of High Level Drug Markets	94 Randomly selected inmates in US Prisons	Interviews with inmates and analysis	-Drug importers were small scale, niche-oriented, and opportunistic.	Majority of these interviewees considered themselves as part of an organization. Described these organizations as

Author(s)	Year	Title	Samples	Study Technique	Major Findings	Implications
			(Forth Worth and Danbury)	of their responds	-Most important factor in drug business is a set of reliable drug buyers and establishing good connections.	a small partnership.
Fuentes	1998	Life of a Cell: Managerial Practice and Strategy in Colombian Cocaine Distribution in the United States	Former cell managers and cell section leaders provided by DEA (5 Sample)	Interviews with samples and analysis of their responds	- Drug organizations in Colombia were bureaucratic, violent, durable, and strategic. -Cell leaders were usually well educated with college degrees. -Members strongly prefer to have a relative as the organization leader.	- Leaving the organization was commonly tolerated and allowed as long as there is no suspicion of law enforcement contact of the leaving member. - They prefer to make the shipments very fast, usually in twenty-four hours. - The local organization at the target country has its own domestic transportation methods. - A large cell may have up to three hundred members, and each member may have six different roles
Garces	2005	Colombia: The Link between Drugs and Terror	Exploratory	Evaluation of policies and studies	In drug producing countries there are a few drug organizations produce drugs in large geographical areas	Public opinion about drug trafficking and their involvement and support to them important factors. International developments and factors need to be considered for counter-drug

Author(s)	Year	Title	Samples	Study Technique	Major Findings	Implications
					and these are the main targets of the law enforcement officers	policies.
Zaitch	2005	The Ambiguity of Violence, Secrecy, And Trust Among Colombian Drug Entrepreneurs	190 Colombian immigrants in Netherlands (43 of them involved drug networks)	Interview with selected samples (Exploratory)	Colombian cocaine dealers in The Netherlands are primarily concerned with their profit. Try to reduce their risks but also increase their profits. Use violence if the other parties break the contract.	Trust, violence, and secrecy among these members are important factors. The dealer groups use these tools as a strategy to defend themselves and increase their power and reputation. Trust in Colombian drug dealers in the Netherlands gained over time and their background and common sense are important factors for them to build trust.
Levitt and Vankatesh	2000	An Economic Analysis of a Drug-Selling Gang's Finances.	Detailed financial activities of drug gang obtained from a gang member	Descriptive analysis.	Income of drug organization leaders' changes from $50,000 to $130,000 in a year. Their income changes based on the amount of drugs they sell on a daily basis. It is estimated that street dealers make less than $2500 in a year and work approximately	Drug dealers gain more money than people in legitimate business. People in the lower levels of the drug organizations cannot earn higher amounts. For instance, people at the second level of the hierarchical structure are assumed to earn around $12,000 annually. Street dealers are the persons who actively sell drugs at the lowest level of the hierarchy and they

Author(s)	Year	Title	Samples	Study Technique	Major Findings	Implications
					20 hours per week. Violence is quite common.	earn minimum amounts.
Reuter, MacCoun, and Murphy	1990	Money from crime. A Study of the Economics of Drug Dealing in Washington, D.C.	Police records (11430 drug sellers in DC area)	Descriptive Statistics	More than two-thirds of their sample had legitimate jobs but drug dealing was paying twice higher than these legitimate jobs. Providing legitimate job opportunities for minority males living in urban areas that are high school graduate or less may not contribute to reducing the numbers who turn to drug dealing. Drug dealing is perceived as an important job and wage alternative for young and less-educated males and these people can earn	Larger organizations with high a number of employees are faced with a serious threat: its members may become informants if they do not have support from corrupted law enforcement officials. Members who are heavy drug addicts may also create problems. They are difficult to control and manage, particularly if they are crack users. Organizations with a small number of employees are more likely to stay longer in the market and be more successful in their activities.

Author(s)	Year	Title	Samples	Study Technique	Major Findings	Implications
					more capital than the legitimate work alternatives. Violence is not common.	
Hagedorn	1994	Homeboys, Dope Fiends, Legits and New Jacks	1987- 47 interview gang members in Milwaukee 1992- 90 males in the same area.	Exploratory and descriptive statistics.	Sellers' income changes based on the time they spend for selling. The study states that most of the dealers in Milwaukee make from $1000 to $5000 in a month if they spend long hours for drug selling on the street. Drug dealers do not see drug dealing as a crime and accept it as their regular work.	Violence in drug markets is most likely to occur during the emerging process of a new market; after they become more stable in the market, the level of violent behavior decreases. Drug organizations that stay in the market for a long time experience and involve less violence.
MacCoun, Reuter, and Schelling	1996	Assessing Alternative Drug Control Regimes	No Sample	Exploratory	Violence in drug markets is quite common because these organizations do not operate in a legal environment, and therefore don't have	To solve the conflict between these illegal entities, violence is an effective tool for these organizations

Author(s)	Year	Title	Samples	Study Technique	Major Findings	Implications
					rights and contracts.	
King	2003	The Economics of Drug Selling: A Review of the Research	No Sample	Exploratory	Majority of drug dealers cannot make substantial income from the drug-selling business. Dealers work long hours and are forced to stay on duty to gain an average $2000. Market changes dramatically and most dealers' careers end in a short time and they can make very little money. Violence is not very common in drug markets.	Important portion of inmates in prisons are from low levels of drug organizations, commonly users or street sellers
Sevigny and Caulkins	2004	Kingpins or Mules? An Analysis of Drug Offenders Incarcerated in Federal and State Prisons	Self-report data from a large survey in federal and state prisons	Descriptive Analysis	92 percent of the inmates in state prisons and 86 percent of the inmates in federal prisons don't feel themselves as being part of an organized crime group	No policy implication

According to Levitt and Venkatesh (2003), the drug business is very costly in terms of losing financial benefits and lives. They state that drug trade is very dangerous and violence is very common among drug gangs. They find seven percent death rate in their study group. The structure of the organizations examined by Levitt and Venkatesh (2003) is as follows: The higher level of the organization is called "central leadership." This group includes four to six people who are responsible for creating long-term strategies of the organization and for managing the relationships between organization members, suppliers, and other organizations in the same or other regions of the nation. There is another branch included in the central leadership, which includes twelve people and whose responsibility is recruiting new members, collecting payments, executing punishments, and communicating with the demanders. Almost one-third of individuals in this layer are always in prison.

The second layer of the Levitt and Venkatesh (2003) model drug organizations is local leaders. Those individuals are responsible for specific territories and one or more local drug gangs. These local gang leaders work with at least three "officers" who report to them about ongoing activities. The "enforcer" is responsible for the security of gang members, the "treasurer" operates the liquid assets of the gang, and the "runner" is responsible for the transportation of large amount of drugs and money to and from the suppliers. The "foot soldiers" who are typically very young, typically between 16 and 22 years of age, report their observations to the enforcers (MacCoun, Reuter, and Schelling, 1996). The lower level of the gang is "rank and file" members. Those individuals have very little responsibility for drug dealing. They pay some fees to receive protection, to

receive drugs for their independent drug selling activity, and to keep their status (Levitt and Venkatesh, 2003).

The overall structure of a drug organization operates as a franchised company. Local gang leaders pay fees to the top managers of the organizations. Those fees guarantee that local gang leaders are protected by high-level leaders during their drug-dealing activities in specific territories. Local drug gangs usually do not interact with each other and act as separate entities. Two important limitations of Levitt and Venkatesh's (2003) research are that their data includes only one gang with a large organizational structure and that organization operates in a specific geographic area.

A study conducted by Reuter, MacCoun, and Murphy (1990) in Washington DC by using police records demonstrate that a drug seller's average earning is around $721. This amount changes according to the length of the time that a dealer spends on drug-selling activity. According to this study, dealers who sell drugs daily have a mean average earning of $2000. Their study demonstrates that more than two-thirds of the sample has legitimate jobs but drug dealing pays twice higher than they earn in their legitimate jobs (Reuter, MacCoun, and Murphy, 1990). A majority of drug dealers in their sample are also drug users. One important finding of Reuter, MacCoun, and Murphy, (1990) is that providing legitimate job opportunities for minority males living in urban areas who are high school graduate or less may not contribute to reducing the numbers who turn to drug dealing.

Reuter, MacCoun, and Murphy, (1990) claim that highly centralized structure and strict control mechanisms reported in the President's Commission on Organized Crime report in 1986 changed drug networks in the following years. The authors report that larger organizations with high number of employees are faced with serious threats: its members may become informants if they do not have support from corrupted law enforcement officials. Second, members who are heavy drug addicts may also create problems. Those people are difficult to control and manage, particularly if they are crack users. Organizations with a small number of employees are more likely to stay longer in the market and be more successful in their activities (Reuter, MacCoun, and Murphy, 1990). Entering drug markets is not very difficult and does not require investing serious amounts of money. Reuter, MacCoun, and Murphy, (1990) conclude that their data supported that drug dealing is perceived as an important job and wage alternative for young and less-educated males and those people can earn more money than they can in legitimate work alternatives. Another study conducted by Hagedorn (1994) in Milwaukee demonstrates a similar conclusion to that of Reuter, MacCoun and Murphy's (1990) study. Accordingly, sellers' income changes based on the time they spend for selling. The study states that most of the dealers in Milwaukee make from $1000 up to $5000 a month if they spend long hours for drug selling on the street.

Drug markets usually do not experience or involve violence in their activities. The Reuter, MacCoun, and Murphy (1990) study shows that violence in the Washington DC drug market is not very common. Only 25 percent of participants are arrested for violent crimes and only one-sixth convicted for a violent crime. The Hagedorn (1994) study

assumes that violence in drug markets is most likely to occur during the emerging process of a new market; after they become more stable in the market, the level of violent behavior decreases. Drug organizations that stay in the market for a long time experience and are involved in less violence.

Levitt and Venkatesh (2003) and MacCoun, Reuter, and Schelling (1996) argue opposite positions. They claim that violence in drug markets is quite common because drug organizations do not operate in legal environments, and therefore do not have legal rights and contracts. To solve the conflicts between those illegal entities, violence is an effective tool for drug organizations. They use violence as an open strategy for their competition with other organizations in their territory (Levitt and Venkatesh, 2003).

Another study conducted by King (2003) demonstrates the general characteristics of drug markets from a different approach. First, the majority of drug dealers cannot make substantial income from drug-selling business. Second, dealers work long hours and are forced to stay on duty to gain an average $2000. Third, the market changes dramatically and most dealers' careers end in a short time and they can make very little money. Fourth, violence is not very common in drug markets in King's study. Fifth, an important portion of inmates in prisons are from low levels of drug organizations, commonly users or street sellers. According to 1997 data, 58 percent of inmates in prisons charged for criminal drug activities do not have a violent history and have no serious involvement in drug activities, and 75 percent have only non-serious or nonviolent drug charge (King and Mauer, 2002). Later, leaders of DTOs usually live in

neighborhoods different from the places drugs are sold, according to the Milwaukee study. Finally, as also reported in Hagedorn's (1994) study, King (2003) found that participant drug dealers have similar ideals and values as other Americans. According to King (2003) and Hagedorn (1994) studies, most drug dealers do not see drug dealing as a crime and accept it as their regular occupation.

Those studies also find that competition for new customers and markets in different DTOs is very common. Violence can be used as a tool in this competition to control the market and to increase power and reputation. Disruption, elimination, or extermination of an organization opens more space for competing organizations in the market. This weakness provides some advantages to law enforcement agencies, which can be used more effectively by creating better strategies that focus on that weakness (King, 2003; Hagedorn, 1994).

Caulkins, Reuter, and Taylor (2006) report that members of drug organizations are loosely connected to each other. Predominantly, they act at the individual level. For example, a survey conducted among drug prisoners demonstrated that 92 percent of the inmates in state prisons and 86 percent of the inmates in federal prisons do not feel themselves as being part of an organized crime group (Sevigny and Caulkins, 2004). This argument is supported and confirmed by Caulkins, Reuter, and Taylor (2007). The model drug dealers in their study see themselves as individual entities, not part of an organization (Caulkins, Reuter, and Taylor, 2006).

On the other hand, drug trafficking as a crime is a long process that involves various activities. The process starts from the pre-production level to the user's smoking activity. This process requires a long time, continues with steps following one another, with individuals related and connected to each other to complete the drug trafficking activity. Caulkins, Kleiman, and Reuter (2003) report that understanding the organizational patterns of DTOs provide useful opportunities for law-enforcement agencies. For example, they argue that this organizational pattern causes competition and violence among DTOs. Removal or disruption of one organization helps another one to expand its control in the market. When the degree of competence and conflict among these organizations increases, one may provide useful information about others' activities to law enforcement agencies (Caulkins, Kleiman, and Reuter, 2003).

Research has also examined various characteristics and features of DTOs around the world. However, difficulty of reaching drug networks and classified data controlled by the security agencies are important barriers to examine drug networks and their organizational structure in depth. According to Reuter, existing research is more qualitative, descriptive, and exploratory (Reuter, 2004). Only a few of studies used statistical techniques and data to examine different aspects of drug trafficking behavior. It is obvious that current drug network investigations are useful for several aspects but they are very limited; therefore, more qualitative research is needed in the field.

2.5. Theoretical Approaches

Research in criminology is often based on theoretical frameworks that reflect criminal behavior. Individuals in drug networks and, a drug network (as a criminal organization) may act based on some incentives and theoretical explanations. In this section of the study, the theories that may help us to understand drug trafficking behavior will be explored.

Some criminal behaviors are difficult to examine and collecting data about such behavior is an important avenue for researchers. For example, Krebs, Costelloe, and Jenks (2003) explained the involvement of individuals to DTOs by using game and rational choice theories. Reuter (2001) argues that even there are serious risks; individuals are involved in drug-trafficking because of the high profit it provides to them even though they have limited education and skills. Others attribute drug trafficking behavior to the lack of social control, particularly in areas with intense drug problems where societies become very dependent on drug-trafficking (Thoumi, 2005).

The following sections explore the theories such as rational choice, social control, and routine activity theories to understand the motivation of drug networks and individuals in drug organizations, explain the individuals and organizational behavior. The theories discussed in this section were selected on the basis that they provide a theoretical framework for understanding of the motivation of individuals who become involved in drug trafficking activities and become members of DTOs.

2.5.1. Rational Choice Approach

Becker (1968) argues that rational choice theory explains individuals' involvement in crime by making rational calculations whether engaging in a criminal activity will increase their expected utility or not. Involvement in criminal actions always brings risks, but those risks may be less of a consideration by individuals when their satisfaction and expected utility seems maximized. Criminals, like law-abiding persons, are expected to prefer strategies which will bring them the maximum satisfaction and benefits. They use their free will to engage in criminal behavior by weighing their possible benefits and losses. They try to consider every possible condition and related factors, such as their potential gains, costs, probability of arrest and incarceration. When they see that their gains, rewards, and benefits will be higher than their losses, they prefer to engage in that criminal activity. Simply, rational choice model is a calculation of potential rewards and punishments. When rewards seem more attractive than punishments, individuals are more likely to engage in criminal activity (Becker, 1968; Krebs, Costelloe, and Jenks, 2003). The drug-trafficking behavior is usually operated by these rational calculations, expected utility, rewards, and benefits. In most times, even when the risks are higher, drug traffickers may believe that they gain more benefits and rewards than loses and punishments.

Cornish and Clarke (1987) agree with Becker's idea that criminals calculate their possible benefits to engage in a crime. However, they are more skeptical about the level of rationality of criminal behavior. They claim that different individual and

environmental factors influence the rationality of criminals and argue that criminals' decision-making is constrained by their cognitive ability, their information, and time.

Cornish and Clarke (1987) also argue that crime-specific application of rational choice model will be is a more appropriate approach. Goals and expectations of an individual affect his decision-making process to engage in a criminal activity. They also claim that individuals look at their legal options and alternatives. Criminal behavior is chosen after these legal alternatives cannot provide them any better benefits. They also look for other factors, such as their potential targets, skills that the criminal activity requires, what kind of contributions they have to make, and if the crime involves violence. The individuals' perception about these factors is critical in their engagement to criminal activity (Cornish and Clark, 1987).

Krebs, Costelloe, and Jenks (2003) study concludes that their proposed "game theory model" of drug trafficking indicates that the expected utility of lawful behavior is lower than the expected utility of drug trafficking. Drug dealers have such a mindset that perpetually forces them to make rational cost-benefit calculations on possible outcomes of their actions. When dealers feel intensive enforcement, they increase drug prices by adding "tax", claiming that their costs and risks increased (Felbab-Brown, 2005). Their aim is to increase their rewards, which are mainly monetary, and increase their power and reputation, whereas their risks include arrest and incarceration. According to Krebs, Costelloe, and Jenks (2003), game theory is another rational approach that can be applied to drug trafficking behaviors. They argue that an important goal of social science is to

understand the nature of strategic social conditions and individuals' decision-making process to make accurate predictions about human activities. There are at least two or more players in this game, which can be individuals or a group that work as a decision-making unit interconnected and independent from each other. Each group or individual makes choices among the available set of actions, called strategies, about which they do not have certain ideas about the possible outcome.

While drug traffickers make rational calculations, Simon's (1957) believes that while individuals try to make the best choices and gains with rational decision-making among their alternatives, they are very limited to calculating other non-rational factors that may influence their expected outcomes during this process. Caulkins and MacCoun (2003) argue that individuals are rationally bounded if they do not have enough information about the criminal activity they are planning to engage in and when they perceive the cost of the activity does not seem very high in their rational calculation process. At the individual level, there is always a serious risk that a customer may become an informant and inform law enforcement agencies about the activities of DTO. At the organizational level, it is very common to see that dealers who sell drugs for longer time periods eventually get arrested and may cooperate with police (Caulkins and MacCoun, 2003). Rewards offered by law enforcement agencies also influence rational decision-making process of drug dealers and traffickers.

Krebs, Costelloe, and Jenks (2003) used game theory to explain drug trafficking behavior. They proposed that if drug dealers' expected utility from drug smuggling

decreases, then the feasibility of drug smuggling also declines. In that case, individuals make a calculation and are more likely to choose lawful behavior. The expected utility is a key determinant to make a choice, and it is an indicator of individuals' or groups' preferences and beliefs. It is proposed that every individual or each group chooses a strategy to reach the highest utility. The outcomes are the result of this choice and occur as a result of the interaction between one player and at least one other player who formulates his choices using the same method. McCarthy et al. (1998) state that game theory assumes that individuals or groups are aware of possible outcomes, which are shaped not only by their choices but also by choices of others. These rational choice perspectives explain the motives of drug-traffickers and their decision-making processes to involve in drug-trafficking activity.

2.5.2. Social Control Approach

Social control theory assumes that socialization and social learning are important factors to reduce or increase criminal behavior (Nye, 1958). Nye argues that there are four types of control mechanisms: First, direct control that requires punishment for criminal behavior and rewards for good behavior by family, parents, or other authorities. Second, the idea that a bad behavior (involvement in crime) may disappoint and cause pain or good behavior honors loved ones such as parents and other individuals of close relation. Third, internal control that emphasizes superego or conscience influences the delinquent behavior. Fourth, social control has to bring satisfaction to individuals so that

they do not need to involve in criminal actions (Aker, 1999). Following parts of this section explains the connection between drug trafficking behavior and social control.

For criminals (drug dealers in particular) and law breakers, legal work opportunities are not considered as an option because of huge income gained from illegal activities. As a result, almost entire society and especially young generations are influenced negatively from this situation (Kenney, 2007). Becoming a part of illegal groups is their major goal even if there is a high risk of punishment. These problems result in lack of social, economic, and intellectual development in the society (Labrousse, 2005).

Furthermore, innocent people who are not part of criminal activities are also influenced by this environment. For instance, Vargas (2002) argues that drug trafficking and related problems in the Andean Region affect all the countries in that area. He reports that social, economic, and political problems in the Andean Region are difficult to solve, which require long-term solutions. Also, countries located in this area lose their trust in each other; local, national, and regional safety and security are destroyed; and legitimate trade, economy, and stability are influenced negatively from drug problems (Vargas, 2002).

Thoumi (2005) states that if social control is weak in a society, it reduces people's respect to the rule of law and social discipline. Family control, positive school effect, and other positive influence of social institutions reach to the minimum levels. Loyalty, trust, and solidarity to family, relatives, government and its institutions decline to lowest level.

As a result, individuals' attitudes and choices become more personal and opportunistic. Individuals who lack of social control can engage in any behavior without ethical and moral consideration except for their own benefits to increase their financial and reputation related gains. They compete with each other to gain more capital and power than others.

Thoumi, (2005) argues that even politics tolerate illegal drug industry and gain benefits from it as a result of this social destruction. The influence of this lack of social control and destruction was not perceived at the beginning in Colombia. When they realized that illegal drug industry changed all the segments of society including government and social structure, it was too late (Thoumi, 2005; Labrousse, 2005). This situation is similar in all regions facing heavy drug production, trafficking, or consumption problems around the world.

2.5.3. Routine Activity Approach

In addition to these theories, drug dealing and smuggling behavior can be explained by routine activities theory, which includes elements of rational choice (Akers and Sellers, 2009). The three elements of routine activity theory are *motivated offender, available target, and absence of capable guardians* (Cohen and Felson, 1979). In drug-trafficking, "traffickers and suppliers" are motivated individuals and/or organizations to produce, sell, and transport drugs to their consumers. Here, the first element of routine activity theory, *motivated offender*, becomes drug-traffickers. Those individuals or

organizations are motivated to reach benefits including money, reputation, and power by dealing drugs.

Cohen and Felson (1979) state that second element of routine activity theory is an *available target*. "Drug users" and "other dealers" who want to buy drugs are the targets of motivated suppliers to sell their drugs. In this type of relationships, the target may change in various levels. In drug trafficking, drug producers and traffickers in the source country of drugs usually prefer international targets because of high price and rising profit.

Lack of capable guardians is the final element of routine activity theory (Cohen and Felson, 1979). In drug trafficking, the capable guardians may fall into two categories. First is the "effective law enforcement" that restricts the activities of drug traffickers. The second one is the "parents or guardians of traffickers" who cannot help them to stay away from drug business. When these two main categories of capable guardians fail, it encourages both the motivated drug traffickers who want to sell their drugs and the motivated drug users who want to buy drugs.

This section of the study has examined the theories that explain drug trafficking behavior, and the connection between rational choice, social control, and routine activity theories and drug trafficking has been demonstrated. The following section discusses the major gap in the drug trafficking research.

While the theories discussed in this section help to explain the individuals' motivations for becoming involved in DTOS, there are gaps in literature in explaining the differences of drug trafficking organizational structure. Because of their complex, changing, and irregular structure it is very difficult to explain and support the organizational behaviors and motivations of these criminal networks. Although it is a difficult task to identify appropriate data to explore these drug trafficking networks, it is important to focus on drug trafficking behavior and their organizational structure, and networks.

2.6. The Gap in Drug Trafficking Organizations Research

The literature review section of this research supports two critical arguments. Previous research shows that evaluation of DTOs and understanding of their nature can help officials to develop better and effective policies (Caulkins and Reuter, 2006). However, even though the previous research emphasized the role of Turkish DTOs (Tudor, 2002; Roth and Sever, 2007), no single study has ever focused on their nature and structure. This study fills two important gaps in the drug literature. First, arguments in the literature review section of this study demonstrated that Turkish DTOs play major roles in transportation drug-trafficking from Afghanistan to Europe (Berry et al, 2002; Department of Anti-Smuggling and Organized Crime, 2008) and distribution of these drugs in European markets (Curtis and Karaca, 2007). This particular study examines the nature, organizational structure, and characteristics of Turkish DTOs and investigates how these organizations operate in the region and Europe.

Second, previous research also explores the link between Turkish DTOs and PKK and their networks in European markets (Curtis and Karaca, 2002; Hutchison and O'Malley, 2007; Roth and Sever, 2007) but the strength of this link has not been examined by researchers. This study also addresses and examines the strength of the link between DTOs and PKK in Turkey. Considering the strong infrastructure and network of PKK in the region and in Europe (Financial Action Task Force, 2007; Committee on the Judiciary United States Senate, 2003), this study helps to understand how these two criminal groups are connected to each other and examines the level of connection between these groups.

As briefly discussed in the previous sections, drug trafficking behavior, its link with terrorism and terrorist groups, theoretical background of drug trafficking behavior, social, geographical, and ethnical factors, their structure and relationships are among the important determinants of the overall drug trafficking problems. Thus, this study offers examination of certain parts of these aspects to understand the nature of drug problem through a comprehensive case study of Turkey. In other words, this particular study attempts to examine and focus on the structure of Turkish DTOs, relationships among organizational members, their characteristics, link among drug and terrorist organization and the strength of the link using Social Network Analysis techniques. Different then the theoretical background of drug trafficking crime mentioned above, this study uses influence of factors such as ethnicity, family, friendship, region, and drug type.

2.7. Complexity of Drug and Terror Problems

When DTOs and terrorist groups are interviewed, the problem become more complex and unsolvable; therefore providing a political solution is very difficult (Rubio, 2005). Even terrorist groups want to end their activities, involving drug trade make them more concerned with monetary earnings. Their ideology often becomes a financial issue when they involve in drug trafficking (Committee on the Judiciary United States Senate, 2003).

Cornell (2007) concludes that the interaction between terrorist groups and drug trade is more complicated than it appears. It is critical to understand the direct and indirect effects of drug trafficking on armed conflicts, their motivations, their structures, and their cooperation. Their invisible damages to our societies may be far more serious than their visible damages in our current perceptions. For instance, drug trade influences economy by its negative contribution to inflation, rapid and speculative increases in real estate prices, and disturbing the stability of currency (Felbab-Brown, 2005). Drug problems in Colombia caused more serious problems, such as destroying the social structure of society, the distribution of property, the structure of employment, and encouraging disrespect to values, and violence in society (Garces, 2005). The concept of involvement of a terrorist group in drug trafficking needs more investigation to resolve the conflicts in these areas and to develop better policies.

Another concern is that relationships between DTOs and terrorist groups make problems more complicated. It reduces the capacity of law enforcement efforts and

provides different opportunities for these groups. For example, FARC guerrillas and drug traffickers cooperate to gain more advantage by creating sophisticated methods to reduce the effect of law enforcement interdiction efforts and increase their trafficking opportunities. FARC provided protection and security to drug producers and traffickers and warned them prior to law enforcement operations. (Berry et al., 2002). Increasing efforts to restrict terrorism and its financial resources made terrorist and DTOs adopt more secure and concealed tactics. For this reason, arrested drug traffickers who are cooperative with police may provide important information not only about their drug activities but also about the terrorist groups with whom they have relationships (Berry et al., 2002).

2.8. Similarities and Differences between DTOs and Terrorist Organizations

Drug and terrorist organizations are also similar in certain ways (Schmid, 2005). First, both of these organizations operate at the international level. They get benefits from the globalization trends and open and free-market economy in most of their target counties. Second, both of them are very active in the areas where government authority is weak or ineffective (Hutchinson and O'malley, 2007). Third, both organizations target rich Western countries and seek the loopholes in legitimate systems. Fourth, they both act secretly and develop deep relationships with corrupt government officials. Both use violence and target civilian populations. Finally, drug traffickers target young people to recruit them to drug use, and terrorists try to recruit them into their organizations (Committee on the Judiciary United States Senate, 2003). Because they have many

common characteristics established in similar structures and strongly linked to each other, effective enforcement and combat one will possibly help to combat the other one. However, there are important coincidences, and combating terrorism and drug-trafficking requires different policies and strategies (Committee on the Judiciary United States Senate, 2003; Caulkins, Reuter, and MacCoun, 2002; 2003).

On the other hand, there are obvious differences between drug traffickers and terrorist groups. Drug traffickers are more concerned with money making and increasing their profit. Terrorists are usually not concerned with financial gains except for the amount needed to finance their activities. Their primary focus is more on their political, ideological, or religious goals and objectives (Kiser, 2004; Hutchinson and O'malley, 2007; Committee on the Judiciary United States Senate, 2003).

Caulkins, Kleiman and Reuter, (2002) explore these distinctions more clearly by focusing on two important points. First, terrorist groups have supporters and victims whereas drug organizations have customers. Second, drug organizations always try to hide their activities; they do not usually use names if there is no purpose, and one organization may replace another one very fast. For this reason, removing one drug organization usually makes no big difference. On the other hand, terrorist groups use names; they try to increase their popularity and support by using effective tactics and attacks; replacing them is very difficult or requires long time; and they usually act individually.

Researchers and government officials agree that both drug trafficking and terrorism are important and amorphous problems. Each of these problems has local and international aspects. For each of them law enforcement efforts are indispensable but not able to solve the complete problem by itself. Both problems seriously damage society, but there is still some reluctance to accept this outcome. For both problems, a general approach for solution is creating tougher policies but this is a miscalculation. Finally, coordination at the international level, across different levels of each nation, among different disciplines, and across different agencies, the private, public, and civic sectors, is required, but its implementation is very challenging (Department of Anti-Smuggling and Organized Crime, 2008; Fazey, 2007; Caulkins, Kleiman, and Reuter, 2003).

The relationship between guerillas and DTOs provide mutual benefits to both groups in South America. They use similar methods to operate in the region. First, they use very similar methods to hide their money transfers, use informal money transfers and launder their funds. Second, they use multiple bank accounts and prefer to use cash, and establish front organizations to conceal their dirty money (Croissant and Barlow, 2007). Third, they use fraud documents such as passport, identity cards, and other documents to travel around the world. Fourth, they try to create trusted networks around the world (Hutchinson and O'Malley, 2007). Fifth, they use very secure communication systems such as using many different cell phones and numbers. Sixth, they use secure bank transfer techniques that do not require providing information about the owner of the money or account. Seventh, they use very secure and hidden methods and the same

trafficking routes. Finally, they try to create strong relationships with corrupted government and law enforcement officials (Berry et al., 2002).

2.9. Link between DTOs and Terrorist Groups

Although the prominence (level of use and popularity) of a particular drug type changes over time, drug trafficking -in a broad sense- constitutes an important concern due to serious harms it gives to societies and young generations. Recent developments in the world opened another discussion topic about drug problem, which is the existence of a link between drug trafficking and terrorism (Gunter, 1997; Criss, 1995; Committee on the Judiciary United States Senate, 2003). Many researchers and government officials agree that terrorist organizations gain financial support from DTOs (Crossiant and Barlow; 2007; Berry et al, 2002; Caulkins, Kleiman, and Reuter, 2002; Curtis and Karacan, 2002). This important concern increased the focus of both academicians and government officials on the issue.

After the tragic September 11, 2001 terrorist attacks, state-sponsored terrorism, which refers to financial and logistical support of terrorist groups by certain countries around the world, declined in recent years and as a result terrorist groups sought alternative financial resources to continue their activities (Berry et al, 2002; Committee on the Judiciary United States Senate, 2003; Garces, 2005; Katzman, 2000). One of their main resources became direct or indirect involvement in drug trafficking (Hutchinson and O'malley, 2007). This development strengthened the link between drug trafficking and terrorist groups (Cornell, 2007, Makarenko, 2002; Caulkins, Kleiman, and Reuter, 2003).

The financial support from the drug trade to terrorist organizations is the main concern of this link (Committee on the Judiciary United States Senate, 2003; Committee on Foreign Relations, 1999; Committee on Government Reform House of Representatives, 2001). Schmid (2005) reports that in almost thirty countries around the world there is a link between armed insurgent groups and drug trade.

Cornell (2007) argues that financial support increases for large drug producing organizations. However, these two organizations are different in their goals, objectives, tactics, and nature (Hoffman, 1998; Cornell, 2007). Thachuk (2001) argues that organized crime groups do not often cooperate with terrorist groups because their goals are monetary. However, she claims that terrorists' involvement in organized crime to support their activities, in particular drug-trafficking, is increasing in recent years.

Makarenko (2004) summarizes the relationship between terrorist and organized crime groups by focusing on four important points. First, these two groups act as alliances; terrorist groups seek alliances from organized crime groups and organized crime groups seek alliances from terrorist groups. The nature of the relationship can be long-term, short-term, or just one time, based on their mutual benefits, such as accessing trafficking routes, providing security, laundering money, and counterfeiting. Two important examples of this kind are the relationships of FARC and PKK with drug traffickers and their criminal networks in certain regions (Roth and Sever, 2007, Labrousse, 2005).

Second, terrorist groups involve in crime and use it as an operational instrument and most organized crime groups use terrorism as an operational instrument. For instance, taking the advantage of its geopolitical location and distribution networks around Europe, PKK controls the majority of drug trafficking coming from the Afghanistan region to the Balkans and to Europe making millions of dollars every year (Hutchison and O'Malley, 2007; Roth and Sever, 2007; Tudor, 2002; Gheordunescu, 1999).

Third, terrorist and organized crime groups converge and act as a single unit that has the characteristics of both of these groups, but they have the potential to transform themselves into their main form. Another component of convergence is that terrorist organizations become highly involved in crime activities and depart from their political goals but use their political argument as a facade to continue criminal activities in a more flexible and wider scale. Makarenko (2004) also claims that by using this method, terrorist organizations still enjoy the government and law enforcement focus on the terror problem rather than the crime problem. Also, they use terror as an instrument to make business with crime groups.

Finally, the black hole thesis, which refers to the weak or failed countries, offers important advantages to terrorist and organized crime groups to safely continue their activities and operations. These safe havens for terrorist and organized crime groups negatively influence whole regions and neighboring countries, such as Colombia and Afghanistan (Makarenko, 2004; Vargas, 2002).

Based on the current evidence terrorist groups directly or indirectly get benefits from drug trafficking (Berry et al, 2002; Curtis and Karacan, 2002; Gheordunescu, 1999.). Direct involvement includes the entire control of production, transportation, storage, and street selling by terrorist group members or supporters. Indirect involvement involves terrorists groups receiving financial support from drug traffickers by securing their activities and helping them at the different steps in the process.

An important unseen contribution from DTOs to terrorist financing happens very often. Some DTOs may seem not to have any relationships or support from terrorist groups or terror activities. However, if during the whole drug-trafficking process, producer, transporters or street-sellers provide monetary support to these groups, than it needs to be considered as an indirect financial support. For instance, if a drug trafficking organization in Turkey receives a morphine base to produce heroin from an Afghan producer, which supports Taliban regime and pay them taxes, this is also an important indirect support to terrorism (Hutchinson, Davis, and Davis, 2002; Committee on the Judiciary United States Senate, 2003). In fact, if a gram of cocaine or heroin sold in the streets of the US or Europe comes from Colombia, Afghanistan or other terrorism and drug producing regions, it has to be considered as terrorism support in the drug-trafficking cycle.

A second important unseen contribution is that most countries around the world do not see drugs as a threat if they do not enter their country from another source country. However, money from drugs sold in other countries may also go to terrorism supporters,

and they may use that financial ability to target those nations who do not see these drugs as threat to them (Committee on the Judiciary United States Senate, 2003). These possible contributions from drug money to terrorism are usually missing in the literature and difficult to prove and find accurate evidence since it is a very complicated process. Most countries keep these kind of financial records very secret to gain economic benefits and open a free area in their financial system for those criminals.

Cornell (2007) argues that drug production and armed conflict are linked to each other. Both of these conflicts are over a territory or government and separatist insurgents groups are more active on specific geographic areas (Garces, 2005). Their control over other areas is more limited. They can involve in drug trade, protect drug traffickers, and limit their activities at the local level. On the other hand, in conflicts times they can expand their activities over other regions. It gives those groups more flexibility to continue their activities, particularly for drug trade in other regions. Diffusion of drug trade and trafficking activities to the nearby locations, cities, and regions of conflict areas are also very common (Committee on the Judiciary United States Senate, 2003). However, terrorists and drug traffickers still prefer places that are more secure and inaccessible for legal authorities and regions where more minority groups are more common (Cornell, 2007).

Even if terrorist groups' ideologies, political goals, and motives are different, they can involve in drug trafficking for the same purposes. For example, FARC and the Taliban movement are very different organizations based on their motivations and goals

(Labrousse, 2005). FARC is a Marxist terrorist group that has a goal to take over government control in Colombia, whereas the Taliban movement is a religiously-oriented terrorist movement which has a goal to create an Islamic based government in Afghanistan. The social, political, and economic structures of these two countries are also very different. Nevertheless, these groups have a common goal, which is receiving financial gains from drug-trafficking by protecting drug-traffickers, taxing them, helping them to find markets, and transporting their drugs to different locations (Labrousse, 2005). For example, Colombia is the largest cocaine producer of the world (Sherret, 2005; Vargas, 2002) and Afghanistan is largest opium producer of the world. These two terrorist movements have been very active and controlled certain districts in both countries in the last two decades (Labrousse, 2005).

Hutchinson and O'Malley (2007) argue that a terrorist organization's capacity and its needs are the key indicators of the types of crime they are involved in. Political, ideological, and religious goals are the priorities of terrorists' activities. They always need money to support their activities. Considering that drug trade offers an important financial contribution to terrorist groups, their engagement in drug trafficking activities is critical.

An interesting and important argument is made by ex-DEA Director Asa Hutchinson about the link between terrorism and drug production. He argued that "whenever, again, they have that level of control over a territory, whenever you see the terrorist training camps and the poppy fields in the same geographic region, you know

that there is coexistence. And the fact is that both drug traffickers and violent groups such as terrorists have to have an area in which the rule of law has been diminished or the cooperation of the governing authorities" (Committee on Government Reform House of Representatives, 2001, p. 108).

Cornell (2007) argues that global extension of transnational crime and reduction in state sponsored terrorism are two main factors of in involvement of terrorist organizations in organized crime activities. He reports three important reasons for terrorists' involvement in drug trafficking. First, drugs trade offers very high profits to them. Second, a single plant can be cultivated continually and this increases the overall profit. Third, drug trade is illegal and, because of this, it requires ungoverned territories and secret locations, which are difficult to control by state authorities. Hutchinson and O'Malley (2007) also made similar theoretical arguments about why terrorist groups engage in organized crime activities.

Ballentine (2003) states that insurgent groups try to increase their control over some specific parts of state territory. They use those areas to continue their criminal activities, particularly, for drug production and trafficking. After September 11, international efforts to curb state-financed terrorism increased the speed of this process (Committee on the Judiciary United States Senate, 2003).

Coordination, cooperation, and information-sharing seem to be important problems in both counter-terrorism and counter-drug policies (Jenkins, 1989; Caulkins, Kleiman, and Reuter, 2003; Croissant and Barlow, 2007). Terrorism and drug control is

beyond being just criminal justice problems. Both of these activities are transnational and produce global problems. Coordination and cooperation is required for being more effective against drug problems and it definitely affects the overall success (Department of Anti-Smuggling and Organized Crime, 2008; Jenkins, 1989; Fazey, 2007). Geographical boundaries, a variety of organizations responsible for the different concepts of drug problem; and different governmental approaches, their local problems, policies and practices, are important challenges for better cooperation at the international level (Caulkins, Kleiman, and Reuter, 2002).

Berry et al (2002) examined the connections between DTOs and terrorist groups in different parts of the world, including the Triborder Region (Argentina, Brazil, and Paraguay), Colombia, and Peru; the Middle East: Lebanon; Southern Europe (Albania and Macedonia); Central Asia: Kyrgyzstan, Tajikistan, and Uzbekistan; and East Asia: (Philippines) based on source and report investigations. Some of their important concluding remarks include the following points: First, at the end of the Cold War, state sponsors of terrorism declined their financial support to terrorist groups, and as a result drug trafficking became the primary financial resource of these groups (Hutchinson and O'Malley, 2007; Committee on the Judiciary United States Senate, 2003). Second, terrorist and guerilla groups in Afghanistan, Colombia, Peru and other parts of the world heavily involved in drug trafficking to support their activities. Third, the relationship between terrorist groups and DTOs are mutually beneficial for both parties. Terrorists gain money from traffickers for weapons and their other activities, and terrorist protects and help them to continue their activities (Cornell, 2007). On the other hand, terrorist and

drug-trafficking groups have different objectives. Drug traffickers do not want any attention on them and they are more concerned for their financial benefits, whereas terrorist groups seek more attention from public and government officials in parallel to their political goals.

In the area of narco-terrorism, the biggest concern for drug traffickers is their financial incentives; they are usually not concerned with political issues (Kiser, 2004). However, today it is clear that terrorist groups can support, involve, and provide security or connections for DTOs to increase their financial ability (Sheehan, 2001; Felbab-Brown, 2005). They have certain benefits from each other. For this reason, it is very common to see illegal drug production and trafficking in the areas with terrorism problem such as FARC in Colombia, Al-Qaeda and Taliban in Afghanistan, and PKK in Turkey (Freedman and Levitt, 2009; Cornell, 2007; Curtis and Karacan, 2002; Berry et al.2002).

Terrorists want to increase drug trafficking activity in the areas they control to receive money from drug traffickers. Drug traffickers do not want stability, a secure environment, and a strong democracy to continue their activity and increase their profits as it is the case in Afghanistan and Colombia (Felbab-Brown, 2005; Cornell, 2007; Makarenko, 2004). Instability provides them with a better environment to continue their illegal activities (Committee on the Judiciary United States Senate, 2003).

Drug and drug-related problems play major roles in conflicts between states and insurgent groups (Berry et al 2002). It weakens the state authority while it strengthens the power and capacity of terrorist groups (Garces, 2005). A serious drug problem in a

country or in a region creates other criminal, social, and economic problems. Socially and economically chaotic environments help insurgent groups to strengthen their political and ideological arguments and local economy becomes dependent on drug trade (Felbab-Brown, 2005; Committee on the Judiciary United States Senate, 2003). This is one of the most important hidden and indirect negative effects of drug problem over insurgent groups in a country or a region (Croissant and Barlow, 2007). The problem creates major and serious damage in societies in those areas and solution of those problems require long-term efforts, high amount of cost, and very effective policies. Cornell (2007) argues that the linkage between the drug trafficking and conflict needs more examination from these aspects. He states that his studies in the nine major drug-producing areas indicate that economic incentives enhance the link between the drug organizations and terrorist groups. The study also confirms that drug problems do not help to initiate a conflict in the examined areas, but its contribution to the conflict duration is evident. His main argument is that guerrillas, terrorists or insurgent groups prefer to transform existing drug production methods and tactics by using qualitative and quantitative methods.

In today's world, major conflict and terrorism-producing areas tend to experience serious illicit drug production and trafficking problems. It is also obvious that these two problems are growing in parallel and supporting each other to continue their illegal activities and to increase their power in those regions (Cornell, 2007, Berry et al, 2002). Cornell (2007) reported that Uppsala Conflict Data, which is gathered from 1990 to 2003 in fifteen countries, demonstrated that drug trade and armed conflict are more common in

the same place. He argues that this is because economic and political results of armed conflict produce a fertile environment for drug production and trade.

Rubio (2005) shows that drug traffickers have the capacity to influence the whole society, political developments and concepts, local economy, and even the culture and sport activities in Colombia. His data indicates that there are strong links between drug traffickers and political and cultural associations and other civil society organizations. He finds that there is an association between drug traffickers and insurgent guerilla groups. His study also demonstrates that drug traffickers are the strongest group to influence the electoral process and involve in corruption in Colombia.

In some extreme situations drug trafficking can even stigmatize a population living in certain regions. For instance, in certain Amazon districts of Colombia, farmers and peasants are stigmatized as drug-producing criminals and guerilla auxiliaries (Vargas, 2005; Laubrousse, 2005). Drug producing and trafficking has become their collective identity. Legitimate Colombian government does not give them a place to live and provide them legitimate business options. They are excluded from other citizens and misrecognized by government and other segments of society and are called drug producers or criminals rather than normal citizens. This situation gives them serious disadvantages in a democratic government system. Those peasants are also faced with Revolutionary Armed Forces of Colombia's (FARC) threats and taken as hostages and kidnapped by them. Because government authorities cannot provide them with better legal opportunities and protect them from FARC's threats, most of them unwillingly help

FARC because of their fear (Ramírez, 2005). Similar situations can be observed in Afghanistan and other drug-producing regions across the globe. The situation may become worse in those type of areas over time. Even governments and citizens engage in or benefit from it, and do not want to see progress in those regions.

Armed conflicts provide some opportunities for certain groups. Keen (2000) argues that war does not always destroy economy, authority, and social structure of a nation, but it also offers some alternative mechanisms for some groups and individuals to gain power, increase their profits, and sometimes provides security and protection to them. Drug trafficking in this concept is a perfect example, which provides high revenues and power to traffickers and other important benefits to terrorists in conflict zones (Hutchinson and O'Malley, 2007).

Cornell (2007) argues that insurgent and terrorist groups support to increase drug production and trafficking by undermining the capacity of government authority and blocking law enforcement efforts in specific areas. This is particularly true for heroin and cocaine production and trafficking. The study also demonstrates that insurgent groups' involvement in drug trade increases over time. This occurs as a process starting with the toleration of drug trade and taxation (Felbab-Brown, 2005). Insurgent groups realize profits and become more dependent on drug revenue. At the later steps, they become more involved in drug production, trafficking, in providing security, helping drug traffickers to find customers, and helping them in other steps of trafficking action (Felbab-Brown, 2005; Committee on the Judiciary United States Senate, 2003). This

support and help process may continue to the street level selling of drugs. For instance, there is evidence that FARC and PKK sympathizers and members sell and control drug distribution in the European markets (Hutchinson and O'Malley, 2007; Zaitch, 2005; Roth and Sever, 2007).

An important survey conducted by UN in the 7541 Afghan villages in 2000 demonstrates that 6889 (over 91 percent of total) of those villages are under the Taliban control. Another important result of the survey is that majority of farmers in the surveyed Taliban controlled villages are aware of the restrictions to reduce their poppy cultivation but their compliance with those regulations is low. According to the statement by Bill Bach, Director of the Office of Asia, Europe and NIS Programs, collects 10 to 20 percent tax from their poppy production. He also states that based on the UN estimates in 1999, farmers receive $265 million from poppy production, and Taliban's revenue from taxation is at least $40 million (Committee on Government Reform House of Representatives, 2001).

The Anti-Defamation League (ADL) Update (2001) states based on a United Nations panel that Taliban in Afghanistan uses money from heroin production to support its activities in the region and around the world. In fact, terrorism, illicit drug production, and other criminal problems are mainly caused by the instability in Afghanistan, which also negatively influences other nations in the region (United Nations Committee of Expert of Afghanistan Report, 2001; Committee on Government Reform House of Representatives, 2001).

In summary, the literature discusses several important aspects including regional effects and access routes in different parts of the world. The chaotic environment and unsecure areas of the world discussed in the literature, provide an opportunity for major drug trafficking activities and the development of strong DTOs and terrorist groups. An important problem in these areas is the connection with terrorist and drug organizations. In almost all drug producing areas, a terrorist organization exists. Another important focus is the role distribution and activities of drug trafficking organizations. The roles of its members such as organizational leader, high level managers, communicator, transporter street dealers etc. are examined in detail. The literature provides an understanding of the social bonds and personal relationships of group members. The social bonds help to explain the motivation of drug traffickers, for example strong social bonds help an organizational culture that includes strong communication skills and trust; often the result of knowing each other prior to trafficking activity, as a relative or friend. Also, members may bond together because of their same ethnic background or clan relationship, establishing a stronger network for the DTO to maintain power and position against other DTOs. Little is known about the actual structure of DTOs the similarities of drug and terrorist organizations. Further understanding about how PKK related DTOs differ from non-PKK related DTOs is critical to reducing the problem and regulating their behavior in unstable and chaotic regions of the world, where they are often insulated from daily scrutiny of the law and are protected by their remote and often obscure locations. Members who are involved in the drug trade, but not a member of a DTO may

blend into the community, it is not known how PKK and non-PKK related DTOs differ in their assimilation into the community.

CHAPTER 3 - DRUG TRAFFICKING IN TURKEY

This section provides the context of the study, and describes drug-trafficking in Turkey and further explores how drug-trafficking is related to terrorism in the context of the country.

3.1. Drug Trafficking in Turkey

Turkey is a country that has suffered from both terrorism and drug trafficking problems for several decades. The conflict in its eastern regions has created significant dilemmas in the country in recent years (Teymur and Smith, 2008; Unal, M. 2009). Turkey has not only lost its financial resources (almost $400 billion) and citizens, soldiers, and police officers (almost 30,000) but also suffered from drug trafficking problems.

Being on the route of Balkan region, chaotic ethnic, geographical, political, and economic environments in its eastern regions made Turkey a perfect alternative for drug traffickers (Keser & Ozer, 2008; Van Solinge, 1998). The country tries to combat serious drug problems with its professional police, customs, and gendarmerie officials by using recent technology and sophisticated tactics (Anti-Smuggling and Organized Crime of Turkey, 2006).

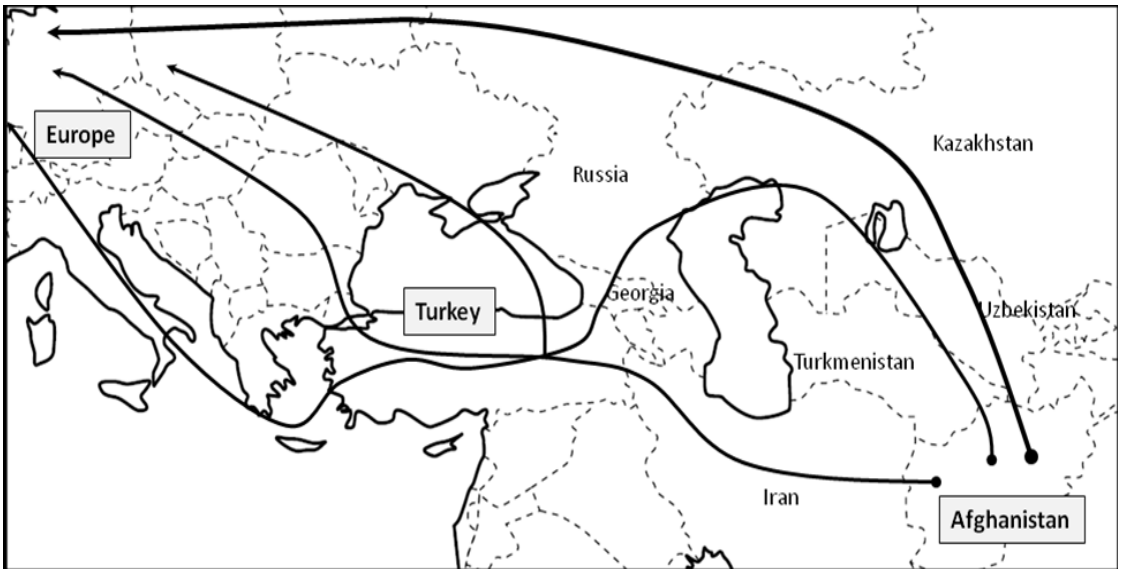

Figure 4 - Drug Trafficking Routes Passing Through Turkey and Region.
Source: http://english.freemap.jp.

Traditional heroin, morphine base, and acetic anhydrite route starts from Afghanistan passes through Pakistan, Iran, Turkey, and the Balkans to Europe (Block, 2001; Van Solinge, 1998). This route is called Balkan Route and there are alternative routes. One passes from Central Asia through Russia and the Northern Black Sea region to Europe; and another alternative route passes through the Middle East, southern parts of Turkey, Mediterranean Sea Islands, and the Balkans to Europe (Committee on Government Reform House of Representatives, 2001; Office of National Drug Control Policy, 1997; Department of Anti-Smuggling and Organized Crime, 2008).

During the fourth quarter of 2000 the total heroin seized in Europe was about 3,900 kilograms, and during the first quarter of 2001, it was 2000 kilograms. According

to UNODC report (2007), Turkish security agencies seized approximately 15 percent total heroine in the world and European authorities reported that majority of these drugs originated in Afghanistan. It is also more likely that Turkey was on their transportation route. These numbers reveals that drug routes passing through or around Turkey are actively used by drug traffickers.

In addition to Turkey's geographic location, its historical, sociological, economic, and cultural background have made the country attractive for drug traffickers and other criminal groups (Unal, M., 2009). Up to the start of the 20th Century, the Ottoman Empire ruled Middle East, Caucasians, Southeastern Europe, and North Africa for over four hundred years. During this time many different ethnic and cultural communities lived in the Ottoman Empire. They lived together, got married and influenced each other. While these ties still exist, some of these ties reflect illegal activities today (Keser & Ozer, 2008). After the fall of the Ottoman Empire at the beginning of the 20 century, the newborn country, Turkey, tried to cooperate and increase its legal trade with its neighbors and other countries around the world and use these historical, economic, social, and cultural ties for its advantage.

A sociological examination can help identify the diversity of Turkey's borders. In Turkey's eastern regions and cities, Kurdish ethnicity is more common. Most Turkish citizens in these regions are of Kurdish ethnic background and Kurdish is their native language. For example, the cities of Agri, Van, Hakkari, Sirnak have major Kurdish populations. Similarly, at the other side of Turkey's Iranian and Iraq borders, the cities of

Urmia, Piranshahr, Soran and Erbil have major Kurdish populations. These groups share a common language and family roots that promote communication across these different regions of the country.

In the Balkan region the situation is somewhat similar. In Greece, Bulgaria, Macedonia, Kosovo, Bosnia, and Romania there are Turkish ethnic groups. Turkish ethnic groups living in these countries often have relatives in Istanbul, Bursa, Edirne, and other Turkish cities. Many Kurdish ethnic groups moved to European countries for economic and political reasons, especially to seek refuge because of political conflict in Turkey (Department of Anti-Smuggling and Organized Crime, 2008, Paoli and Reuter, 2008; Unal, M., 2009).

After the Second World War, many Turkish citizens moved to Germany, Netherlands, France, Belgium, and other European countries for employment. Many people are still living in these countries and most of them are their citizens. According to official numbers, there are almost 3 million people of Turkish-origin living in Germany, with 5 to 6 million living in Europe. Since there is a large number of Kurdish people living in almost all European countries (Unal, M. 2009), it is no surprise that some Kurds have been part of these criminal and drug networks.

Turkey's economic, social, and cultural advantages have attracted traders (both legal and illegal) across the region. Turkey's land has always been used as a transportation point to carry drugs to European countries, and Turkish DTOs benefit from Turkey's geopolitical location over the years (Block, 2001; Van Solinge, 1998). One of

the most active drug trafficking routes in the world is the Balkan Route, which is an increasing concern for European governments. This route has become more active in the last decades. Turkish drug traffickers control most of the drug trade in European nations in recent years through this route (Department of Anti-Smuggling and Organized Crime, 2008; Curtis and Karacan, 2002). Because of Turkey's history and ethnic ties, other nations' drug smugglers tend to cooperate with Turkish drug organizations without any difficulty.

Drugs entering Turkey from eastern borders are cheaper then when they penetrate Turkey. When these drugs reach larger cities or transportation centers, their price goes up; it reaches the highest level at its final destination, particularly in rich European countries (Reuter and Greenfield, 2001). An important question that needs to be answered is why drugs are transported to these cities. The main reason seems to be that it is easy to transport drugs from these particular locations and cities because of the lack of control at the borders. Also, large legal trade and touristic transportation among countries present many opportunities to traffickers to transport drugs by planes, ships, trucks, busses, and other vehicles.

3.2. PKK and Drug Trafficking

Kurdistan Workers Party (PKK) is an ethno-terrorist group that was officially founded in 1978 and started its violent campaign in 1984 (Ekici, 2006; Teymur and Smith, 2008; Unal, 2012). Since its inception, PKK evolved through different stages. The

organization renamed the PKK as the Freedom and Democracy Congress of Kurdistan (KADEK) in 2001.

PKK was founded by Abdullah Ocalan, who was captured in 1999 in Kenya. According to Turkish authorities and some scholars, it is a separatist terrorist group based on Marxist-Leninist ideology (Unal, 2012; Teymur and Smith, 2008; Kule, 2007; Roth and Sever, 2007). Their target group is mainly the Kurdish population in Turkey. Until the early 2000s, the main goal of PKK was to create a Kurdish state in the Southeastern regions of Turkey. In the following years their goal was revised to obtain autonomy for Kurdish people living in Turkey (Katzman, 2000; Committee on the Judiciary United States Senate, 2003).

The Turkish Government sees PKK and its supporters as a serious threat to Turkey's indivisibility. From 1984 to today, PKK has attacked Turkish security officials and civilians including Kurdish ethnic Turkish citizens. Its attacks also included Turkish targets in Europe (Katzman, 2000; Gheordunescu, 1999). Turkish officials claim that the PKK is responsible for killing at least 30,000 individuals in Turkey (Roth and Sever, 2007; Committee on the Judiciary United States Senate, 2003; Katzman,2000; Curtis and Karacan, 2002; Teymur and Smith, 2008). PKK is officially recognized as a terrorist group by U.S., the European Union and most of the other nations around the world (Roth and Sever, 2007; Katzman,2000; Committee on the Judiciary United States Senate, 2003.)

PKK plays a major role both in the transportation, security, and distribution process of drugs. PKK's involvement in drug and arms trafficking in Western Europe and Turkey is an increasing concern for European and Turkish authorities (Sahin, 2002; Kiser, 2004; Department of Anti-Smuggling and Organized Crime, 2008). Roth and Sever (2007) report that 80 percent of the drugs produced in Afghanistan and Southeast Asia goes to European markets via Turkey. This is also reported in the U.S. Department of State's International Narcotics Control Strategy in the years of 1996, 1998, and 1999 (Roth and Sever, 2007).

Even the leader of the terrorist organization, Abdullah Ocalan, blamed his brother Osman Ocalan and other groups for collecting money from drug traffickers who were involved in drug trade in the southeastern regions of Turkey and in Europe (Department of Anti-Smuggling and Organized Crime, 2003). About 60 tons of heroin is produced by PKK each year, and terrorist groups receive at least $40 million (Committee on the Judiciary,United States Senate, 2003). Hutchinson and O'Malley (2007) state that PKK receives 450 million Swiss Francs from the drug trade in Middle East, Europe, and Turkey, and it controls almost 30 percent of drug laboratories in Turkey and in the region.

Location and geography play major roles in PKK's drug trafficking in the southeastern region of Turkey (Freedman and Levitt, 2009; Roth and Sever, 2007). In the Turkish territory, the area where the PKK militants and supporters are active, is the closest area of Turkey to Iran, Afghanistan, and South Asia, the main opiates producing

regions in the world. The militants of PKK use the advantages of controlling this area. They are located in inaccessible locations, which mainly consist of high mountains close to the Iranian and Iraqi border. As mentioned above, these militants have family members, relatives, friends, and supporters, and they are connected to individuals who manufacture drugs and engage in other illegal activities living in the cities, towns, and villages on both sides of borders. Having these connections provide PKK militants and their supporters with the capacity and capability to bring drugs and other illegal materials from other side of the border to Turkey (Committee on the Judiciary United States Senate, 2003; Curtis and Karacan, 2002).

Once drugs enter Turkey, drug traffickers try to send them to Istanbul or other cities that offer more transportation opportunities to the Balkans and Western Europe. At this step, drug traffickers use different transportation techniques. They prefer trucks, buses, automobiles, trains, and ships for large amount of drugs. For smaller amounts they prefer to use carriers, postal services or planes. Although not very common, there are cases that large amount of drugs were captured in the airports or on the carriers' luggage (Department of Anti-Smuggling and Organized Crime, 2008).

Hutchinson and O'Malley (2007) argue that PKK established a strong network infrastructure to control organized crime and drug-trafficking in the region and Europe. PKK created this infrastructure, and this is an important advantage for it in distributing these drugs in European markets (Sahin, 2002; Roth and Sever, 2007). This terrorist group has very strong criminal networks in Europe, and its members expanded to almost

all European countries and Turkey (Reuter, 2004; Financial Action Task Force, 2007; Committee on the Judiciary United States Senate, 2003). This highly expanded and structured network increases their capability to control drug trafficking and other organized crime activities in most European countries (Reuter, 2004; Curtis and Karacan, 2002; Teymur and Smith, 2008).

Berry et al. (2002) reports that Kurdistan Workers' Party (PKK) is involved with and receives financial support from drug trafficking and money laundering. PKK receives money from drug traffickers by taxation in the Southeastern parts of Turkey and provides them security during their shipment procedures. Despite limited evidence, they state that PKK and Hezbollah are acting cooperatively to export drugs to Europe (Berry et al., 2002).

Tudor (2002) and Roth and Sever (2007) reports that 80 percent of drugs seized in European countries are linked to PKK or other Turkish organized crime groups. Reuter (2004) states that according to Interpol reports Turkish criminal networks play very active role in transportation and distribution of heroin in Europe. Fazey (2007) reports that cocaine comes to Europe through Spain and most of the heroin comes from Afghanistan; however, drug trade is dominated by Turkish DTOs in Europe.

PKK's active role in drug trade is recognized by many important government and law enforcement agencies, including U.S. State Department, DEA, and UN International Drug Control Program in 1990s. Judicial records shows that some drug traffickers have prior criminal records before being members, providing aid or support the PKK terrorist

group (Financial Action Task Force, 2007). For the same time period, Interpol reports that many drug trafficking activities are linked to PKK and Kurdish crime groups located in European countries (Gheordunescu, 1999; Curtis and Karacan, 2002). PKK's involvement in drug trade is seen at all phases from the production stage to the street distribution of drugs.

PKK-linked DTOs in Turkey usually obtain the morphine base (a raw material for heroin production) from Afghanistan or Pakistan. Anhydride acid (another raw material to produce heroin) is usually brought to Turkey from Germany (Aktan and Koknar, 2002). PKK is very active in the distribution process of these various drugs in European markets. Taxing Kurdish drug smugglers in the southern regions of Turkey and Western Europe is another source of finance for PKK (Beers and Taylor, 2002).

Gheordunescu (1999) reports that Kurdish organized crime groups and supporters of PKK living in Romania are a major threat to European national security. The study reports that those groups are highly involved in different organized crimes such as drug, human, and arms trafficking, fraud in travel documents, and money laundering. In addition to these criminal activities, PKK and its supporters develop propaganda to influence Romania's approach to Kurdish problems and to disturb the relationship between Turkish and Romanian governments.

PKK was one of the most active terrorist groups in the world at the beginning of 1990s. Several reports say it was more active than the notorious Latin American terrorist groups FARC and ELN. PKK and other Marxist-Leninist groups such as FARC and ELN

has become more involved in drug trafficking in recent years (Roth and Sever, 2007; Labrousse, 2005; Committee on the Judiciary United States Senate, 2003).

The arguments made above and in the literature indicate that Turkish DTOs play a major role in the world drug trafficking cycle. Their connections with Asian drug producers and European drug markets provide important drug trafficking opportunities. Therefore, the main objective of this study is to investigate Turkish DTOs and their link to the PKK is critical to the monitoring and regulation of global drug trafficking.

CHAPTER 4 – METHODOLOGY

The purpose of this study is to examine the individual and network level (including personal, demographic, and cultural) characteristics of drug traffickers who are considered part of the Turkish Drug Trafficking Organizations DTOs. The analysis will also include the organizational structure of DTOs to assess whether a link exists with the DTO organizations and PKK terrorist organizations. This section of the study describes the research methods used to examine each of the research questions. The first section of this chapter discusses the research design and the research questions. The second section describes the three methods used in the study. The third section describes the data and the operationalization of the data (nature of data, variables, and coding), and case characteristics. The final section describes the analysis technique (its basic theme, how it relates to this study, etc.), process and procedures (steps of the statistical analysis) and the limitations of the data (specific to this study).

This chapter is organized according to the proposed research questions (RQ). Each research question includes: a conceptual framework based on the literature, variables, and plan of analysis.

4.1. Research Questions

Drug sale organizations, particularly those involved in trafficking are difficult to examine systematically. Due to the secrecy and security concerns associated with drug trafficking organizations, it is often challenging to secure reliable data sources from which to conduct scientific research. The following summarizes some key challenges facing researchers: First, the data are classified by law enforcement agencies for the security reasons. Second, government officials hesitate sharing information with civilians because it may interfere with their future investigations. Third, if researchers reveal their investigation techniques then they risk that those in control of data sources may change or use different methods. Finally, collecting the data regarding drug trafficking organizations is a time intensive and costly process and most researchers adopt for data collection that requires less time and resources (Reuter, 2004; Ekici, 2008).

Despite these significant obstacles, a large volume of research has been published on a variety of areas relating to drug trafficking (Reuter, MacCoun and Murphy, 1990; Natarajan and Belanger, 1998; Reuter and Haaga, 1989; Natarajan, 2000, Levitt and Vankatesh, 2000; Bery et al. 2002; Zaithch, 2005). This study expands the existing research by using original (primary) data on drug trafficking organizations viewed from a law enforcement perspective, to gain insights regarding both individual and organizational characteristics that may be influencing drug trafficking.

The focus of the study is Turkish DTOs, both PKK and non-PKK groups, to explore the differences in the DTO organizations, their methods, and their links with

terrorist organizations. Based on the literature review, characteristics of drug networks, member motivations, type of relationships among the organization members, their structure, and connection with the terrorist groups are deemed important factors worthy of study (Fuentes, 1998; Paoli, 2001; Caulkins, Kleiman, and Reuter, 2002; Reuter, 2004).

The goals of this research are (1) to identify the social and demographic characteristics of people in drug-trafficking organizations (DTOs) in Turkey; (2) to elucidate the differences, if any, of the social and structural characteristics in PKK-related and non-PKK-related drug-trafficking organizations; and (3) to analyze the impact of social bonds on the Turkish drug trafficking organizations' networks and relationships.

Using comprised data from official police case records, this study will examine how DTOs function. The details about data and its formation are explained in the following sections. The following research questions will be explored points are going to be enlightened according to the dataset presented in the following section:

1- The individual characteristics of the DTO related members have been studied by many researchers (Reuter and Haaga, 1989; Paoli, 2001; Levitt and Vankentesh, 2003); however, these characteristics may differ in different times and regions, and can be affected by culture and ethnicity (Paoli, 2001; Reuter, 2004). This study is expected to provide us with the opportunity to make comparisons between Turkish DTOs and other DTOs around the world. Thus, the first research question of this study is:

What are the individual characteristics of PKK and non-PKK-related DTO members?

a. *What are the individual characteristics and profiles of drug offenders within the drug trafficking organizations in Turkey?*

    i. *Individual social and demographic factors*

b. *What is the distribution of DTO members in terms of geographic regions in Turkey (differences between the 7 geographic regions of Turkey)?*

c. *Are there any regional differences between PKK-linked and non-PKK-linked DTOs?*

2. The literature review demonstrates that Turkey is plagued with drug trafficking problems due to its geographic location that serves as a conduit between and among Europe, Asia and Middle East. Turkey's location is known as being one of the primary routes of drug traffickers, especially for morphine, heroin derivatives and some synthetic drugs. Understanding whether and how these individual and organizational factors of Turkish DTOs affect drug trafficking in a major hub like Turkey will add to knowledge of drug trafficking in other region thus adding to the global relevance of this research.

   Therefore, the second research question of the study is:

   What are the organization characteristics of the PKK-related and non-PKK related DTOs?

   a. *Is there any specific structure of the Turkish DTOs?*

b. *Are there any similarities between the Turkish DTOs and the other DTOs?*

c. Is there any hierarchic structure that positions the DTO members in Turkey; how do their networks operate?

d. Is there any hierarchic relationship between the PKK-related DTO members in Turkey; how do these relationships operate?

3. There are significant cultural, geographical, and ethnic differences between the regions of Turkey that affect types of crimes that include trafficking crimes. In Turkey, cultural and traditional factors strongly influence all types of relationships both in legal or illegal forms. The east and southeastern regions of the country are more dependent on their traditional and cultural history. In addition, Kurdish ethnicity is more common in these regions of Turkey.

Literature review of this study (Snisarenko; 1997; Fuentes, 1998; Paoli, 2001; Zaithc, 2005) demonstrates that the degree to which family members are involved in the same drug trafficking organization influence the organizational structure and some organizations involve a number of members from the same family or are coordinated by them. Therefore, the third research question of the study is:

Are there any differences between the PKK- related DTOs and the non-PKK related DTOs in Turkey in terms of their network characteristics?

4. The literature indicates that the PKK terrorist organization in Turkey has significant drug trafficking activity (Van Solinge, 1998; Gheordunescu, 1999; Roth and Sever, 2007; Hutchinson and O'Malley, 2007; Teymur and Smith, 2008; Unal, 2012). The first part of the study attempts to find out the existence of the link -if any- between the PKK and Turkish DTOs and the change over time. Therefore, it is important to examine to what extent the PKK functions in these activities.

   This leads to the fourth research question:

   Are there any differences between the PKK-related DTOs and non-PKK-related DTOs in terms of any individual member characteristics?

5. Based on the literature on individual members of drug trafficking organizations, the final research question is:

   What is the scope/impact of social connections in terms of being relative or friendship among the individual DTO members?

   Is there any personal relationship (Did they know each other before the drug trafficking activity) and familial connection of DTO members in Turkey? (members from the same family, relatives including father, uncle, cousin, brother in law).

The objective of this study is to explore each of these research questions based on the data obtained from police case files in Turkey over a period of time. It is believed that official datasets are more reliable due to their consistency and accuracy of recording

compared to self-report datasets. The dataset of this study is official data that have no recording problems or issues and first hand coded by the researcher.

4.2. Methods

Drug trafficking is a serious problem for governments that need special attention of researchers despite the serious obstacles and limitations of available data (Reuter, 2004). Most studies use exploratory techniques to examine the scope of the drug trafficking problem in different parts of the world (Reuter, and Schelling, 1996; Caulkins, Kleiman, and Reuter, 2002; Reuter, 2004; Garces, 2005; MacCoun,). However, a number of studies use quantitative techniques by examining limited datasets that limit the research to a single research question or focus (Reuter and Haaga, 1989; Hagedorn, 1994; Reuter, MacCoun, and Murphy, 1990; Zaitch, 2005; Fuentes, 1998). These studies have important limitations such as small sample size, being limited in very certain region, and being difficult to replicate in other places.

In comparison to similar research on drug trafficking, this study uses a large sample size including 100 different drug trafficking organizations involving over 773 individuals in these networks. In addition, this study uses quantitative statistical techniques and social network analysis to describe the characteristics of the DTOs as well as identify any relationships among variables or differences among groups. Information obtained from police case files in Turkey includes various information about offenders and the networks they involve. This research is very unique from this perspective and uses quantitative research methods in order to answer the research questions.

4.3. Data

The data used in this study are official police records of drug trafficking cases in Turkey between 1984 and 2010. This date is selected because the year of 1984 is the starting date of PKK activities in Turkey and the year of 2010 is the starting date of data collection and coding. The Turkish National Police (TNP) operates in 81 cities throughout Turkey to provide security and safety in urban areas across the country (rural areas of the country are under the responsibility of military police gendarme). Each city has its own police department but they are hierarchically connected to the TNP Headquarters in the capital city of Ankara. The cases in this study do not include any of gendarmerie controlled areas which are basically rural areas that have less drug trafficking activity compared to urban areas. According to the Turkish National Statistical Agency the gendarmerie is responsible for the 82 percent of the geographic regions of Turkey however only 8 percent of drug crimes in general and 5 percent of drug trafficking crimes are committed in these areas. For instance, ASOCD 2008 report demonstrates that TNP made 11,663 drug operations, gendarmerie made 3,734 and customs officials made only 66 drugs operation. Drug amounts seized and number of offenders captured in these operations were close to these proportions. In addition, customs law enforcement agencies are responsible for the border gates, international airports and ports. The data also does not include any cases from customs locations.

The Anti-Smuggling and Organized Crime Department (ASOCD) is one of 30 umbrella departments of the TNP that deals with all types of smuggling and organized crime activities across the country. Each local police department has its own section of

ASOCD in each city. The local police departments are required to send a copy of each case file to the ASOCD headquarters. A sub-organization called Turkish Monitoring Center for Drugs and Drug Use (TUBIM) under ASOCD collects and enters the data to ASOCD database. The cases for this study were gathered from ASOCD headquarters' database (TUBIM). These cases occurred between 1984 and 2010, and they were collected from different cities throughout the country, they are not focused on specific areas or cities. However, drug trafficking cases in Turkey are more common in specific cities such as big metropolitan cities, border cities, and cities with ports, airports, and other transportation opportunities. These cases are not including street level distribution cases. They are comprised from trafficking cases and include at least 3 individuals in a case. According to Turkish law, a criminal group is defined as a crime organization if it has at least three members. Their punishment is harsher and prosecuted differently than street dealers and drug users.

4.4. Data Source and Sample Description

This study adopts a multi-method design using both individual and organizational level data. The dataset that is compiled from 100 drug trafficking cases ranging from 1984 to 2010. Out of 100 cases, a total of 50 cases are considered to have some type of link with the PKK terrorist organization. This categorization is based on Turkish Anti-Smuggling and Organized Crime Department. For the linked organizations there is some type of evidence that suggests a linkage in the drug trafficking process. These linkages across organizations are coded in a manner consistent with the social network analysis method (coding techniques that are described in several resources that include

Wasserman and Faust, 1994; Carrington, Scott, and Wasserman, 2005; Hanneman and Riddle, 2005). In these samples, 403 individuals are coded based on the link with PKK related cases and 370 individuals are coded as linked with non-PKK related drug trafficking organizations. In total, the sample size of the study is 773 people who are noted in police case files. Social network analysis techniques, measurement, and coding system are the main research methods in this dissertation (See Table-2).

The dataset was manually coded based on the structure that social network analysis requires.

Table 2 - Description of Dataset, Sample Sizes and Dates

Data type	N of cases (file)	N of offenders in the cases (file)	Range of N of members in each case (file)	Date of case (file date-police operation date) range
DTO-not PKK-linked	50	370	3-23	1984-2010
PKK RELATED DTO	50	403	3-29	1984-2010
TOTAL CASES	100	773	Min. 3- Max. 29 (in 100 DTO files)	

The case files include almost all types of documents from the beginning to the end of the drug investigation including the trial process for each of the 100 DTO files. Case files also contain documents on whether or not the offender was convicted. These documents include: (1) information documents to start the investigation from public (informants), other agencies, foreign liaison officers or police departments, or any other sources, (2) personal information and documents of offenders, such as their names, date of birth, city of birth, gender, income, job, education, etc. (3) summary report of the investigation from the beginning to the seizure, (4) correspondence between police department and courts and other agencies, (5) court warrants, (6) search and arrest reports, (7) interrogations of offenders by police and prosecutors and (8) surveillance reports (9) other additional documents such as financial documents about drug trafficking activity, wiretaps, police case summary reports, offender statements etc. There are three specific sets of variables: offender-specific, case-specific-variables, and PKK related cases' variables (see methods section and Appendix).

In addition, there are several types of cases in this dataset. The first group of cases are those for which police started their investigation by information given by a foreign country. In this type of case, drug trafficking organization has members involved in or coordinating illegal activities in that foreign country. In some cases the situation is the opposite, which means DTOs located in Turkey have members in that country and the information is received or sent from a foreign country for investigation. This information usually shows the connection among organization members to produce, transport or sell

different types of drugs. Police investigations start with given information, and then proceed based on evidence of drug trafficking; such cases are important for police.

The second type of cases involves those completely investigated in Turkey. These cases involve traffickers who want to transport the drugs to a foreign country but are stopped by a police operation that ends in their arrest. All of these activities took place and were investigated in Turkish National Police (TNP) districts. Some cases had no international connection but had only domestic targets. These crime groups tried to produce, transport, and sell drugs within the country and 50 of these organizations are put in the category that have some type of connection with the PKK terrorist organization.

Another case categorization involves the types of drugs: heroin, cocaine, acetic anhydrite, morphine base, different synthetic drugs, and marijuana. From these cases, it may be possible to measure which drugs are preferred more or less by DTOs. It may also be possible to measure and compare the relationship between drug types and other variables, such as demographic characteristics of traffickers, and transportation types.

The fourth set of cases includes those that show the level of relationship between drug trafficking organization and the PKK terrorist organization. This relationship includes physical support and involvement of PKK activities, documentary support (having, reading or writing illegal documents about PKK), prior records of PKK related criminal activities or financial support. In some cases this relationship seems very strong (physical support, prior criminal records and financial support, documentary support, confession by the organization member). See the codebook for the level of relationship),

but in some cases the level of relationship is at the low levels. The strength of the link between terrorism and drug trafficking is measured by using these cases. The types of drugs that are most preferred by drug traffickers that finance terrorist activities is also investigated.

4.5. Case Identification

The dataset used in this study was compiled from 100 drug trafficking cases in Turkey from the years of 1984 to 2010. The dataset includes a total of 773 individuals, of which 403 subjects coded as linked with PKK related cases and 370 subjects are coded to have linked with non-PKK related drug trafficking organizations. The researcher selected these cases from the database of Turkish Anti-Smuggling and Organized Crime Department (ASOCD) between 2008 and 2010. These cases were selected by using some key words for the purpose of this study including “leader,” “structure,” “national link,” “international link,” “terror,” and “PKK” etc. in the same time period.

The researcher retrieved the case files from the ASOCD database, which includes all of the officially reported cases across the all the provinces of Turkey under police responsibility. By using a keyword search, the author located nearly 800 cases within the ASOCD database. Almost 200 cases were deliberately singled out and excluded from the analyses due to the fact that they were neither easily readable because of the bad image quality nor in conformity with the format of the study. This left around 300 PKK-linked and 300 non PKK linked files in the pool of possible cases for analysis. Among these files, 50 PKK linked and 50 non-PKK linked cases were randomly selected for this study.

Case files ranged in length from 50 to over 500 pages. Next, all pre-determined variables to conduct the core analyses of this study were directly coded from these files. This effort of data coding of these long documents took a approximately 5 to 20 hours for each files with the researcher and independent coders going through each file to search for variables and related information to supplement the analysis.

To investigate the link between DTOs and PKK an additional source was used. Since 1984, ASOCD categorizes drug trafficking cases that are linked with PKK in a special category and created a catalog that also includes summaries of the cases. They put 350 drug-trafficking cases in this category. At the time of the data collection, because of technical reasons, the researcher was not able to access the complete file of these cases. After the researcher was granted access to the catalog, which included about 300 cases, it was possible to search cases using key words from the ASOCD's database. Fifty PKK linked and 50 non-PKK linked cases were randomly selected by using these two set of resources to have clear information and characteristics that are more appropriate to investigate for the purpose of this study. Most of the cases gathered from ASOCD's database and this catalog were same cases for PKK linked files. Documents were in digital format and the statements were scanned by officers. The selection criteria included: Among these documents some of them were not clear enough to read due to technical problems while scanning. In some cases the file was about drug use investigation rather than trafficking activity. In addition, in some cases the criteria of being a DTO such as having at least 3 individuals involve in the trafficking activity. If these criteria are not met, the randomly selected cases were omitted.

These cases include all the documents collected, prepared, found, and written by police and court. Case summary documents are prepared by the police. This document is an official summary of how the investigation process starts, warrants are received from prosecutors for the surveillance and wiretapping dates, summary of developments during the investigation process, evidence recorded by surveillance teams, and other important information. In short, this document is the summary all the information about the investigation and operation process from start to the end. Another important document is offender's statement document, which includes offenders' information about their name, birthday, place of birth, education level, address, phone numbers, occupation, marital status, income, nationality, number of children, questions asked by police, and their answers. Surveillance report is another document prepared by surveillance teams during the investigation process. This information includes the meeting dates and places, vehicles they used and plate numbers, photos if taken, and other important information during the surveillance. Prior criminal record documents are taken from court of the city. Wire taps and conversation details also included in these files if wire taps made by police. Documents (related for the drug investigation and individuals' relationships in drug organization) found by police during the investigation or operation in their house, office, cars, or other places are also in these files.

All types of documents that can be used as evidence for the investigation are also placed in these files. However, there is no single format of these files. TNP does not require a specific format of these documents and files. For this reason, the files used in this study have most of the information stated above but this does not mean every file has

all of the information and documents. If the police have successfully investigated and collected the necessary information, they created an organization chart for some files showing the roles, structural distribution of network members, and their relationship chart. Each case includes different number of people and process.

4.6. Coding and Reliability Test

This study has three different datasets at two levels: 1-Case specific dataset that includes variables for almost 100 drug trafficking cases of which 50 of cases are PKK related cases and 50 are non-PKK-linked cases. This dataset is based on the identity of offenders and their organizational link. 2-Offender dataset that includes almost 773 observations related to the socio demographic characteristics of drug offenders, who are actually the total number of people involved in the first 100 cases (see Appendix A for details).

First of all, as explained in this chapter above, the variables are coded out of the case files of investigated drug trafficking incidents occurred in Turkey within the 26-years period between 1984 and 2010. Variables in the dataset were coded by the author of this dissertation based on his 10 years of expertise and experience in drug investigations and SNA techniques that is formulated by Wasserman and Faust (1994), Hanneman and Riddle (2005), and Carrington, Scott, and Wasserman (2005).

Although there have been several case studies, interviews, or surveys conducted in various parts of the world (Reuter and Haaga, 1989; Adler, 1985; Paoli 2001; Levitt

and Venkatesh, 2000, Zaitch, 2005) on general characteristics of DTOs and the numbers of offenders and family relatives involved in the same DTO, none of these studies examine the structure of DTOs. Moreover, these studies accept the "organizational structure" of DTOs as a peripheral issue of drug trafficking. In contrast, this study focuses on the organizational structure of DTOs as the unit of analysis to empirically examine the structure of DTOs as a key predictor to drug trafficking. Finally, this study also incorporates "the length of the investigation" and "link with terrorist organizations and DTOs" variables into the model as explanatory factors of the structure of DTOs and conduct statistical tests on these relationships.

This study used SNA techniques formulated by Wasserman and Faust (1994), Hanneman and Riddle, (2005) Carrington, Scott, and Wasserman (2005). Variables were operationalized into three levels: continuous variables, categorical, and dichotomous variables. While coding the variables in ordinal scales, the author wanted to cover the phenomenon using proper scales as much as possible. For this reason, not a single type of ordinal scale was used for each variable and the scaling was done in parallel with the amount or magnitude of the variable. In addition, variables in this study were identified by taking the purposes of the study and the extent of the DTO phenomenon into consideration. Measurement and proper statistical analysis methods were also taken into account while deciding which variables to put into the dataset.

4.7. Reliability Test

As known, an important goal of research is achieving consistency in coding which is critical for replication. Researchers attempt to reach consistency by using several apparatus. Statistical reliability tests are important tools to test the consistency for future studies (Gatewood and Field, 2001; Shadish, Cook and Champell, 2002 (Bak) ; Schwab, 2005; McBride, 2010). In this sense, interrater reliability tests ensure consistency of a research by using different raters on the same variables for coding. Percentage agreement and kappa statistics are frequently used methods to measure interrater reliability. The main purpose of interrater reliability is whether the collected data accurately represent the variables in the study.

4.7.1. Methods for Reliability Test

In the aforementioned section, this study used the percentage agreement method to measure the interrater reliability of the research dataset (Gwet K.L. 2014; Tinsley H. E. and Weiss D.J. 1975; James L.R., Demaree, R. G. and Wolf G. 1984). Several steps were taken to achieve this goal. First, two raters -who have doctoral degrees and know how to use SNA and other statistical techniques- were assigned to code variables. These raters also had field experience in drug related crimes; in fact, one of the raters has worked for the Istanbul Police Department Anti-drug Division for years. The second rater was selected among the experts who have field operation experience and also knows how to use SNA. Second, these coders received training at three different times. These meetings were face-to-face to establish a clear understanding of the issues related to the

study in general and the coding procedure in specific. In the first meeting, a general overview of the study was given and a hard copy of the first chapters of the document was provided to them. They were asked to read the related chapters in general, at least having a general idea about the study. In the second meeting which was about - two weeks later- the codebook of the variables were given and discussed with them, then, a randomly selected file were rated altogether in the same meeting as an exercise (See Appendix A for the codebook). This meeting took about 5 hours because each case file has different sub-files such as summary case files, criminal record files, statements of the offenders' etc. each file has approximately 25-30 pages length depending on the number of offenders involved. For example, case number 46 has 23 offenders involved. That means this case has at least 50 pages for the total case file whereas case number 57 has 4 offenders involved which consists of approximately 15 to 20 pages. Variables and the process of coding and saving them into computer program were presented to the raters. Raters were also given an excel case recording sample and the exact coding and saving procedure were shown to them.

As mentioned in the data coding section, there are 100 cases included in which 50 of them are PKK related cases and the other 50 are non-PKK related cases. At the final step, in the second meeting with the raters, to measure the interrater reliability, the coders were given 5 PKK related and 5 non-PKK related cases in a digital format. These cases were randomly selected among 100 cases and assigned to the raters. They were asked to code them in three weeks.

At the end of this time period, raters submitted their coded files in the excel spreadsheet. At this stage, the results of coders were statistically compared to assess how they coded the case and the degree of inter-rater similarity for each case variable (see Table 3-4).

4.7.2. Findings of Reliability

It was found that the overall reliability percentages were always above 80 percent for the variables included for this study (Table 3 and Table 4). The agreement percentages ranged from 80 to 100 percent. When the total agreement percentages for each case (DTO) were considered, the agreement percentages ranged from 98.4 to 99.8 percent (see total values under columns for each DTO case). Both coders had an over 98 percent agreement percentage when the total percentages were considered. Despite the increase in number of offenders (N) of offenders inside the DTO, the agreement percentages remained over 80 percent in all variables, and 98 percent for the total DTO case shown in the column. More clearly, even the number of offenders getting higher in a DTO, the minimum agreement percentage is still over 80 percent. This fact is a clear indication of consistency and agreement success in the coding application. In Table 3 and Table 4 the last 7 variables in the rows, shown in italics, are the social networks variables that had different agreement percentages. These differences are explained below by giving an example.

Table 3 shows agreement percentages of coder 1 who rated the randomly selected non-PKK-linked cases. According to the table the N of individuals in the cases were

ranged from 4 to 10. When the agreement percentages for the variables are considered the range is from 80 to 100 percent. Generally, there is 100 percent agreement for variables that relate to individual characteristics. Some level of discrepancies were evident in social network variables that are explained below. When the included cases in Table 3 are considered, the highest percentage agreement was in case number 89 with a percentage of 99.4 whereas the lowest percentage agreement was in case number 52 with a percentage of 98.4.

Table 3 - Agreement Percentages of Coder 1 for Non-PKK-linked Cases

Variables	Percentages of Agreement				
	Case 52 (N=5)	Case 57 (N=4)	Case 73 (N=10)	Case 84 (N=10)	Case 89 (N=6)
Age	100	100	100	100	100
Gender	100	100	100	100	100
Region of birth	100	100	100	100	100
Education	100	100	100	100	100
Marital status	100	100	100	100	100
Number of Children	100	100	100	100	100
Income	100	100	90	90	100
Occupation	100	100	100	100	100
Nationality	100	100	100	100	100
Prior record	100	100	100	100	100

Variables	Percentages of Agreement				
	Case 52 (N=5)	Case 57 (N=4)	Case 73 (N=10)	Case 84 (N=10)	Case 89 (N=6)
Arrest	100	100	100	100	100
Pre-Trial Custody	100	100	100	100	100
Fugitive suspect	100	100	90	100	100
Source of information to start the investigation	100	100	100	100	100
Date of operation	100	100	100	100	100
City of case	100	100	100	100	100
Drug type	100	100	100	100	100
Drug amount	100	100	100	100	100
Drug seizure place	100	100	100	100	100
Relationship with PKK	100	100	100	100	100
Type/Evidence of relationship with PKK	100	100	100	100	100
Strength of the relationship with PKK	100	100	100	100	100
Relationship with other organizations	100	100	100	80	100
Type of organization if the offender is linked	100	100	100	100	100
Type of relationship with other organizations	100	100	100	100	100
Countries linked	100	100	100	100	100
Cities linked in Turkey	100	100	100	100	100

Variables	Percentages of Agreement				
	Case 52 (N=5)	Case 57 (N=4)	Case 73 (N=10)	Case 84 (N=10)	Case 89 (N=6)
Number of Relatives involved	80	100	90	100	100
Role of the individual in the organization	80	100	90	100	84
Number of peers involved	100	100	100	100	100
Type of kinship	92	100	100	100	100
Who is connected with whom	100	100	98	98	100
Density	100	100	96	96	100
Reciprocity	100	100	100	98	100
In-degree centrality	100	100	80	100	100
Between-ness centrality	100	88	100	100	95
Relationship type	92	88	100	100	100
Total	**98.4**	**99.3**	**98.6**	**98.9**	**99.4**

Table 4 indicates the agreement percentages of coder 2 for randomly selected PKK-linked cases. The selected 5 DTO cases had 4 to 23 individuals included in the DTO. Agreement percentages were ranged from 86 to 100 percent. Similar to Table 3, there are discrepancies in social network variables. This is because of their complicated nature, different approach of coders in some details and difficulty of coding social network variables. The reasons of why these discrepancies are existing and the details why these percentage agreements are low and high is explained in the end of this section

in detail. The overall agreement percentages for the total DTOs ranged from 98.5 to 99.8 percent. The highest agreement percentage occurred in case number 42 and the lowest agreement percentage was in case number 46.

Table 4 - Agreement Percentages of Coder 2 for PKK-linked Cases

Variables	Percentages of Agreement				
	Case 22 (N=7)	Case 33 (N=4)	Case 37 (N=8)	Case 42 (N=13)	Case 46 (N=23)
Age	100	100	88	100	92
Gender	100	100	100	100	100
Region of birth	100	100	100	100	100
Education	100	100	100	100	92
Marital status	100	100	100	100	100
Number of Children	100	100	100	100	100
Income	100	100	100	100	96
Occupation	100	100	88	100	100
Nationality	100	100	100	100	100
Prior record	100	100	100	100	96
Arrest	100	100	100	100	100
Pre-Trial Custody	100	100	100	100	100
Fugitive suspect	100	100	100	100	88
Source of information to start the investigation	100	100	100	100	100

Variables	Percentages of Agreement				
	Case 22 (N=7)	Case 33 (N=4)	Case 37 (N=8)	Case 42 (N=13)	Case 46 (N=23)
Date of operation	100	100	100	100	100
City of case	100	100	100	100	100
Drug type	100	100	100	100	100
Drug amount	100	100	100	100	100
Drug seizure place	100	100	100	100	100
Relationship with PKK	100	100	100	100	100
Type/Evidence of relationship with PKK	100	100	100	100	100
Strength of the relationship with PKK	100	100	100	100	100
Relationship with other organizations	100	100	100	100	100
Type of organization if the offender is linked	100	100	100	100	100
Type of relationship with other organizations	100	100	100	100	100
Countries linked	100	100	100	100	100
Cities linked in Turkey	100	100	100	100	100
Number of Relatives involved	86	100	100	100	100
Role of the individual in the organization	100	100	100	100	88
Number of peers involved	100	100	100	100	100

Variables	Percentages of Agreement				
	Case 22 (N=7)	Case 33 (N=4)	Case 37 (N=8)	Case 42 (N=13)	Case 46 (N=23)
Type of kinship	100	88	100	98	99.3
Who is connected with whom	92	100	94	100	99.7
Density	96	100	97	99	98.8
Reciprocity	100	100	100	100	98.5
In-degree centrality	100	100	100	100	100
Betweenness centrality	96	100	100	98	99.3
Relationship type	100	100	100	99	99.7
Total	**99.1**	**99.6**	**99.1**	**99.8**	**98.5**

4.7.3. Calculation of Percentage Agreement for a Social Network Variable

In Table 3, there are two social network variables that have 88 percent agreement for case 57, which has 4 offenders involved in the DTO. The two variables that have this percentage are *between-ness centrality* and *relationship type*. These types of variables were coded in a matrix (i.e. Table 5). The coding for these variables was done by Coder 1. The Coder made only one mistake for each of these variables. These mistakes are shown in red. If this mistake had happened while coding an individual characteristic variable (i.e. *age*), the percentage agreement would have been 75 percent. However, in a social network variable this percentage is 88 because there were 4 individuals in the case

and the coder made 4x4=16 coding. That is, the total N of mistakes is two and the percentage becomes 88 percent. This method was used for all social network variables shown in Table 3 and Table 4. It is basically disaggregating the calculation since the variable has sub-items and coding.

Table 5 - Calculation of Agreement Percentage for Between-ness Centrality Variable

Betweeness-centrality variable	**57001**	**57002**	**57003**	**57004**
Coding of the author	0	2	3	2
	2	0	2	1
	3	2	0	3
	2	1	3	0
Between-ness centrality variable	**57001**	**57002**	**57003**	**57004**
Coder 1.	0	2	3	1
	2	0	2	1
	3	2	0	3
	1	1	3	0
Percentage agreement for the variable			88	

4.7.4. Explanation of Discrepancies in Agreement Percentages

After the calculation of these percentages, it was observed that, in general, variables about characteristics were seen to be mostly accurate whereas variables regarding social network analysis had some discrepancies. Coding of the author and the external coders were compared to each other in the final meeting with the external

coders. Accordingly, to find out the reasons of discrepancies, the coders were asked about the process of reading the materials, coding and saving them.

Despite the clear and concrete criteria mentioned in the codebook and information given in the previous meeting, the reason of inaccurate entries were told to be complex nature of the events and investigations as well as the personal logical approach to the investigations. For example, in one case an offender who was the cousin of the DTO leader were rated differently due to the cultural differences among geographical regions in Turkey. The term cousin is normally used for the son of Aunt or Uncle, but sometimes people use these terms for their friends with whom they felt themselves socially very close. While the author of the study coded this individual as "friend", the external coder recorded as "relative". This mistake is due to low concentration while reading and coding the statements of offenders. Similarly, in some of the social network variables, the relations of offenders with each other require high concentration on the case file and recording process too. As a second example, in age variable Coder 2 in table 2 made two mistakes in coding. These mistakes are due to the calculation of date of birth to age. For example, in case 37, the age of offender was miscalculated by the coder. The raters mentioned the difficulty of this process, however, there were minimum acceptable percentages of disagreements when the disaggregate level of percentage agreement are considered.

In sum, the overall agreement percentages, coding method and findings are believed to be sufficient. Both external coders for the variables succeeded to pass the

minimum acceptable agreement percentages. This study used agreement percentage method since it is easy to calculate and directly interpret the accuracy of coding between the raters. As noted by Marusteri and Bacarea (cited in McHugh 2012) it is impossible to accomplish 100 percent certainty and agreement in a research.

It is mentioned in this study that the overall reliability agreement that about a score of 80 percent and above is acceptable whereas those of less than 80 percent are accepted as erroneous. Similarly, studies using different reliability measures accept that the minimum value should be .60 and over. The important issue in conducting a research is to accomplish the level of consistency and the ability to replicate the research. This point can be done by having preciseness of a measurement instrument and systematic scores. Because systematic errors are a significant threats to reliability whereas random errors are acceptable and should be minimized if possible. When the current percentage agreements for this study are considered there are no systematic rating errors in variable coding.

4.7.5. Suggestions for Future Studies of Reliability

Several scientific studies demonstrated the importance of social network approach to drug trafficking organizations and analysis of their relationship and organizational structure to develop effective counterdrug policies (Reuter and Haaga, 1989; Fuentes, 1998; Natajaran, 2000; Garces, 2005, and Zaitch, 2005). For the future studies employing social network coding, certain other steps might be added into the coding process to avoid or minimize the coding disagreements. First, the officials (including

police and other security officers) might be officially required to create organizational charts that demonstrate the relationship and role of offenders in the organizations. Second, officers who are entering such information at the first level should be more structured and systematized when asking questions and coding the information according to clear operational definitions of related variables in the drug investigations. Third, there may be standardization of some documents created by researchers who know social network analysis that shows this information more obvious and these documents are required to insert in investigation files. In fact, in the cases analyzed in this study, except the third suggestion made here, first and second suggestions exist in some degree. However, they were not standard in every case file or they were not created in a very professional way and in social network mentality. They were rather inserted by the officers' creativity, level of intelligence, and investigation approach. Due to this, there seems to be some disagreement between the main coder and outside coders in percentage agreements but they are reasonable and at acceptable level considering the complexity and difficulty of the coding process.

4.8. Operationalization of the Variables and Measures

Several studies emphasize the necessity of understanding the organizational structure of DTOs (Paoli, 2001; Adler, 1985; Reuter and Haaga, 1989). Paoli (2001) notes the characteristics and nature of Russian DTOs and discusses the formation of organizational structure related to crime groups. Reuter and Haaga (1989) interviewed prison inmates in Washington D.C. to understand the structure of DTOs in this city.

Adler (1985) studied the organizational nature of high-level drug markets in New York. These studies found that structure of DTOs are varied by city or country.

The data gathered from TUBIM (Turkish Monitoring Center for Drugs and Drug Use) between the years of 1984 and 2010. The data is coded based on the SNAs coding techniques. The categorization, measures, and coding details of variables explained in the code sheet in detail (See Appendix). It should be noted that not all variables shown in the code sheet were utilized for analysis purposes; the variables displayed are for informative purposes about the scope of data collected by the researcher. The name, description, type of the variables, coding that was used in the study and the labels of variables (as used in tables in the findings section) are shown in parenthesis:

Case Number (OrderGeneral): The data gathered from Anti-Smuggling and Organized Crime Department (ASOCD) - TUBIM between the years of 1984 and 2010. TUBIM has the only and the largest database in Turkey's drug trafficking and addiction cases (Police records). The cases are selected randomly by using convenience selection and several key words. These words are "leader", "structure", "national link", "international link", "terror", and "PKK" etc. More than 500 cases are downloaded by the permission of the TUBIM. Since the cases are in digital format and scanned, they were controlled if they are readable. Also, they were checked if they have clear information about the offenders and the whole case. In addition, ASOCD categorized PKK-linked files since 1984 in a separated file. This categorization is made by some type of physical, documental, financial evidence in the case. This file is also used for the selection of

PKK-linked files were also searched from data. After, 100 of them randomly selected for the purpose of this study, 50 of which are categorized as PKK-linked and the rest 50 are categorized as non PKK-linked files. A case number is assigned for each case, which is different than the original case number. The first case to be analyzed is be coded as 1, the second 2, 99, 100.

Personal Code Number (OrderSpecific): There are 100 cases included in this study; 50 of them are PKK related cases and 50 of them are non-PKK related. In each case file, there are different numbers of people related to drug trafficking. The total N of people involved in the whole dataset is 773. To identify as a unique identifier, for each person in the dataset a personal code number is assigned. For example, for the coding of the first person in the first case is 1-001 (case number/1-001). The second person in the 50^{th} case is 50-002 etc. The first digit is the case number and last 3 digits are the person in that specific case.

Age (Age): This is the age of the offender at the time when they were arrested with police operation. The date of birth was written on individuals ID document, driving license, or any other official document given by government. This is standard information written in the police statements.

Gender (Gender): It is the gender of the offender, which is a categorical variable and coded as 1 for male and 2 for female. This is standard information written in the police statements.

Region of Birth (BirthRegion): This variable describes the seven geographical regions of Turkey where offenders were born. This is a categorical variable, which is coded as 1 for Eastern, 2 for Southeastern, 3 for Mediterranean, 4 for Aegean, 5 for Marmara, 6 for Northern Black Sea, and 7 for Central Anatolia. Offenders are required to give information about their birthplaces. This is the standard practice in police and court procedures. Therefore, this information is available in all cases if the person is a Turkish citizen. In the cases that offenders have different nationalities, it was coded as NA. This is also standard information written in the police statements.

Education (Education): This is a categorical variable that describes the level of education of offenders. This information is gathered by the police when offenders give their first statements in police departments. Although offenders are not required to give this information to police, almost in all cases they provide this information. Police ask about the highest degree completed by offenders. The education level includes illiterate, primary school dropout, primary school, elementary school dropout, elementary school, high school dropout, high school, and university/college higher education. This is standard information obtained from police statements.

Marital Status (MaritalStatus): This information is gathered by the police when offenders give their first statements in the police departments after arrest. Although offenders are not required to give this information to the police, in almost all cases they provide this information. The coding criteria are made by the statements of the offender. This is standard information written in the police statements. Each victim/offender etc. is

asked to give this information about their marital status. It is coded as single, married, divorced and separated.

Number of Children (KidsNumber): This information is gathered by the police when offenders give their first statements in the police departments after arrest. Although offenders are not required to give this information to the police, in almost all cases they provide this information. The coding criteria are made by the statements of the offender. This is a standard information written in the police statements.

Income (Income): This is the amount that offenders declared to police other than the drug money from his job or other regular or part time jobs. This information is gathered by the police when offenders give their first statements in the police departments after arrest. Although offenders are not required to give this information to the police, in almost all cases they provide this information. The coding criteria are made by the statements of the offender. This is standard information written in the police statements

Occupation (Occupation): This is the regular or part time jobs that offenders declared to police. This information is gathered by the police when offenders give their first statements in the police departments after arrest. Although offenders are not required to give this information to the police, in almost all cases they provide this information. The coding criteria are made by the statements of the offender. This is standard information written in the police statement.

Nationality (Nationality): This information is gathered by the police when offenders give their first statements in the police departments after arrest. Although offenders are not required to give this information to the police, in almost all cases they provide this information. The coding criteria are made by the statements of the offender. This is standard information written in the police statements.

Prior Record (PriorRecord): In Turkey, if an offender commits a crime, security agencies enter the crime and individual's information to a national database. TNP and other security agencies record this type of data. There is a large national database and when a person is arrested, all security agencies are required to check his prior record and they have to put the information in the file and inform the prosecutors and court about it. All the details (if it is a drug, terrorism, or violent crime etc.) about prior record can be seen by the security agencies and court. The document of prior record of the offender for each individual is put in the case file by the police.

Arrest (Arrest): It refers to whether a suspect is arrested or not during the police operation. According to the Criminal Law Procedures for the Police in Turkey, when police conducted an operation, suspects can be taken into custody in police department and this procedure is called a "police arrest".

Pre-Trial Custody (Convicted): It refers to imprisonment of a suspect by a court until the first trial, after police arrest, on a probable cause that the suspect committed crime.

Fugitive Suspect (Fugitve): It describes whether a suspect is fugitive or not during the police operation. Each file or police operation is coded as one event.

Source of Information to Start the Investigation (InfoSource): It refers to the police information source to start the investigation, which is a categorical variable. This information can be found in the "case summary record" of the police documents, which are created by the police for the court.

Date of Operation (DateofOperation): It is the date of operation made by the police. It can be found in the case summary record.

City of Case (CityofCase): It is the city of operation made by the police. It can be found in the case summary record. This is the city where drugs are seized by the police. If the individual is fugitive or arrested in different time or place, the criteria are the drug seizure city. He/she is brought to the drug seizure city for the investigation. This is the rule in the police and court procedures.

Drug Type (Drugtype): The variable refers to the type of drug seized during the police operation. If there is more than one type of drug during the operation these drugs are coded separately. The case numbers and personal code numbers are the same since the coding is done according to the case summary record document. This information is in the police case summary record.

Drug Amount (DrugAmount): This is the amount of drugs seized by the police during the police operation. This information is in the police case summary record.

Drug Seizure Place (Placeofseizure): It refers to place where drugs are seized such as cars, in a house, on a truck etc. This information is in the police case summary record.

Relationship with PKK (RelWithPKK): It refers to whether a suspect has a relationship with PKK terrorist organization or not. This relationship is determined according to the police investigation files, documents and other information given by the offender. This information is written in the police case summary record and offender's statement document in the police department.

Type/Evidence of relationship with PKK (TypeEvidRelPKK): It is determined according to the police case summary record, police search, prior record checks, and offender statement documents. Proof of these documents is put in the case files.

Strength of the Relationship with PKK (RelStrength): It refers to the strength of the relationship with PKK such as weak, moderate, or strong. *Weak:* if there is only documentary support (providing receipts, phone number); *moderate:* if there is documentary and financial support; *strong:* if there is physical support. Prior criminal record and financial support is determined according to the police case summary record and police statement.

Relationship with Other Organizations (RelWithOtherOrg): It refers to whether a suspect has a relationship with other terrorist, religious, drug or other type of illegal criminal organization. This information is determined according to the police case

summary record and offender's statement document in the police department as well as prior criminal record documents.

Type of Other Organization if the Offender is Linked (TypeOfOrgIfLinked): It refers to the type of organization if an individual is linked to another/other organization(s). This information is determined according to the police case summary record and offender's statement document in the police department as well as prior criminal record documents.

Type of Relationship with Other Organizations (TypeOfRelWithOrg): It refers to the type of relationship with other organization(s). The type/evidence is determined according to the police case summary record, police search, prior record checks, and offender statement documents.

Countries Linked (CountriesLinked): It refers to the name of the country if a drug organization and suspect in it are linked to other countries. It is determined according to the police case summary record, police investigation reports, and offender statement documents.

Cities Linked in Turkey (CitiesLinked): It refers to the name of the city if a drug organization and individuals in it are linked to other countries. It is determined according to the police case summary record, police investigation reports, and offender statement documents.

Number of Relatives Involved (NumRelatInvolved): The variable refers to the number of relatives involved in the drug trafficking activity for each single file. For example, in case number 18, there are 4 individuals 2 of them are brothers. It is determined according to the police case summary record, police investigation reports, and offender statement documents.

Type of Kinship (Typekinship): It refers to type of family relationship such as father, mother, brother, uncle, cousin etc. for each single drug trafficking file. It is determined according to the police case summary record, police investigation reports, and offender statement documents.

Number of Peers Involved (NumPeersInvolved): It refers to the number of peers involved known by a suspect before the drug trafficking activity. The purpose of this variable is to find out whether the traffickers know each other before the drug activity. A person is coded as a peer if he/she is not a relative but at the same time if they know each other and have at least one initial contact among each other before the drug trafficking activity. It is determined according to the police case summary record, police investigation reports, and offender statement documents.

Role of the Individual in the Organization (RoleInOrg): It refers to the role of a suspect in the drug trafficking activity such as organization leader, high level manager, brokerage, transporter, carrier etc. It is determined according to the police case summary record, police investigation reports, and offender statement documents. If there are multiple roles the higher level position was coded.

Who is Connected with Whom (Who-who): It refers to if a relationship exists between members. For instance, in the file 18, there are four individuals and each of them knows each other. They share information, call each other, meet each other, and work together in the drug trafficking activity.

Density (Density): Frequency of contact: It refers how often a suspect is connected with other individuals such as very often, often, rare, no contact. This is the number of contact by phone, email, face to face meetings etc. Each type of contact is accepted as 1 contact regardless of its kind. 1-3 contact per month: *rare*; 3-7 contact per month: *often*; 7-and more contact per month: *very often*. It is determined according to the police case summary record, police investigation reports, and offender statement documents.

Reciprocity (Reciprocity): Level of collaboration: It refers to whether or not a relational tie exists. Reciprocity measures the direction and strength of that tie such as fully linked, partner, helper, not linked. *Fully linked:* According to police records, wire taps, surveillance records etc. whether individuals communicate, meet, and call each other daily bases for drug activity. *Partner:* According to police records, wire taps, surveillance records etc. whether individuals communicate, meet, and call each other not daily bases but several times weekly bases for drug activity. *Helper:* According to police records, wire tapes, surveillance records etc. whether individuals communicate, meet, and call each other when needed, not daily or weekly bases for drug activity. *Not linked:* This indicates no collaboration among individuals.

In-degree Centrality (Degree): It is the number of ties an individual has with other actors. These ties indicate that individuals in a drug organization have connections with other individuals and therefore; it represents an actor's importance in the organization. For example, there are four offenders in file 18 and each of them knows and connected to each other. Every person in file 18 connected to other three offenders. This is based on the police records, wire taps, police surveillance records and other records.

Between-ness Centrality (Betwenness): It is the measure for diffusion of information and control over other individuals in the drug organization. This information is based on the police records, wire taps, police surveillance records and other records. Accordingly, 0-3 (0-No information, 1- Low, 2- Moderate, 3- High). *No information:* No information sharing and diffusion of information between individuals. *Low:* Lower than 3 times information sharing during the drug trafficking activity. *Moderate:* More than 3 times and up to 10 times information sharing during the trafficking activity. *High:* More than 10 times and up information sharing during the drug trafficking activity.

Relationship Type (Relat-type): It refers to the type of relationship between individuals. 0-6 (0-No relation, 1-Relative, 2- Friend, 3-Introduced by a third person, 4-Friend and do drug business before, 5- Telephone contact, 6- Other). This information can be in police case summary, police surveillance records, offenders statement documents, wire taps, and other documents in the file.

The variables listed and defined can be grouped in two categories: Individual level variables that explain the characteristics and profiles of the offenders, which are

age, gender, region of birth, education, marital status, number of kids, income, occupation, nationality, prior record, arrest, convicted, fugitive, role of the individual in the organization. The second group of variables includes: number of relatives involved, type of kinship, number of peers involved, who is connected with whom, density, reciprocity, in-degree centrality, between-ness centrality, and relationship type those are useful for social network analysis and testing social bond theory.

Table 6 - Variable Categories in the Dataset

Variable category	Variables in the category
Individual Level	Age, gender, region of birth, education, marital status, number of kids, income, occupation, nationality, prior record, arrest, convicted, fugitive, role of the individual in the organization, type/evidence of relationship with PKK, strength of the relationship with PKK, relationship with other organizations, type of organization if linked, and type of relationship with other organizations
Network Level	Number of relatives involved, type of kinship, number of peers involved, who is connected with whom, density, reciprocity, In-degree centrality, betweenness centrality, relationship type

According to previous research, the variables above in Table 6 are the key factors for the purpose of this study. The logic behind the coding strategy of these variables will be better understood by remembering previous research. A number of studies indicated that national level of dispersion and capacity of DTOs can be an important indicator to

understand the organizational structure and its strength (Berry et al, 2002; Thoumi, 2005; Vargas, 2002). For example, Vargas (2002) argues that DTOs in Colombia have active in several regions around the country and the structure of DTO has to be strong enough to create this national network.

Schmid (2005) argues that an international partner is required to transport drugs to another company and claims that international cooperation of DTOs and insurgent groups is found in almost thirty different countries around the world. Reuter (2004) and Curtis and Karacan, (2002) emphasize that establishment of international network and connections are important factors that influence the structure of a DTO. With similar arguments this study defines the case involving international link as a case that involves at least one country other than Turkey. Within this frame, Turkey can be the beginning, target or transit country of the trafficking activity. Since international trafficking requires passing through country borders with strict police or customs controls that is a rather risky part of the international cases, it is expected that merely strong DTOs can take such a risk and can coordinate this type of a complex activity.

As mentioned in the literature section of this study, Reuter and Haaga, 1989 and Adler (1985) reports that large-scale drug trafficking requires more labor and workers. Fuentes (1998) reports that some large DTOs may have up to three hundred members with different roles.

Paoli (2001) finds that family involvement can be an important indicator to measure the organizational structure. In Colombia, organizational members prefer to have

a relative as the leader of DTO (Fuentes, 1998). This study also assumes that number of people from a same family involved in a DTO in Turkey may influence the structural formation of DTO. This is measured based on the number of arrested or fugitive offenders that belong to the same family with blood or marriage ties. If the case involves people from more than one family it is aggregated to one another. In the traditional and cultural characteristics of Turkey, particularly in the middle and eastern parts of the country, family ties are very strong. From this perspective, family influence and involvement may be a strong indicator of an organizational structure of the DTOs.

A number of studies demonstrates that region is an important indicator for the organization of DTOs (Levitt and Venkatesh, 2003; Ramirez, 2005; Vargas, 2002). Levitt and Venkatesh (2003) argue that strongly structured and centrally coordinated DTOs are active in more than one region of a nation. Vargas (2002) claims that organizational structure is stronger in DTOs that are more active in different regions in Colombia. Similar arguments were made by Paoli (2001) for Russian DTOs. Especially the eastern regions of the Turkey have semi-feudal socio-economic structures with close and large family ties that pave the road for the formation of strong DTOs. On the other hand, Marmara region, especially the province of Istanbul, which is the financial capital of the country with approximately 15 million population, is the hub of almost every organized crime activity including drug trafficking. Therefore, this region is also expected to exhibit strong organizational structures.

4.9. Plan of Statistical Analysis

This research is composed of 5 main research questions with related sub-questions. To analyze these questions, several analyzes were performed. The unit of analysis in this research is drug trafficking organizations, DTOs. However, individual level data were also examined especially to assess social networks and relationships.

First and foremost, all data were included into SPSS and UCINET data files. Then, according to the research questions, an appropriate statistical technique(s) and variables were used for the analysis. For each research question (see research questions above) the following methods and variables were used:

RQ-1. SPSS analytical software was used to analyze the characteristics of the offenders and general dataset at the individual level in order to present an overview for the whole dataset. This process included frequencies and percentages of individual characteristic variables (*age, gender, education, marital status etc.*) in the dataset.

RQ-2.

a. SPSS analytical software was used to assess the socio-demographic characteristics of DTO members who are not linked with the PKK terrorist organization. This included the 50 DTOs characteristics at the individual level (*age, gender, education,* etc.). The total N of individuals involved in the 50 DTOs is 370.

b. SPSS analytical software was used to analyze regional differences of the offenders in terms of how they differ from each other (t test) at the individual level. There

was only one variable for this statistical analysis which was coded as the "*region of birth*" in the dataset. Turkey is divided into 7 geographic regions which are not only geographically differing from each other but also culturally and ethnically too.

c. UCINET social network analysis software statistical program was used to assess the social and familial connections of DTO members and other social networks analysis at the DTO level. Accordingly, the statistical technique used for this section measured whether the members of DTOs know each other before the drug trafficking activity and whether there are any other family members, peers or relatives inside the DTO? (variables such as *number of peers involved, degree centrality, etc.* were used).

RQ-3

a. SPSS analytical software was used to assess the socio-demographic characteristics of DTO members who are linked with the PKK terrorist organization. This included the 50 DTOs characteristics at the individual level (*age, gender, education, income* etc.). The total N of individuals involved in the 50 DTOs is 403.

b. SPSS analytical software was used to analyze regional differences of the offenders in terms of how they differ from each other. The only variable for this analysis is *region of birth*. Turkey is divided into 7 geographic regions which are not only geographically differing from each other but also culturally and ethnically too.

c. UCINET social network analysis software statistical program was used to assess the social and familial connection of PKK related DTO members at the DTO level. The

analysis focused on whether the members of DTOs knew each other before the drug trafficking activity; and if there any other family members, peers or relatives inside the PKK related DTO (variables such as *number of peers involved, degree centrality, etc.* were used).

RQ-4. SPSS analytical software was used to analyze relationship (correlation and regression analysis) between individual characteristics of the DTO members, and relationship between variables of interest at the network level.

RQ-5. UCINET social network analysis software was used to identify the differences between the PKK related DTOs and non-PKK related DTOs in Turkey in terms of their network structure (variables such as *role of the individual in the organization, relationship type, degree centrality, closeness centrality, between-ness centrality* were used*).*

Methodologically, this study is comprised of two main parts. First, the study analyzes DTOs in terms of individual characteristics of the drug trafficking offenders. Secondly, the study analyzes the dataset at the DTO/network level. Using the dataset with 100 different drug trafficking organizations; 50 of which have some type of link with PKK and 50 do not. The dataset includes 773 individuals to measure the strength of the link between Turkish DTOs and the PKK terrorist organizations.

4.10. Limitations of Data

The cases used in this study were selected randomly, but have certain limitations. Cases were selected based on certain aforementioned criteria such as some key words (i.e., leader", "structure", "national link", "international link", "terror", "PKK") that are critical to the scope of this study. On the other hand, the dataset contains 100 cases that does not have any other selection bias such as region, amount or type of drug seized. Therefore, the scope of the study is limited by a portion of drug-trafficking cases in Turkey. The total number of cases categorized as PKK related, is around 353 between the years of 1984 to 2010 (Department of Anti-Smuggling and Organized Crime, 2008) and only 50 of them included in this study are selected among these cases in the police responsibility area. As mentioned in the literature (Zaitch, 2007; Thoumi, 2005), it is difficult to collect such a type of data and code it.

Second, drug trafficking cases are more common in specific cities such as big metropolitan cities, border cities, and cities with ports, airports, and other transportation opportunities, which are under the police jurisdiction in Turkey. However, selected cases do not include cases occurred in the gendarmerie and/or customs jurisdictions. This study is limited to explain merely that portion of the nature of DTOs in those areas.

Thirdly, the classic problem of consistent and uniform reporting of police cases is an important issue to consider in this study. While uniformity in official data is important (Mosher et al., 2002), there is no uniformity and standard format for the classification of the case files. Even though there is a centralized structure in ASOCD, the quality of case

files depends on the officers who involve in the case and prepare those files. For this reason, every document in a case file may not have the same information or may have the same quality of information in it. Except for some very important documents, there is also a possibility that one case file may include a document, but another one may not. This can be also due to the different characteristics of each case. Therefore, some missing data were occurred but it could not be estimated at the very beginning of the study. To reduce the effect of missing data to this study, missing data were replaced with common variables.

Finally, the nature and structure of the DTOs can change based on the geographical, social, political, and economic condition of a specific state (Berry el, al 2002; Thoumi, 2005). This study only measures the nature and organizational structure of Turkish DTOs. Countries that have similar geographic, social, politic, and economic conditions to Turkey may have similar drug-trafficking organization nature and structure. However, generalizability of this study to other states with different characteristics is likely to be limited.

CHAPTER 5 – FINDINGS

This chapter provides the main findings of the research. The results are organized according to each research question. Both descriptive and inferential statistics are presented to address the related research questions. Descriptive statistics provide information regarding the distribution and measures of central tendency for specified research variables. Inferential statistics, on the other hand, provide findings based on analytical tests of association between variables and difference between different individuals/groups. Data is analyzed both at the individual and organizational levels.

5.1. Individual Level Analysis (N=773)

This section of the study provides the characteristics of DTO members (PKK-linked and non-PKK-linked combined) as well as the analysis of difference between PKK-linked and non-PKK-linked members at the individual level.

5.1.1. Descriptive Statistics

This section of the study provides the characteristics of 773 DTO members, both PKK-linked and non-PKK-linked members combined.

According to Table 7, the minimum age of individuals in the sample of 773 drug traffickers is 13 and the maximum age is 74, while the mean age is 35. The number of DTO members' age is increasing between the ages of 22 and 50, while below 22 and above 50 it is decreasing. The most common age group is 35 and 36, which is 14 percent of all cases.

Table 7 - Distribution of 773 DTO Members by Age

Age	Frequency	Percent	Valid Percent	Cumulative Percent
13	1	.1	.1	.1
15	2	.3	.3	.4
16	4	.5	.5	.9
17	9	1.2	1.2	2.1
18	7	.9	.9	3.0
19	7	.9	.9	3.9
20	3	.4	.4	4.3
21	8	1.0	1.0	5.3
22	15	1.9	1.9	7.2
23	27	3.5	3.5	10.7
24	17	2.2	2.2	12.9
25	21	2.7	2.7	15.7
26	20	2.6	2.6	18.2
27	27	3.5	3.5	21.7
28	36	4.7	4.7	26.4
29	19	2.5	2.5	28.8
30	33	4.3	4.3	33.1
31	24	3.1	3.1	36.2
32	24	3.1	3.1	39.3
33	35	4.5	4.5	43.9
34	26	3.4	3.4	47.2

Age	Frequency	Percent	Valid Percent	Cumulative Percent
35	54	7.0	7.0	54.2
36	54	7.0	7.0	61.2
37	25	3.2	3.2	64.4
38	26	3.4	3.4	67.8
39	18	2.3	2.3	70.1
40	21	2.7	2.7	72.8
41	24	3.1	3.1	75.9
42	20	2.6	2.6	78.5
43	21	2.7	2.7	81.2
44	15	1.9	1.9	83.2
45	24	3.1	3.1	86.3
46	16	2.1	2.1	88.4
47	9	1.2	1.2	89.5
48	10	1.3	1.3	90.8
49	11	1.4	1.4	92.2
50	10	1.3	1.3	93.5
51	3	.4	.4	93.9
52	9	1.2	1.2	95.1
53	4	.5	.5	95.6
54	5	.6	.6	96.2
55	4	.5	.5	96.8
56	3	.4	.4	97.2
57	1	.1	.1	97.3
58	3	.4	.4	97.7
59	2	.3	.3	97.9
60	2	.3	.3	98.2
61	2	.3	.3	98.4
62	2	.3	.3	98.7
63	1	.1	.1	98.8
64	3	.4	.4	99.2
65	2	.3	.3	99.5
66	1	.1	.1	99.6
67	1	.1	.1	99.7
68	1	.1	.1	99.9

Age	Frequency	Percent	Valid Percent	Cumulative Percent
74	1	.1	.1	100.0
Total	773	100.0	100.0	

The analysis of gender characteristics of all members is not surprising. Only 29 of all 773 cases are female, which constitutes only 4 percent of all DTO members. Accordingly, the Turkish DTOs are male dominant networks, with 744 out of 773 or 96 percent (See Table 8).

Table 8 - Distribution of 773 DTO Members by Gender

Frequency	Percent	Valid Percent	Cumulative Percent	
Male	744	96.2	96.2	96.2
Female	29	3.8	3.8	100.0
Total	773	100.0	100.0	

Turkey is geographically divided into 7 different regions. These regions are not states and not governed by a separate authority from the central government. Yet the regions reflect some of ethnic, social, economic, and cultural differences among their members. For example, Kurdish ethnicity is more common in the Eastern and Southeastern Regions of the country. From this perspective, the region of birth analysis of all 773 cases demonstrated that almost 81 percent of the drug network members are

born in Eastern and Southeastern region. The smallest group is from Aegean Region with only 8 members that constitutes only 1 percent of all cases (See Table 9).

Table 9 - Distribution of 773 DTO Members by Birth Region

	Frequency	Percent	Valid Percent	Cumulative Percent
Eastern	318	41.1	41.1	41.1
Southeastern	304	39.3	39.3	80.5
Mediterranean	29	3.8	3.8	84.2
Aegean	8	1.0	1.0	85.3
Marmara	42	5.4	5.4	90.7
Northern Black Sea	27	3.5	3.5	94.2
Central Anatolia	45	5.8	5.8	100.0
Total	773	100.0	100.0	

Drug networks mostly consist of low educated people. Table 10 demonstrates that almost 85 percent of DTO member's education level is below high school. Members of the high school and higher level education consist of 15 percent. Only 2 percent of the drug network members have university/college or higher education.

Table 10 - Distribution of 773 DTO Members by Education

Frequency	Percent	Valid Percent	Cumulative Percent		
Illiterate		35	4.5	4.5	4.5
Primary school dropout		41	5.3	5.3	9.8
Primary school		527	68.2	68.2	78.0
Elementary school dropout		9	1.2	1.2	79.2
Elementary school		42	5.4	5.4	84.6
High school dropout		9	1.2	1.2	85.8
High school		92	11.9	11.9	97.7
University/college higher education		18	2.3	2.3	100.0
Total		773	100.0	100.0	

Marriage is important in Turkish cultural life. Table 11 shows that almost 81 percent of the DTO members are married. Single members constitute 17.7 percent and separated members constitute 1.4 percent, the smallest group.

Table 11 - Distribution of 773 DTO Members by Marital Status

	Frequency	Percent	Valid Percent	Cumulative Percent
Single	137	17.7	17.7	17.7
Married	625	80.9	80.9	98.6
Separated	11	1.4	1.4	100.0
Total	773	100.0	100.0	

Table 12 shows that a large portion (60 percent) of DTO members have their own business. In the drug trafficking field, most drug dealers and others own their business. This is because they earn illegal money and having own business give them the opportunity to control and protect the funds. The smallest occupational group displayed in Table 12 is the government sector which consists only 2.2 percent of all members.

Table 12 - Distribution of 773 DTO Members by Occupation

	Frequency	Percent	Valid Percent	Cumulative Percent
Unemployed	48	6.2	6.2	6.2
Own business	464	60.0	60.0	66.2
Private sector	70	9.1	9.1	75.3
Government sector	17	2.2	2.2	77.5
Non-regular part-time	174	22.5	22.5	100.0
Total	773	100.0	100.0	

The nationality of the drug dealers comes from 18 countries. The most common group is not surprisingly Turkish nationality. They constitute 90 percent of all 773 DTO numbers. Iranians follows them with just 3 percent (See Table 13).

Table 13 - Distribution of 773 DTO Members by Nationality

	Frequency	Percent	Valid Percent	Cumulative Percent
Bosnian	1	.1	.1	.1
Bulgarian	6	.8	.8	.9
Buruni	1	.1	.1	1.0
Cyprian	1	.1	.1	1.2
Egyptian	1	.1	.1	1.3
Gambian	1	.1	.1	1.4
Gana	5	.6	.6	2.1
German	3	.4	.4	2.5
Iranian	26	3.4	3.4	5.8
Italian	1	.1	.1	6.0
Kirghizistan	1	.1	.1	6.1
Macedonian	6	.8	.8	6.9
NA	7	.9	.9	7.8
Nigerian	4	.5	.5	8.3
Romanian	1	.1	.1	8.4
Syrian	4	.5	.5	8.9
Tanzanian	5	.6	.6	9.6
Turkish	696	90.0	90.0	99.6
Yugoslavian	3	.4	.4	100.0
Total	773	100.0	100.0	

Another characteristic of DTO members that was examined was prior record for terrorism activity. Table 14 shows that almost 4 percent of the drug network members have prior record from terrorism and related crimes. Terrorism here means involving physically to PKK activities, supporting them financially, providing them documental support and other type of any evidence that shows connection of involvement or support of PKK activities. All terrorists included in this study are PKK-linked individuals.

Table 14 - Distribution of 773 DTO Members by Their Prior Record

	Frequency	Percent	Valid Percent	Cumulative Percent
Non-terrorism	744	96.2	96.2	96.2
Terrorism	29	3.8	3.8	100.0
Total	773	100.0	100.0	

Related to DTO members with prior record, another characteristic that was examined was DTO members arrested. Drug trafficking is accepted as a serious crime category in Turkey. Table 15 below shows that most (82 percent) of the DTO members were arrested as a result of the court process.

Table 15 - Distribution of 773 DTO Members by Arrest Record

	Frequency	Percent	Valid Percent	Cumulative Percent
No	137	17.7	17.7	17.7
Yes	636	82.3	82.3	100.0
Total	773	100.0	100.0	

In contrast to the arrest record, the distribution of DTO members convicted is quite low. Table 16 shows that only 25 percent of DTO members are convicted.

Table 16 - Distribution of 773 DTO Members by Conviction Record

	Frequency	Percent	Valid Percent	Cumulative Percent
No	579	74.9	74.9	74.9
Yes	194	25.1	25.1	100.0
Total	773	100.0	100.0	

Table 17 shows that most (82 percent) of the DTO members are arrested among all drug members, only 17.5 percent of the drug members are fugitives. Fugitive here means who are involved in the drug trafficking activity based on the police investigation but not found or escaped until the end of police operation or current time.

Table 17 - Distribution of 773 DTO Members by Fugitiveness Record

	Frequency	Percent	Valid Percent	Cumulative Percent
No	638	82.5	82.5	82.5
Yes	135	17.5	17.5	100.0
Total	773	100.0	100.0	

While doing their investigations, police receive information from several different sources. Turkish Police receive their information about drug traffickers mostly from informants. Table 18 shows almost 47 percent of the information comes to the police

from informants. The smallest category is foreign police or agency, which constitutes only 8.5 percent of all cases. Here direct information to police means the investigation starts by information that is provided police through email, phone or other indirect methods but the identity of informer is not clear by officials. In some cases the informer may accept to provide his/her identity but still they may not want to be an official informant. This is not placed in the category of informant since they are not officially accepted to become an informant. Direct police investigation means that police may hear or find some information about a drug trafficking organization during a search, while patrolling on the streets, during a conversation etc. and try to collect and confirm this information by themselves and if the information is correct they start the investigation process.

Table 18 - Distribution of 773 DTO Members by Source of Information for Investigation

	Frequency	Percent	Valid Percent	Cumulative Percent
Direct information to police	100	12.9	12.9	12.9
Direct Police Investigation	244	31.6	31.6	44.5
Informant	360	46.6	46.6	91.1
Foreign Police or Agency	66	8.5	8.5	99.6
Other	3	.4	.4	100.0
Total	773	100.0	100.0	

In this study, 50 of the 100 drug trafficking networks are linked to the PKK. The criteria for this categorization are explained in the data collection section above.

However, among these 50 DTOs, not all members of 403 were directly linked with PKK. Table 19 shows 122 out of 733 DTO members had direct link with PKK and this is equal to 16 percent of all cases.

Table 19 - Distribution of 773 DTO Members by Their Link with PKK

	Frequency	Percent	Valid Percent	Cumulative Percent
No	651	84.2	84.2	84.2
Yes	122	15.8	15.8	100.0
Total	773	100.0	100.0	

Table 20 shows the distribution related to the type of evidence of the relationship with the PKK. The most common category is financial support, which is equal to 7 percent, followed by the physical support which is equal to 3 percent. The sum of all cases with some type of evidence is 95, constituting some 12 percent of the cases.

Table 20 - Distribution of 773 DTO Members by Type of Evidence of Relationship with PKK

	Frequency	Percent	Valid Percent	Cumulative Percent
No support	678	87.7	87.7	87.7
Confession	5	.6	.6	88.4
Prior record	16	2.1	2.1	90.4
Documentary support	1	.1	.1	90.6
Financial support	51	6.6	6.6	97.2
Physical support	22	2.8	2.8	100.0
Total	773	100.0	100.0	

Table 21 shows the strength of the link with PKK. This variable is mostly related to the level of support the members provide to PKK, in which no support means *no link*, documentary support means *weak,* documentary and financial support means *moderate,* and physical support means *strong*. Almost 9 percent of all Turkish DTOs have a high level of connection with PKK. By adding the weak (3 percent) category, it is possible to accept that almost 12 percent of all Turkish DTOs have some type of evidence of PKK link, a total of 88 cases. When operationalizing the variables,

Table 21 - Distribution of 773 DTO Members by Strength of Relationship with PKK

	Frequency	Percent	Valid Percent	Cumulative Percent
No Link	685	88.6	88.6	88.6
Weak	21	2.7	2.7	91.3
Moderate	33	4.3	4.3	95.6
Strong	34	4.4	4.4	100.0
Total	773	100.0	100.0	

Table 22 demonstrates the DTO members' relationship with other organizations. Only 8 percent of them have some type of relation with other organizations. Relationship with other organization means that if a drug organization member has a connection or involvement of any other type of drug or terror organizations. This information is

classified in the case file by the police based on the confession, prior records or other evidence that is gathered by the officials.

Table 22 - Distribution of 773 DTO Members by Relationship with Other Organizations

	Frequency	Percent	Valid Percent	Cumulative Percent
No	712	92.1	92.1	92.1
Yes	61	7.9	7.9	100.0
Total	773	100.0	100.0	

Table 23 displays the distribution of DTO members by type of link with other organizations. 7.8 percent of Turkish DTO members have links with other drug, terror of religious terror organizations. These links are categorized by the police based on the prior records, confession or other type of evidence during the investigation they found whether an offender has a link with other type of drug or terrorist organization.

Table 23 - Distribution of 773 DTO Members by Type of Link with Other Organizations

	Frequency	Percent	Valid Percent	Cumulative Percent
No Link	713	92.2	92.2	92.2
Linked with other drug, terror or religious terror org	60	7.8	7.8	100.0
Total	773	100.0	100.0	

Table 24 shows distribution of DTO members' type of relationship/support with other organizations. Documentary, financial or physical support constitutes 7.6 percent of all network members, while 92.4 percent have no support to other organizations. The individuals linked with other organization falls into three categories according to their support type, which are documentary, financial and physical support based on the evidence and documents. Documentary support refers to documents include terrorism supports and books those found during the police investigation and search of individuals' house, office, cars etc. that are accepted as illegal by Turkish law. Financial support to other organization refers to support to an organization by providing them money or helping them to clear their money. Physical support means involving their activities physically and provide them work force.

Table 24 - Distribution of 773 DTO Members by Type of Relationships with Organizations

	Frequency	Percent	Valid Percent	Cumulative Percent
No Support	714	92.4	92.4	92.4
Documentary, Financial or Physical Support	59	7.6	7.6	100.0
Total	773	100.0	100.0	

Table 25 shows the distribution of DTO members with relatives involved in drug networks. Having relatives in drug networks adds trust; so network members often bring

their relatives to this business. In Turkish DTOs, 38 percent of the network members have some type of relative in the same drug network. Having 1 or 2 relatives in the drug organization is more common, which constitutes almost 29 percent of total 38. On the other hand, the majority, namely 62 percent of DTO members do not have relatives involved.

Table 25 - Distribution of 773 DTO Members by Number of Relatives Involved

	Frequency	Percent	Valid Percent	Cumulative Percent
.00	482	62.4	62.4	62.4
1.00	132	17.1	17.1	79.4
2.00	93	12.0	12.0	91.5
3.00	36	4.7	4.7	96.1
4.00	18	2.3	2.3	98.4
5.00	3	.4	.4	98.8
6.00	1	.1	.1	99.0
7.00	7	.9	.9	99.9
9.00	1	.1	.1	100.0
Total	773	100.0	100.0	

In addition to having relatives in the same drug organization, another factor that drug traffickers prefer is to work with their friends. Table 26 shows that only 22.5 percent of the all network members do not have any friend in the same drug organization. On the other hand, 35 percent has at least one friend, 18.6 percent has two friends and 12.5 percent has 3 friends. Having friends in the same organization goes up to 20 other friends in the same drug organization. A friend or a peer means that any individual that a drug

offender in an organization knows somebody other than his/her relatives before the trafficking activity process starts. These individuals met and know each other before the criminal activities begin and trust each other. They may know each other from their neighborhood, school, work place, or from prison etc.

Table 26 - Distribution of 773 DTO Members by Number of Peers Involved

	Frequency	Percent	Valid Percent	Cumulative Percent
.00	174	22.5	22.5	22.5
1.00	271	35.1	35.1	57.6
2.00	144	18.6	18.6	76.2
3.00	97	12.5	12.5	88.7
4.00	41	5.3	5.3	94.0
5.00	17	2.2	2.2	96.2
6.00	5	.6	.6	96.9
7.00	7	.9	.9	97.8
8.00	6	.8	.8	98.6
9.00	5	.6	.6	99.2
10.00	1	.1	.1	99.4
12.00	2	.3	.3	99.6
16.00	1	.1	.1	99.7
20.00	2	.3	.3	100.0
Total	773	100.0	100.0	

The distribution of role of drug network members is an important factor to understand their structure and operations. In Turkish DTOs, the most common role of a network member is that of mediator/communicator. This is not a surprising result because

communication and trust in drug network is very important for their actions. These individuals do not prefer to know other individuals at the other layers of the networks. For this reason, they need special mediators/communicators to communicate to other individuals in the networks.

Table 27 shows mediators/communicators is the most common role, 33 percent of all individuals. This is followed by helper/observers, which constitutes 22.5 percent of all drug network members. Organization leaders constitute 8.3 percent and high level managers constitute 11.1 percent of all individuals. The smallest group is storage providers, whom drug traffickers not always need, because they usually prefer to transfer drugs from vehicle to vehicle or place to place without any stop until it reaches its final destination. A drug organization consist several individuals with different roles and levels. Like regular organizations they have horizontal and vertical structures. At the top layer of an organization a leader or in some cases a group of leaders coordinate and control the activities of it. They provide the money for activities, own the drugs so that they order and control all the activities of a drug organization. The leader(s) usually do not interact with individuals at the lower layers of the drug organization. They prefer to stay hidden and unknown because of their high risk of harsher punishment and financial loses. They prefer to control and coordinate the trafficking activity through high level managers. In very limited cases, the organization leader(s) interact with the individuals at the lower layers of the drug organization. High level managers are the individuals who are controlling and coordinating the organization based on the orders and directions of the organization leader. In most cases, they have the most effective individuals in an

organization because they know and almost control everything. Mostly they know other individuals at the lower layers of individuals and the continually control their activities if they are acting based on their orders but again they stay hidden as much as they can because of their high risk. The organization leader(s) and high level managers are placed at the highest level of the drug organization. Mediator/communicators, transporter/drivers and carriers are the individuals at the mid level of the organizations. A mediator or communicator usually coordinates the information sharing in the organization through top to down or down to top. They may help to high level managers to find drivers, carries or storage providers. Mostly, they are the key individuals who know everything about the organization and its activities. They have not very strict authority on the individuals at the lower layers of the organization but all of them know they are the key persons. They usually pay the money to transporters/drivers, carries and storage providers for their actions. Transporter/driver and carrier are the key individuals to carry the drugs or money from one destination to another. These individuals may travel in a small town or a city, from one city to another city in a country, or from a country to another country by using planes, personal cars, trucks, trains, busses, ships and any other vehicle that may help to transport drugs. Since they are the individuals who carry the drugs or money, they are also the key individuals for law enforcement officials. Law enforcement officials know that if they can reach or find these individuals they may reach the drugs and money and this is the most important evidence for them in the court process. For this reason trust to these people and their secrecy is very critical for the drug organization and its leader(s). A helper/observer is a person who may take a role in any step of drug trafficking activity.

These people may help to carry drugs, hide the drugs, and observe around for security during the activities or meetings of the drug trafficking activity. They may not know every detail but have enough information to continue drug trafficking activity. Storage provider is a person who keeps the drugs in secure and hidden location when necessary. A drug organization may not always need storage if the drug trafficking activity goes on continuously. But in some cases they may really need storage to hide the drugs. This can be necessary for hours, days, months and in some cases years. Helper/observer(s) and storage providers are at the low level of the organization. They usually have the limited information and roles. A drug provider can be sometimes the organization leader but in most cases they only harvest or produce drugs and sell them to the money owners. For this reason in this study if a drug provider is also the leader of the organization, it is accepted as the leader but if only produce or harvest drugs these individuals is placed as the drug provider and to the low level of drug organization structure. For all layers of a drug organization trust and secrecy is a critical element to complete drug trafficking activity and not catch by the law enforcement officers.

Table 27 - Distribution of 773 DTO Members by Their Role in Organization

	Frequency	Percent	Valid Percent	Cumulative Percent
Storage provider	20	2.6	2.6	2.6
Drug provider	60	7.8	7.8	10.3
Helper/observer	173	22.4	22.4	32.7
Carrier	37	4.8	4.8	37.5
Transporter/driver	78	10.1	10.1	47.6

	Frequency	Percent	Valid Percent	Cumulative Percent
Mediator/communicator	255	33.0	33.0	80.6
High level manager	86	11.1	11.1	91.7
Organization leader	64	8.3	8.3	100.0
Total	773	100.0	100.0	

5.1.2. Analysis of Difference (Independent Samples T-Test)

Table 28 below shows the summary statistics of the Independent Samples T-Test that was used to analyze whether there is any statistically significant difference between variables of the PKK-linked members vs. non-PKK-linked members. These groups were compared in terms of ordinal and continuous variables as Age, Education, Type of Evidence of Relationship with PKK, Strength of Relationship, Number of Relatives Involved, Number of Peers Involved, Role in Organization, Degree Centrality, Closeness Centrality, and Between-ness Centrality.

Table 28 - Group Statistics of Analysis of Difference (N=773)

	PKKlink	N	Mean	Std. Deviation	Std. Error Mean
Age	Linked	403	34.77	9.772	.487
	Not Linked	370	35.86	9.697	.504
Education	Linked	403	3.5261	1.58387	.07890
	Not Linked	370	3.6892	1.69908	.08833
TypeEvidRelPKK*	Not Linked	370	.0000	.00000	.00000
	Linked	403	.8784	1.67884	.08363
	Not Linked	370	.0000	.00000	.00000

	PKKlink	N	Mean	Std. Deviation	Std. Error Mean
RelStrength*	Linked	403	.4690	.95984	.04781
	Not Linked	370	.0000	.00000	.00000
NumRelatInvolved*	Linked	403	.8288	1.39757	.06962
	Not Linked	370	.6568	1.07875	.05608
NumPeersInvolved	Linked	403	1.6774	2.17863	.10853
	Not Linked	370	1.8514	1.83819	.09556
RoleInOrg*	Linked	403	4.7891	1.90774	.09503
	Not Linked	370	5.1919	1.86929	.09718
Degree*	Linked	403	2.9652605	2.36344131	.11773140
	Not Linked	370	3.3756757	2.97632077	.15473155
Closeness*	Linked	403	.5593573	.22145361	.01103139
	Not Linked	370	.6130784	.20733059	.01077860
Betweenness	Linked	403	5.0769330	16.86294127	.84000294
	Not Linked	370	3.2648622	10.27187062	.53400913

Table 29 below, on the other hand, provides a summary of independent samples T-Test. Based on the Levene's test for equality of variance, for p values greater than 0.05 the first row was interpreted, for p values smaller than 0.05 the second row was interpreted.

Accordingly, there is a statistically significant difference in the scores for PKK-linked and non-PKK-linked groups in terms of several variables, in all of which PKK-linked members score higher, namely:

Type of Evidence of Relationship with PKK: PKK-linked (M=0.8784, SD=1.76884) vs. non-PKK-linked (M=0.0000, SD=0.0000), t(402.000)=10.504,

p=0.000, meaning that PKK-linked members have a stronger evidence of relationship with PKK;

Relationship Strength: PKK-linked (M=0.4690, SD=0.95984) vs. non-PKK-linked (M=0.0000, SD=0.0000), t(402.000)=9.809, p=0.000, meaning that PKK-linked members have a stronger relationship with PKK;

Number of Relatives Involved: PKK-linked (M=0.8288, SD=1.39757) vs. non-PKK-linked (M=0.6568, SD=1.07875), t(749.280)=1.924, p=0.055 (very close to threshold, and, thus, we can say it is also statistically significant), meaning that PKK-linked members have a higher number of relatives in their DTO networks.

On the other hand, while being again statistically significant, PKK-linked members scored lower than non-PKK-linked members in terms of the following variables:

Role in Organization: PKK-linked (M=4.7891, SD=1.90774) vs. non-PKK-linked (M=5.19190, SD=1.86929), t(771)=-2.961, p=0.003, meaning that PKK-linked members have comparatively lower roles within their DTO networks;

Degree Centrality: PKK-linked (M=2.9653, SD=2.36344) vs. non-PKK-linked (M=3.3757, SD=2.97632), t(771)=-2.131, p=0.033, meaning that PKK-linked members have a lower number of direct relationships within others within their DTO network, thus, are less connected;

Closeness Centrality: PKK-linked (M=0.55936, SD=0.22145) vs. non-PKK-linked (M=0.6131, SD=0.20733), t(771)=-3.473, p=0.001, meaning that PKK-linked members have a lower level of closeness to other members within their DTO network, thus, are less connected.

Table 29 - Statistical Results of Analysis of Difference (N=773)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95percent Confidence Interval of the Difference	
									Lower	Upper
Age	Equal variances assumed	.056	.813	-1.563	771	.119	-1.095	.701	-2.471	.281
	Equal variances not assumed			-1.563	766.353	.118	-1.095	.701	-2.471	.280
Education	Equal variances assumed	4.959	.026	-1.382	771	.168	-.16313	.11808	-.39494	.06867
	Equal variances not assumed			-1.377	752.820	.169	-.16313	.11844	-.39564	.06937
TypeEvidRelPKK	Equal variances assumed	659.560	.000	10.064	771	.000	.87841	.08728	.70707	1.04975
	Equal variances not assumed			10.504	402.000	.000	.87841	.08363	.71401	1.04282
RelStrength	Equal variances assumed	519.948	.000	9.398	771	.000	.46898	.04990	.37102	.56694
	Equal variances not assumed			9.809	402.000	.000	.46898	.04781	.37499	.56298
NumRelatInvolved	Equal variances assumed	5.590	.018	1.904	771	.057	.17203	.09037	-.00537	.34943
	Equal variances not assumed			1.924	749.280	.055	.17203	.08940	-.00347	.34753
NumPeersInvolved	Equal variances assumed	.361	.548	-1.194	771	.233	-.17393	.14565	-.45984	.11198
	Equal variances not assumed			-1.203	765.624	.229	-.17393	.14460	-.45780	.10993
RoleInOrg	Equal variances assumed	2.652	.104	-2.961	771	.003	-.40281	.13604	-.66986	-.13576
	Equal variances not assumed			-2.964	767.735	.003	-.40281	.13592	-.66963	-.13599
Degree	Equal variances assumed	1.907	.168	-2.131	771	.033	-.41041513	.19255472	-.78840882	-.03242144

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95percent Confidence Interval of the Difference	
									Lower	Upper
	Equal variances not assumed			-2.111	703.496	.035	-.41041513	.19442874	-.79214520	-.02868506
Closeness	Equal variances assumed	1.443	.230	-3.473	771	.001	-.05372106	.01546647	-.08408245	-.02335966
	Equal variances not assumed			-3.483	770.703	.001	-.05372106	.01542303	-.08399719	-.02344493
Between-ness	Equal variances assumed	11.049	.001	1.785	771	.075	1.81207084	1.01508783	-.18059288	3.80473456
	Equal variances not assumed			1.820	672.862	.069	1.81207084	.99537464	-.14234316	3.76648484

5.1.3. Analysis of Relationship (Pearson Correlation)

This section focuses on the correlations among some of the important variables at the individual (773 cases) level. Table 30 below shows correlation matrix among the variables of interest (coefficients with 0.05 and below level of statistical significance are highlighted).

According to the table, there are some correlation coefficients with moderate (0.40-0.60), strong (0.60-0.80), and very strong (0.80-1.00) values (See Table 30 for the list of variables with respective coefficients). Of importance for this study are the following pairs:

Accordingly, while having low correlation coefficients, there is a generally positive correlation between the number of relatives involved in drug trafficking (NumRelatInvolved), on the one hand, and type of evidence of relationship with PKK (TypeEvidRelPKK), and relationship strength (RelStrength), on the other. Similarly, the number of friends involved in drug trafficking (NumPeersInvolved) is positively correlated with type of evidence of relationship with PKK (TypeEvidRelPKK) and relationship strength (RelStrength). In addition, members' degree (Degree), closeness (Closeness), and between-ness (Between-ness) centrality measures are positively correlated with the number of relatives involved in drug trafficking (NumRelatInvolved), the number of friends involved in drug trafficking (NumPeersInvolved), and members' role in organization (RoleInOrg), with coefficients varying from 0.114 to 0.533.

Table 30 - Correlation Matrix of Variables at Individual Level (N=773)

		Age	Education	TypeEvidRelPKK	RelStrength	NumRelatInvolved	NumPeersInvolved	RoleInOrg	Degree	Closeness	Betweenness
Age	Pearson Correlation	1									
	Sig. (2-tailed)										
Education	Pearson Correlation	-.071*	1								
	Sig. (2-tailed)	.049									
TypeEvidRelPKK	Pearson Correlation	-.026	-.063	1							
	Sig. (2-tailed)	.467	.080								
RelStrength	Pearson Correlation	-.031	-.079*	.875**	1						
	Sig. (2-tailed)	.391	.028	.000							
NumRelatInvolved	Pearson Correlation	-.131**	-.078*	.115**	.124**	1					
	Sig. (2-tailed)	.000	.030	.001	.001						
NumPeersInvolved	Pearson Correlation	-.046	.020	.106**	.073*	.157**	1				
	Sig. (2-tailed)	.201	.575	.003	.043	.000					
RoleInOrg	Pearson Correlation	.026	.060	.062	.096**	.058	.229**	1			
	Sig. (2-tailed)	.474	.093	.087	.008	.105	.000				
Degree	Pearson Correlation	-.070	-.069	.090*	.092*	.385**	.533**	.252**	1		
	Sig. (2-tailed)	.051	.055	.012	.010	.000	.000	.000			
Closeness	Pearson Correlation	-.038	-.034	.111**	.106**	.114**	.190**	.221**	.395**	1	
	Sig. (2-tailed)	.290	.347	.002	.003	.001	.000	.000	.000		
Betweenness	Pearson Correlation	.018	-.063	.117**	.119**	.172**	.364**	.175**	.454**	.009	1
	Sig. (2-tailed)	.616	.081	.001	.001	.000	.000	.000	.000	.793	

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

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

5.1.4. Regression Analysis (Logistic Regression)

This section analyzes whether/which individual-level variables affect members' membership in PKK-linked vs. non-PKK-linked DTOs, which was coded as 1 and 0 respectively. Since the predictor/independent variables should be at ratio, ordinal or interval level of measurement, only 6 variables were included into the analysis, namely, age (Age), education (Education), type of evidence of relationship with PKK (TypeEvidRelPKK), strength of relationship with PKK (RelStrength), number of relatives involved in DTOs (NumRelatInvolved), and number of peers involved in DTOs (NumPeersInvolved). Table 31 below illustrates the model summary of the logistic binary regression:

Table 31 - Model Summary of Logistic Regression

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	921.450[a]	.175	.234

The table shows that, based on the model with included variables above, the probability that a DTO member has a link with PKK is 0.175 (Cox & Snell R square) or 0.234 (Nagelkerke R square) at most. This is a relatively low probability, which means that the model is weak and should include other variables that might be relevant to the model. Table 32 below illustrates the equation of the model with respective significance level for each variable.

Table 32 - Logistic Regression Equation Variables

	B	S.E.	Wald	df	Sig.	Exp(B)
Age	-.010	.008	1.484	1	.223	.990
Education	-.038	.048	.649	1	.421	.962
TypeEvidRelPKK	8.920	1080.058	.000	1	.993	7481.908
RelStrength	15.746	1935.649	.000	1	.994	6896040.244
NumRelatInvolved	.055	.067	.687	1	.407	1.057
NumPeersInvolved	-.118	.046	6.602	1	.010	.889
Constant	.455	.372	1.496	1	.221	1.576

a. Variable(s) entered on step 1: Age, Education, TypeEvidRelPKK, RelStrength, NumRelatInvolved, NumPeersInvolved.

Based on the table results, only the number of peers involved in DTOs (NumPeersInvolved) affects whether a specific drug trafficker is a member of PKK-linked DTO (P value = 0.010). All other five variables are statistically insignificant and it is difficult to rely on these variables in order to explain PKK membership of drug traffickers. Trust and secrecy among drug traffickers are important for drug traffickers. For this reason, they prefer to work with individuals who they know and trust. The result of this analysis illustrates and confirms that being a friend is an important factor among drug organizations. However, the coefficients also suggest that the type of evidence of relationship with PKK (TypeEvidRelPKK) and the strength of relationship with PKK (RelStrength) have very high standard errors (S.E.). This situation was unchanged even when the two variables were recoded as dichotomous, which means that the data collected about these variables has a lot of distortion. Standard errors in regression

models are usually considered to be the result of very skewed data and are unrepresentative of the real situation in the population. The models below show the situations when these variables were removed from the model one by one and then both. Table 33 and Table 34 below show the model summary and respective coefficients when the type of evidence of relationship with PKK (TypeEvidRelPKK) is removed from the model.

Table 33 - Model 2 Summary of Logistic Regression

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	938.879[a]	.156	.208

Table 34 - Logistic Regression Equation 2 Variables

	B	S.E.	Wald	df	Sig.	Exp(B)
Age	-.009	.008	1.398	1	.237	.991
Education	-.028	.047	.362	1	.547	.972
RelStrength	18.664	2306.790	.000	1	.994	127579504.002
NumRelatInvolved	.050	.066	.571	1	.450	1.051
NumPeersInvolved	-.083	.042	3.947	1	.047	.920
Constant	-18.281	2306.790	.000	1	.994	.000

a. Variable(s) entered on step 1: Age, Education, RelStrength, NumRelatInvolved, NumPeersInvolved.

The model without the type of evidence of relationship with PKK (TypeEvidRelPKK) variable shows similar results, where the number of peers

(NumPeersInvolved) in DTO is still the only statistically significant variable, however with a decreased explanatory power of the whole model (0.156 Cox & Snell R square and 0.208 Nagelkerke R square). This means that the type of evidence of relationship with PKK (TypeEvidRelPKK) has only a small explanatory power to the model displayed above in Table 31 and 32. It is also statistically insignificant as in previous model, thus, preventing us from relying on this variable to explain PKK membership. Table 35 and 36, in turn, present a model summary and respective coefficients, in which the strength of relationship with PKK (RelStrength) was deleted.

Table 35 - Model 3 Summary of Logistic Regression

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	924.039[a]	.172	.230

Table 36 - Logistic Regression Equation 3 Variables

	B	S.E.	Wald	df	Sig.	Exp(B)
Age	-.010	.008	1.623	1	.203	.990
Education	-.042	.048	.786	1	.375	.959
TypeEvidRelPKK	16.156	1480.915	.000	1	.991	10381580.832
NumRelatInvolved	.052	.067	.615	1	.433	1.054
NumPeersInvolved	-.121	.046	6.900	1	.009	.886
Constant	-15.659	1480.915	.000	1	.992	.000

a. Variable(s) entered on step 1: Age, Education, TypeEvidRelPKK5, NumRelatInvolved, NumPeersInvolved.

The model without the strength of relationship with PKK (RelStrength) variable shows similar results and almost unchanged explanatory power of the whole model (0.172 Cox & Snell R square and 0.230 Nagelkerke R square). However, this model does not have any statistically significant variable among model coefficients. Table 37 and 38, finally, present a model summary and respective coefficients, in which both the type of evidence of relationship with PKK (TypeEvidRelPKK) and the strength of relationship with PKK (RelStrength) were deleted. These variables were removed in order to see whether deletion of the coefficient with high standard error improves the model.

Table 37 - Model 4 Summary of Logistic Regression

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	1060.646[a]	.012	.016

Table 38 - Logistic Regression Equation 4 Variables

	B	S.E.	Wald	df	Sig.	Exp(B)
Age	-.011	.008	2.161	1	.142	.989
Education	-.058	.045	1.706	1	.192	.944
NumRelatInvolved	.109	.060	3.235	1	.072	1.115
NumPeersInvolved	-.055	.037	2.255	1	.133	.946
Constant	.705	.346	4.155	1	.042	2.023

a. Variable(s) entered on step 1: Age, Education, NumRelatInvolved, NumPeersInvolved.

The final model without the type of evidence of relationship with PKK (TypeEvidRelPKK) and the strength of relationship with PKK (RelStrength) seems to be problematic in terms of two issues. First of all, the model's explanatory power decreased to only 1 percent (0.012 Cox & Snell R square and 0.016 Nagelkerke R square), which is a very small value explaining only one percent of PKK membership Secondly, the model does not have any statistically significant variables remaining in the model. Overall, with the current set of six variables (age, education, type of evidence of relationship with PKK, strength of relationship with PKK, number of relatives involved in DTOs, and number of peers involved in DTOs), the model seems to have the highest explanatory power and a statistically significant coefficient only in the first model, where all variables were included in the model. However, the high standard errors of the type of evidence of relationship with PKK (TypeEvidRelPKK) and the strength of relationship with PKK (RelStrength) variables prevents us from using them in the equation of the model to explain PKK membership of the DTO members.

5.2. DTO-Level Analysis (N=100)

5.2.1. Descriptive Statistics

This section presents descriptive statistics of variables at the network level, namely at the DTO level. The variables employed in the analysis were produced by aggregating individual-level data into DTO-level data, namely getting the averages for the group means by DTO. For example, the Average Age variables implies the average

age of individuals in a DTO. The variables employed as well as their summary descriptive statistics are presented below in Table 39.

Table 39 - Descriptive Statistics of 100 DTOs

	N	Minimum	Maximum	Mean	Std. Deviation
NetworkSize	100	3	29	7.73	5.057
AverageAge	100	25	52	35.46	5.116
AverageEduc	100	2	7	3.59	1.016
TypeEvidRelPKK	100	.00	1.00	.3600	.48242
AverageNumRelatives	100	.00	3.00	.7045	.74812
AvergaeNumPeers	100	.00	5.00	1.5995	.97338
RoleInOrg	100	.00	1.00	.9900	.10000
Valid N (listwise)	100				

Accordingly, the average size of the DTO networks is approximately 8, while the average age in all DTOs is 36. The average number of relatives involved in DTOs is approximately 1, while the average number of friends involved in drug trafficking is roughly 2, meaning that preference for friends is higher than for relatives.

The frequency distribution of DTOs by network size (number of people in the network) is shown below in Table 40. 72 percent of the DTOs have 3 to 8 members, which is understandably small enough for drug trafficking activities. Smaller networks tend to produce higher level of security.

Table 40 - Distribution of 100 DTOs by Network Size

	Frequency	Percent	Valid Percent	Cumulative Percent
3	11	11.0	11.0	11.0
4	15	15.0	15.0	26.0
5	16	16.0	16.0	42.0
6	10	10.0	10.0	52.0
7	10	10.0	10.0	62.0
8	10	10.0	10.0	72.0
9	3	3.0	3.0	75.0
10	7	7.0	7.0	82.0
11	2	2.0	2.0	84.0
12	5	5.0	5.0	89.0
13	2	2.0	2.0	91.0
14	1	1.0	1.0	92.0
15	1	1.0	1.0	93.0
16	1	1.0	1.0	94.0
17	1	1.0	1.0	95.0
21	1	1.0	1.0	96.0
23	2	2.0	2.0	98.0
27	1	1.0	1.0	99.0
29	1	1.0	1.0	100.0
Total	100	100.0	100.0	

Table 41 below shows the average education level for the members in 100 DTOs. Accordingly, most of the DTO networks are characterized by low level of education. Among Turkish DTOs the analysis demonstrates that an important potion of DTO

members have elementary school and lower education. This result is very similar to studies made in other countries.

Table 41 - Distribution of 100 DTOs by Average Education

	Frequency	Percent	Valid Percent	Cumulative Percent
Primary school dropout	6	6.0	6.0	6.0
Primary school	55	55.0	55.0	61.0
Elementary school dropout	19	19.0	19.0	80.0
Elementary school	15	15.0	15.0	95.0
High school dropout	4	4.0	4.0	99.0
High school	1	1.0	1.0	100.0
Total	100	100.0	100.0	

Table 42 below shows distribution of DTO members based on whether they have members with prior record related to terrorism. Majority of the DTOs, namely 81 percent, do not have members with prior record of terrorism on file.

Table 42 - Distribution of 100 DTOs by Prior Record of Terrorism

	Frequency	Percent	Valid Percent	Cumulative Percent
Non-terrorism	81	81.0	81.0	81.0
Terrorism	19	19.0	19.0	100.0
Total	100	100.0	100.0	

Table 43 below shows distribution of the individuals in DTOs based on the type of evidence of their relationship with PKK, among which 36 percent had strong and 64 percent had weak evidence.

Table 43 - Distribution of 100 DTOs by Type of Evidence of Relationship with PKK

	Frequency	Percent	Valid Percent	Cumulative Percent
Weak	64	64.0	64.0	64.0
Strong	36	36.0	36.0	100.0
Total	100	100.0	100.0	

Table 44 below, in turn, shows whether DTO members have any tie with other illegal organizations. Accordingly, only 22 percent of the DTOs have members with certain links to other organizations.

Table 44 - Distribution of 100 DTOs by Relationship with Other Organizations

	Frequency	Percent	Valid Percent	Cumulative Percent
No	78	78.0	78.0	78.0
Yes	22	22.0	22.0	100.0
Total	100	100.0	100.0	

Table 45, finally, shows whether DTOs have any members with high-level roles like leader, mediator, etc. Almost all (with an exception of one) DTOs have at least once member with a high role in the network.

Table 45 - Distribution of 100 DTOs with Members of High Role

	Frequency	Percent	Valid Percent	Cumulative Percent
Low-level	1	1.0	1.0	1.0
High-level	99	99.0	99.0	100.0
Total	100	100.0	100.0	

5.2.2. Analysis of Difference (Independent Samples T-Test)

Table 46 below shows the summary statistics of the Independent Samples T-Test that was used to analyze whether there is any statistically significant difference between variables of the PKK-linked DTOs vs. non-PKK-linked DTOs. These groups were compared in terms of such ordinal and continuous variables as Network Size, Average Age, Average Education, Type of Evidence of Relationship with PKK, Average Number of Relatives Involved, Average Number of Peers Involved, Role in Organization, Degree Centralization, Closeness Centralization, and Between-ness Centralization.

Table 46 - Group Statistics of Analysis of Difference (N=100)

	PKKlink	N	Mean	Std. Deviation	Std. Error Mean
NetworkSize	PKK-linked	50	8.06	6.069	.858
	non-PKK-linked	50	7.40	3.823	.541
AverageAge	PKK-linked	50	34.68	4.731	.669
	non-PKK-linked	50	36.24	5.408	.765
AverageEduc	PKK-linked	50	3.42	.950	.134
	non-PKK-linked	50	3.76	1.061	.150
TypeEvidRelPKK*	PKK-linked	50	.7200	.45356	.06414
	non-PKK-linked	50	.0000	.00000	.00000
AverageNumRelatives	PKK-linked	50	.7810	.74603	.10550
	non-PKK-linked	50	.6280	.74985	.10605
AvergaeNumPeers	PKK-linked	50	1.4644	.96850	.13697
	non-PKK-linked	50	1.7346	.96903	.13704
RoleInOrg	PKK-linked	50	1.0000	.00000	.00000
	non-PKK-linked	50	.9800	.14142	.02000
DegreeCentr	PKK-linked	50	35.06400	19.255102	2.723083
	non-PKK-linked	50	32.54806	19.916510	2.816620
CloseCentr	PKK-linked	50	52.79334	26.042555	3.682974
	non-PKK-linked	50	49.79268	25.572467	3.616493
BetwCentr	PKK-linked	50	40.50206	30.132322	4.261354
	non-PKK-linked	50	36.98940	26.730054	3.780200

Table 47 below, on the other hand, provides a summary of independent samples T-Test. Based on the Levene's test for equality of variance, for p values greater than 0.05 the first row was interpreted, for p values smaller than 0.05 the second row was interpreted.

Accordingly, there is a statistically significant difference in the scores for PKK-linked vs. non-PKK-linked networks in terms of only one variable, namely, Type of Evidence of Relationship with PKK, in which PKK-linked DTOs score higher:

Type of Evidence of Relationship with PKK: PKK-linked (M=0.7200, SD=1.45356) vs. non-PKK-linked (M=0.0000, SD=0.0000), t (49.000)=11.225, p=0.000, meaning that PKK-linked DTOs have a stronger evidence of relationship with PKK;

Table 47 - Statistical Results of Analysis of Difference (N=100)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95percent Confidence Interval of the Difference	
									Lower	Upper
NetworkSize	Equal variances assumed	4.848	.030	.651	98	.517	.660	1.014	-1.353	2.673
	Equal variances not assumed			.651	82.591	.517	.660	1.014	-1.358	2.678
AverageAge	Equal variances assumed	1.522	.220	-1.535	98	.128	-1.560	1.016	-3.577	.457
	Equal variances not assumed			-1.535	96.299	.128	-1.560	1.016	-3.577	.457
AverageEduc	Equal variances assumed	1.473	.228	-1.689	98	.094	-.340	.201	-.740	.060
	Equal variances not assumed			-1.689	96.825	.094	-.340	.201	-.740	.060
TypeEvidRelPKK	Equal variances assumed	204.099	.000	11.225	98	.000	.72000	.06414	.59271	.84729
	Equal variances not assumed			11.225	49.000	.000	.72000	.06414	.59110	.84890
AverageNumRelatives	Equal variances assumed	.048	.827	1.023	98	.309	.15300	.14959	-.14385	.44985
	Equal variances not assumed			1.023	97.997	.309	.15300	.14959	-.14385	.44985
AvergaeNumPeers	Equal variances assumed	.273	.602	-1.395	98	.166	-.27020	.19375	-.65470	.11430
	Equal variances not assumed			-1.395	98.000	.166	-.27020	.19375	-.65470	.11430
RoleInOrg	Equal variances assumed	4.168	.044	1.000	98	.320	.02000	.02000	-.01969	.05969
	Equal variances not assumed			1.000	49.000	.322	.02000	.02000	-.02019	.06019
DegreeCentr	Equal variances assumed	.117	.733	.642	98	.522	2.515940	3.917720	-5.258647	10.290527
	Equal variances not assumed			.642	97.888	.522	2.515940	3.917720	-5.258758	10.290638
CloseCentr	Equal variances assumed	.004	.951	.581	98	.562	3.000660	5.161716	-7.242598	13.243918
	Equal variances not assumed			.581	97.968	.562	3.000660	5.161716	-7.242641	13.243961

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95percent Confidence Interval of the Difference	
									Lower	Upper
BetwCentr	Equal variances assumed	1.318	.254	.617	98	.539	3.512660	5.696407	-7.791674	14.816994
	Equal variances not assumed			.617	96.626	.539	3.512660	5.696407	-7.793683	14.819003

5.2.3. Analysis of Relationship (Pearson Correlation)

This section focuses on the analysis of correlation among some of the key variables at the network (100 DTOs) level. Table 48 below shows correlation matrix among the variables of interest (coefficients with 0.05 and below level of statistical significance are highlighted). The following pairs have some correlation coefficients with moderate (0.40-0.60) and strong (0.60-0.80) values:

AverageNumPeers – Network Size (r = 0.255, p = 0.010): The average number of peers in DTO is weakly and positively correlated with the number of members in the DTOs.

AverageNumPeers – AverageNumRelatives (r = -0.258, p = 0.009): The average number of peers involved in DTO is weakly and negatively correlated with the average number of peers involved in DTO.

RoleInOrg – AverageAge (r = -0.327, p = 0.001): The level of members' roles existing within DTO is weakly and negatively correlated with the average age for the DTOs.

CloseCentr – RoleInOrg (r = 0.201, p = 0.044): The closeness degree centralization in DTO is weakly and positively correlated with the level of members' roles existing within DTO.

Table 48 - Correlation Matrix of Variables at Network Level (N=100)

		NetworkSize	AverageAge	AverageEduc	TypeEvidRelPKK	AverageNumRelatives	AvergaeNumPeers	RoleInOrg	DegreeCentr	CloseCentr	BetwCentr
NetworkSize	Pearson Correlation	1									
	Sig. (2-tailed)										
AverageAge	Pearson Correlation	-.042	1								
	Sig. (2-tailed)	.681									
AverageEduc	Pearson Correlation	.079	.128	1							
	Sig. (2-tailed)	.438	.204								
TypeEvidRelPKK	Pearson Correlation	.049	-.109	-.149	1						
	Sig. (2-tailed)	.632	.282	.138							
AverageNumRelatives	Pearson Correlation	.087	-.278**	-.151	.185	1					
	Sig. (2-tailed)	.391	.005	.134	.066						
AvergaeNumPeers	Pearson Correlation	.255*	.063	.180	-.079	-.258**	1				
	Sig. (2-tailed)	.010	.534	.074	.432	.009					
RoleInOrg	Pearson Correlation	.094	-.327**	-.041	.075	.005	.028	1			
	Sig. (2-tailed)	.350	.001	.687	.456	.963	.782				
DegreeCentr	Pearson Correlation	.188	-.073	.196	-.006	-.053	.037	.175	1		
	Sig. (2-tailed)	.061	.472	.051	.954	.601	.717	.082			
CloseCentr	Pearson Correlation	.050	-.097	.169	-.020	-.141	-.049	.201*	.914**	1	
	Sig. (2-tailed)	.622	.339	.093	.845	.163	.627	.044	.000		
BetwCentr	Pearson Correlation	.020	-.099	.190	.008	-.131	-.070	.138	.791**	.795**	1
	Sig. (2-tailed)	.843	.330	.059	.934	.193	.488	.171	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).											
*. Correlation is significant at the 0.05 level (2-tailed).											

5.2.4. Network Analysis

This section is exploratory in nature and exemplifies as well as analyzes characteristics of some networks from two different groups, namely PKK-related and non-PKK-related. Since the average network size for PKK-related and non-PKK-related networks is 8 and 7 respectively (calculated but not included in here), two networks with the size of 8 and 9 for PKK-related and two networks with the size of 7 and 8 for non-PKK-related groups are presented below to give a general understanding about the characteristics and structure of such networks, both attribute-wise, and visually.

5.2.4.1. PKK-Linked Networks

Figure 5 and Figure 6 below show two different PKK-related networks with the size of 8 and 9 respectively. As stated above, the two networks represent an average situation of the PKK-linked DTOs in terms of their structure as well as their average centrality and centralization measures, that give an idea about how centralized/decentralized the networks are. The centrality/centralization measures also give a sense of how members within respective networks are positioned, namely, whether the network structure produces a relatively advantageous or disadvantageous overall structure.

Figure 5 – Network (DTO) #16

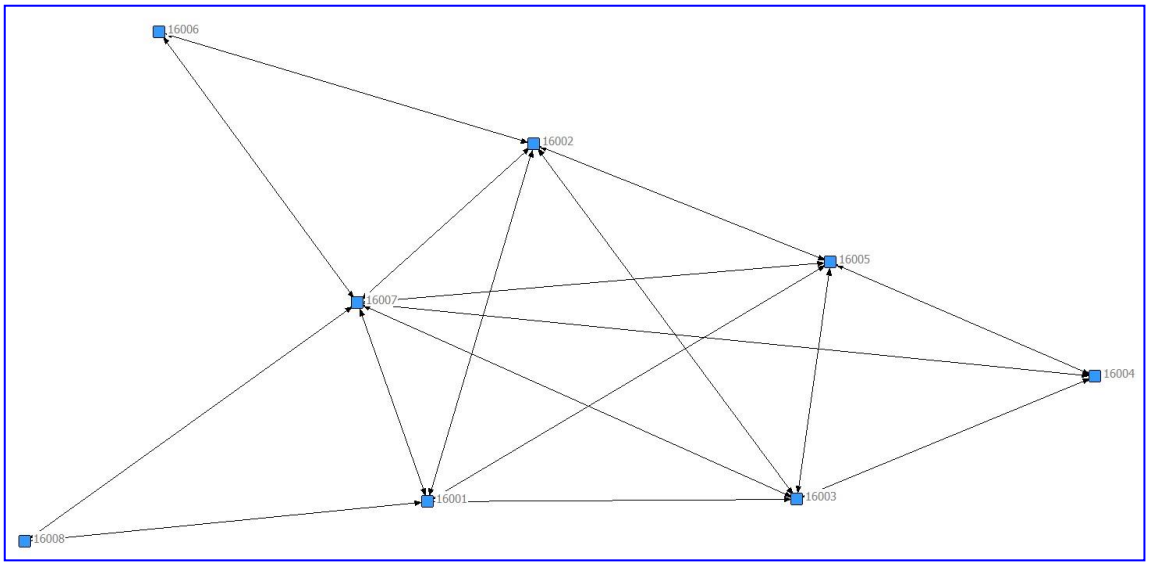

Figure 6 – Network (DTO) #30

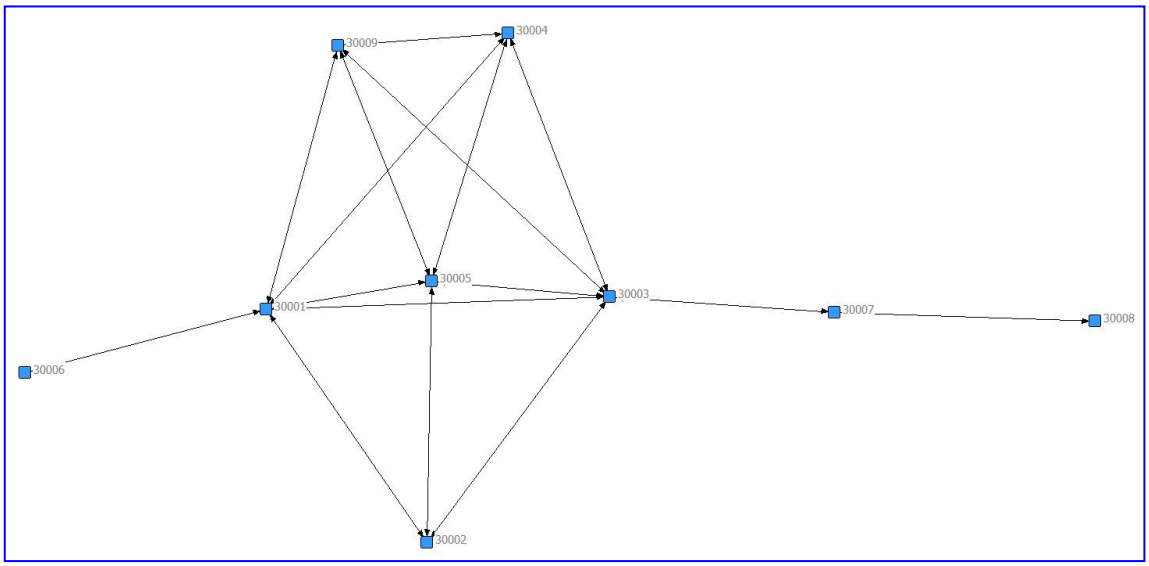

Table 49 below summarizes statistics about the network (DTO) #16 and network (DTO) #30. All values in the table are normalized and represent values based on 100 percent scale. Interpretation of the table is given below in comparison with the non-PKK-linked DTOs.

Table 49 - Network (DTO) #16 and Network (DTO) #30 Statistics

	Network (DTO) #16	**Network (DTO) #30**
Average Degree Centrality	60.714	44.444
Average Closeness Centrality	73.927	59.306
Average Betweenness Centrality	6.548	11.111
Network Degree Centralization	44.898	34.375
Network Closeness Centralization	64.56	49.89
NetworkBetweennes Centralization	28.80	38.39

5.2.4.2. Non-PKK-Linked Networks

Figure 7 and Figure 8 below show two different PKK-related networks with the size of 7 and 8 respectively. The two networks represent an average situation of the non-PKK-linked DTOs in terms of their structure as well as their average centrality and centralization measures, that give an idea about how centralized/decentralized the networks are. The centrality/centralization measures also give a sense of how members within respective networks are positioned, namely, whether the network structure produces a relatively advantageous or disadvantageous overall structure.

Figure 7 – Network (DTO) #55

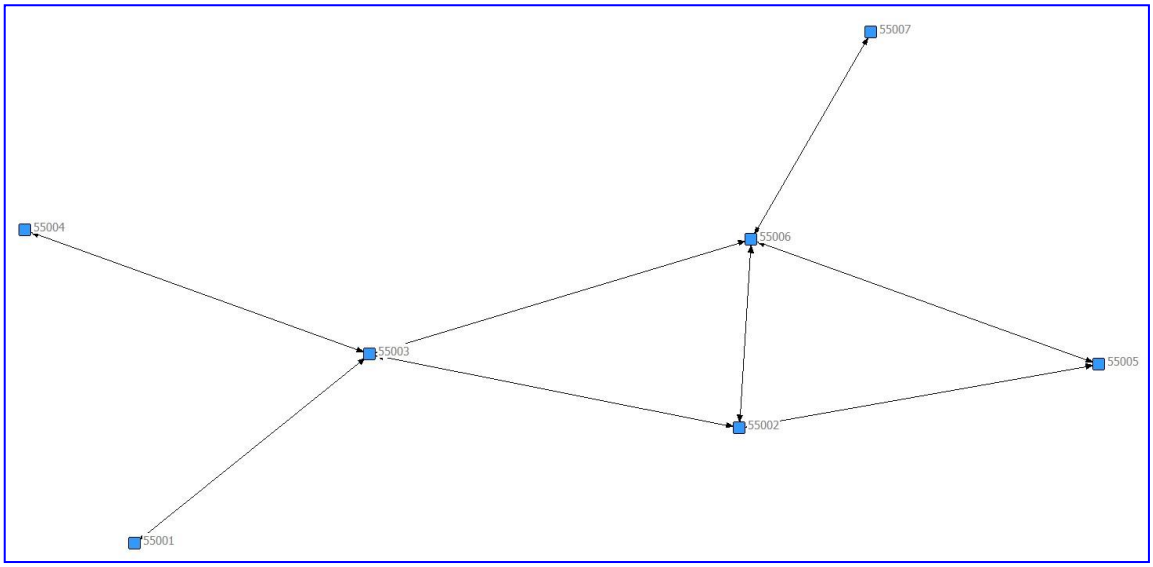

Figure 8 – Network (DTO) #68

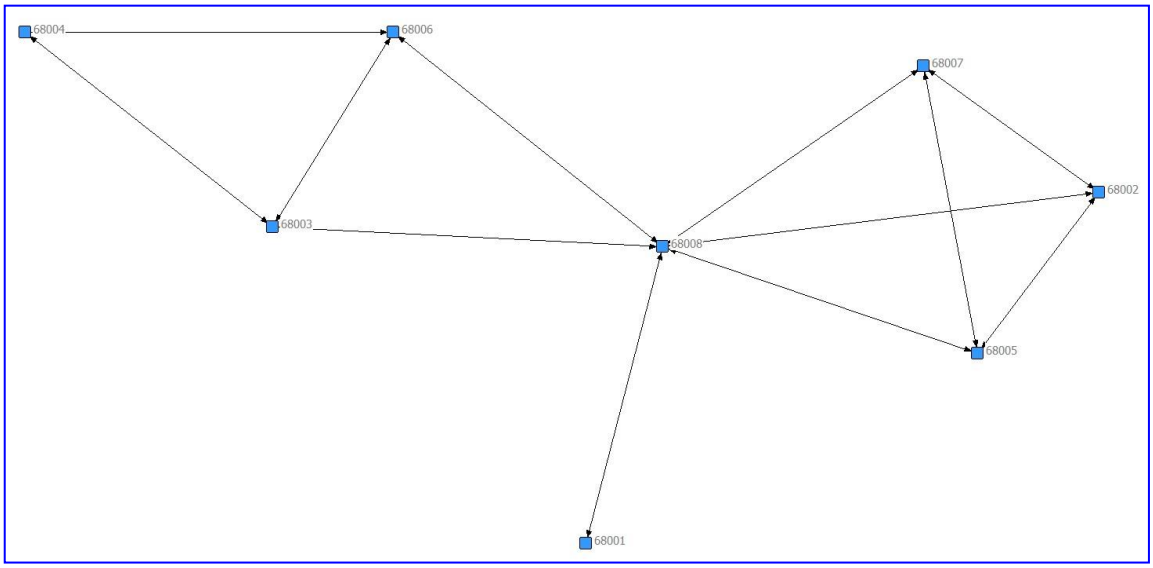

Table 50 below summarizes statistics about the network (DTO) #55 and network (DTO) #68. All values in the table are normalized and represent values based on 100 percent scale. Interpretation of the table is given below in comparison with the non-PKK-linked DTOs.

Table 50 - Network (DTO) #55 and Network (DTO) #68 Statistics

	Network (DTO) #55	**Network (DTO) #68**
Average Degree Centrality	38.095	42.857
Average Closeness Centrality	57.875	60.440
Average Betweenness	16.190	11.905
Network Degree Centralization	33.333	48.980
Network Closeness	43.95	67.00
Network Betweennes	51.11	68.03

When comparable examples from the two groups (PKK-linked vs. non-PKK-linked) above are analyzed, it can be seen that average degree centralities for PKK-related groups are relatively higher. This means that members within PKK-related groups, on average, have more direct relationship with other members in the network than those in the non-PKK-related DTOs. This might be explained by the need to do the job through direct contacts rather than through some mediators.

On the other hand, average between-ness centrality is higher in non-PKK-linked DTOs, which means that these groups mainly rely on brokerage when doing their

business. This fact is also reflected in the centralization measures of between-ness, which is again higher in non-PKK-linked DTOs. This means that non-PKK-linked DTOs are comparatively more centralized by specific broker/mediator members within the network than those in PKK –linked DTOs.

CHAPTER 6 – DISCUSSION, IMPLICATIONS, AND LIMITATIONS

This chapter provides a discussion of the purpose of the study, findings about individuals in PKK-linked and non-PKK linked organizations, findings about DTOs, implications for theory, limitations of the research, and recommendations for future research.

6.1. Purpose of Dissertation

This study proposed to identify the characteristics of drug traffickers in Turkey by using drug case files investigated by police. More clearly, the study examined Turkish drug organizations at the individual and network level characteristics of drug offenders those part of the Turkish drug organizations. The goals of this study were to identify the social and demographic characteristics of individuals involving in drug trafficking activities, elucidate the differences, if any, of the social and structural characteristics in PKK-related and non-PKK-related drug organizations, and to analyze the impact of social bonds on the Turkish drug traffickers, their networks, and relationships.

The following sections discuss the findings of this study in two subsections including findings about PKK linked and non-PKK linked individuals and findings about drug trafficking organizations (DTOs). These subsections explain descriptive and inferential findings of the study .

6.2. Findings about PKK-Linked and Non-PKK-Linked Individuals

The study used logistic regression analysis to measure the influence of social bonds. The type of evidence of relationship with PKK (TypeEvidRelPKK) and the strength of relationship with PKK (RelStrentgh) were two critical variables for this analysis. However, logistic regression models demonstrate that there are very high standard errors (SE) for these two variables and this situation is problematic in terms of their predicting the membership of PKK. Even when they were removed from the logistic regression model, the model had almost no explanatory power (only 1 percent) and there were no statistically significant coefficients. This result shows that the data collected about type of evidence with PKK and strength of the relationship with PKK is problematic and it does not tell us very much about drug trafficking members' relation with PKK and strength of this link.

The importance of social bonds was also analyzed through logistic regression analysis, where the number of peers involved in DTOs seems to predict members' relationship with PKK under the model with two problematic variables with very high standard errors (type of evidence of relationship with PKK (TypeEvidRelPKK) and strength of relationship with PKK (RelStrength). The high standard errors of the coefficients mean that the variables are far from contributing to the model because their frequency distribution is not representative of the population and is very much skewed. When the two variables were removed from the model, in turn, the logistic regression model provides almost no explanatory power (only 1 percent) as well as no statistically

significant coefficients. The related implication of the logistic regression analysis is that the police data collected about the type of evidence as well as the strength of the relationship with a terrorist organization like PKK is problematic and cannot tell us about DTO members' membership and link with PKK.

Regional examination of drug trafficking demonstrates that geography and location are important factors in drug trafficking (Schmid, 2005; Thoumi, 2005). These problems create ungoverned and unstable territories around the world and certain regions (Rabasa et al, 2007; Thoumi, 2005). These inaccessible areas are difficult to control by law enforcement agencies and drug traffickers need secure environments for their activities (Cornell, 2007; Makarenko, 2004; Vargas, 2002). Drug traffickers prefer secure and hidden locations to transport, store, and sell the drugs to their customers (Weisburd, 2008; Wiesburd and Lum, 2005). Their activities not only influence the source country, but also all region and neighboring countries (United Nations Committee of Expert of Afghanistan Report, 2001; Committee on Government Reform House of Representatives, 2001).

One of main discussions points of this research is that drug trafficking is an international crime performed across borders of difference countries. This was supported by characteristics of some of the members within Turkish DTOs, whether PKK-linked or non-PKK-linked. This is a confirming result supporting scholars, who claimed that international links are important for the success of drug trafficking activities (Schmid, 2005; Reuter, 2004; Curtis and Karacan, 2002). Schmid (2005) argues that an

international partner is required to transport the drug to another company and claimed that international cooperation of DTOs and insurgent groups are found almost in thirty different countries around the world. Reuter (2004) and Curtis and Karacan, (2002) emphasize that establishment of international network and connections are important factors that influence the structure of a DTO. With similar arguments this study defines the case involving international link as a case that involves at least one country other than Turkey. Within this framework, Turkey can be the beginning, target or transit country of the trafficking activity. Since international trafficking requires that passing-through-country's borders have strict police or customs controls, it is uncertain that strong DTOs can assume such a risk and can coordinate this type of a complex activity.

The findings of this study are similar to the findings in literature in the studies of Schmid (2005), Reuter (2004), and Curtis and Karacan (2002). Members of Turkish DTOs were mostly born in the Eastern and Southeastern region of Turkey. In comparison to other parts of the country, these areas are more difficult to secure, socially and economically less-developed, and insurgent groups are more active in these two regions. Among all, 41 percent of DTO members come from Eastern and 39 percent come from Southeastern regions, which makes the total of 80 percent. This ratio is 83 percent for PKK-linked DTOs and 78 percent for non-PKK linked DTOs. The smallest group comes from Aegean Region, which is only 1 percent for all groups. It is important to mention that the majority of people's ethnic background living in these regions is Kurdish in Turkey.

Drug experts and officials declare that Turkey is located on the popular Balkan Route, which makes it a transit country from Asia and Middle East to Balkans and Europe for drug traffickers (Committee on Government Reform House of Representatives, 200; Department of Anti-Smuggling and Organized Crime, 2008; Roth and Sever, 2007, Dorn et.al., 2005, Galleotti, 1998). The findings of this study suggest that the Balkan Route is actively used by the Turkish DTOs.

The examination of roles and activities of various types of traffickers demonstrates that there are various type of roles and activities these individuals involved in drug activities. The findings of this study suggest that like their counterparts around the world trust is an important factor for Turkish DTOs. They do not prefer to meet and know individuals at the other layers of the drug organization. Among Turkish DTOs the most common role of an organization member is mediator/communicators. Among the PKK-linked members again the most common roles of the individual in an organization are helper/observer and mediator/communicators with the ratio of 52 percent. In this group, organization leaders make up 7 percent and high level managers constitute 12 percent of all network members. Similarly, the most common role is mediator/communicator among the non-PKK linked members.

In the samples used in this study, there are 18 different nationalities involved in drug trafficking activities. This supports findings from the literature that organizations are disciplined (Paoli, 2001) and there is a hierarchical structure among its members (Schmid, 2005). Turkish DTOs show similar characteristics to their Russian counterparts

in terms of having family members, people from their clans, or they have some type of ties in the same organizations. People from Eastern and Southeastern parts of Turkey use this for regional advantage in this study.

Results of this study demonstrate various descriptive characteristics of Turkish DTOs that can be evaluated in three different group, namely, all members of Turkish DTOs (N=773), PKK-linked DTO members (N=403), and third, non-PKK linked DTO members (N=370). The minimum age of an offender is 13 and oldest is 74 in all groups. The mean age of all members and PKK linked members is 35 and 36 for non-PKK linked group. The youngest offender is 13 years old in PKK-linked and 16 years old in non-PKK linked. The oldest age is 68 for PKK-linked is 68 and 74 for non-PKK linked group. The common group of members comes from the age group of 22 to 50 in all groups. On the other hand, Turkish DTOs are male dominant criminal organizations. The ratio of male offenders is 96 percent for all members, PKK and non-PKK linked groups. Turkish DTO members are generally married individuals. Their ratio goes to more than 80 percent for all groups followed by singles with 18 percent ratio and only a small group of individuals are separated in all groups.

Marital status indicated that most (625 out of 773 [constituting 80.9 percent]) members are married, while only 137 individuals (17.7 percent) are single. This finding seems normal due to that PKK's terrorist activities requires less individual responsibility but in drug related activities members who are among the society rather than in mountains for guerilla activity, are chosen from more socially stable members. This can

also be considered a bit surprising due to the fact that the general expectation is that single individuals are more prone to be involved in risky and illegal activity when compared to married ones.

In terms of their criminal records (and recidivism), most of the individuals have no prior record of crime (549 out of 773), constituting 71 percent of the whole sample. The next highest number is 139 (17.3 percent), which are individuals having a record of being involved in drug-related crime. At about 75 percent of members have never been convicted, while only 194 individuals (25 percent) have been convicted for other types of crimes in the past. Likewise, 82.5 percent involved in this study are not fugitives, while only 135 individuals (17.5 percent) were found as fugitives.

The study also investigates the arrest, conviction, and fugitives ratio vary among Turkish DTOs and sub-groups in the study. Among all members, 82 percent of the individuals were arrested whereas only 25 percent of them are convicted. For arrest rate, this ratio is very similar for PKK-linked DTO members. However, conviction rate for PKK-linked members is higher (31 percent) than non-PKK linked members (19 percent). As said before, this may be due to the strength of the evidence that is provided by the police to the court, long term of court process until final decision is made by the judges, evidence of connection with terrorism activities, and different practices of court officials. The ratio of fugitives for all members is around 18 percent.

Fuentes (1998) study demonstrates that organization leader in Colombia are usually well educated individuals and members strongly prefer to have a relative as the

organization leader. In Turkish DTOs education of DTOs members are very low. Similar to Colombian counterparts most of the Turkish DTOs have relatives and friends in the same organization.

According to Reuter, McCoun, and Murphy (1990)'s study, for most young and less educated males in drug dealing is an important job and wage alternative. Education level of Turksih DTOs is quite low in comparison to their revenue. In addition to this more than two-thirds of dealers have legitimate jobs but they aware of the high revenue from drug trafficking. For this reason like their American counterparts, drug dealing is perceived as an important job and wage alternative for young and less-educated males in Turkey.

Some other details are also worth mentioning. The educational attainment among members of DTOs reflects similarities with the PKK's member characteristics. In that, the education level is so low among PKK members as this study found within DTOs (most linked with the PKK). Only 18 individuals (constituting 2.3 percent) are found to have a university degree.

Evaluation of occupational distribution shows that drug traffickers mostly have their own business in Turkey. This ratio is around 60 percent for all members and groups. The smallest group comes from government sector, which is around 2 percent. It may be possible to say that similar to literature, most Turkish drug traffickers prefer their own business, which requires no education and skills.

Another important finding of Reuter, McCoun, and Murphy (1990) is that drug organization members believe that there is always a serious threat that a member becomes an informant. In addition, there is always a risk that an individual in an organization may become an informant when law enforcement officials offer them a good reward (Caulkins and MacCoun, 2003). The analysis of this study demonstrates that Turkish police receives important portion of their information from informant as similar to Caulkins and MacCoun's study. According to these similar results, it can be said that rewards offered by Turkish police influence informants in a positive way and they cooperate and share information with Turkish Police officials.

King and Mauer (2002) study demonstrates that according to 1997 data, 58 percent of inmates in prisons charged from drugs have no violence history or no serious type of drug activities, and 75 percent have only non-serious or nonviolent drug charges. In Turkey case, according to analysis of this study, majority of Turkish DTO, almost 81 of them have no prior record of terrorism. Among the ones those connected with terrorism, 36 percent of this group has strong and 64 percent of them has weak evidence of connection. In addition to this group, only 22 percent of Turkish DTOs have certain links with other crime organizations.

Analysis of relationship (Pearson correlation) at the individual level in this study revealed that the number of relatives and the number of peers in DTOs are positively correlated with the type of evidence of members' relationship with PKK as well as with the strength of that relationship. This finding means that social bonds strengthen drug

traffickers' relationship with PKK. In addition, network centrality measures (degree, closeness, and betwenness) are likewise positively correlated with the number of relatives and peers in DTO as well as with the role of the members within DTOs, meaning that highly central members are those who have higher numbers of relatives and peers in DTOs and those having more important roles.

6.3. Findings about DTOs

Organizational approach to drug trafficking demonstrates that these criminal networks are different than the regular criminal networks. Their activities are not easy to observe and more secret than other networks (Everton, 2012). They prefer individuals whom they trust mostly, namely, relatives and peers, and reduce their interaction level to minimum and increase the secrecy as much as possible (Fazey, 2007; Cornell, 2007; Thoumi, 2005).

For all samples included in this study, the analysis of 100 different drug organizations demonstrated that an average size of a Turkish DTO includes approximately 8 individuals and the mean age is 36. On average, a member has at least a relative and two friends in all DTOs. Almost 72 percent of Turkish DTOs have members from 3 to 8 and an important reason for this may be security and trust may be easier for smaller networks. The average size of a PKK-linked network includes 8 individuals and their average age is 35. Similar to general characteristics of all samples, PKK-linked DTOs have an average of 1 relative and two friends in the same organization. These numbers are very similar for non-PKK linked members only their average age is 36.

The analysis of difference (T-test), on the other hand, suggests similar result in terms of the number of relatives involved in the DTOs, namely, that PKK-linked members have a higher number of relatives involved in DTOs, when compared to non-PKK-linked members, thus, again pointing to the importance of social networks in drug trafficking activities. However, PKK-linked members appear to have lower scores of degree and closeness centrality when compared to non-PKK-linked members, meaning that they have lower number of direct links among each other (degree) and longer paths to reach other within the network (closeness), which can be considered normal when the nature of terrorist organizations is considered, since terrorist organizations try to secure their network by minimizing the links among each other in terms of communication. This finding, however, is limited only to the sample of this study; other data may suggest alternative explanations.

The analysis of difference also suggests other findings. Accordingly, and quite naturally, the type of evidence of relationship with PKK as well as the strength of that relationship appear to be stronger in PKK-linked DTOs. In addition, the findings suggest that the roles taken within PKK-linked DTOs are comparative lower when compared to non-PKK-linked DTOs.

When findings are analyzed at DTO level, on the other hand, we have the following findings in terms of analysis of relationship (Pearson correlation). First of all, the findings suggest that the average number of peers for each DTO is positively correlated with the network size, meaning that the higher the number of members within

a DTO, the more there are peers of each member within it. This does not hold for the number of relatives, however, thus, pointing to the importance of peers involved when the DTO grows. In fact, the findings of correlation at DTO level suggest that there is a negative correlation between the average number of relatives and the average number of peers within DTOs, emphasizing that preference is given to either group. In other words, when the number of peers within a DTO increases, the number of relatives decreases, and vice versa.

Analysis of difference (T-test) at the DTO level, in turn, suggests only one critical finding, pointing to the fact that, when compared to non-PKK-linked DTOs, PKK-linked DTOs have a stronger evidence of relationship with PKK. This finding is consistent with the T-test finding at the individual level.

6.4. Implications

This section focuses on theoretical, practical, methodological and policy implications the study yields.

6.4.1. Theoretical

This study contributes to the theory and discussion on drug trafficking. The sample analyzed in the study is exclusively unique and was used for the first time in this study. Including a large sample size data (773 at the individual level, and 100 at the DTO level), it is hoped that its contribution to drugs research will be very high.

Researchers make several investigations on theoretical side of the drug trafficking behavior (Cohen and Felson, 1979; Nye, 1958; Reuter, 2001; Thoumi, 2005). High profit makes drug business an attractive alternative for low educated individuals and individuals who have limited skills. Turkish DTOs make rational calculations and involve in drug trafficking activity and shows similar characteristics. Considering that most of Turkish DTO members have low educated individuals with no skills and most of them prefer to run their own business, they have very similar characteristics to this theory.

An analysis of Turkish DTOs demonstrates that the number of individuals in drug trafficking activity increases in the Eastern and Southeastern areas of Turkey. In Turkey, East and Southeastern parts of the country are less-developed, people are less educated, geographical conditions are more difficult in comparison to other parts of the country. In addition to this, Country is suffering with democratic rights of ethnic groups in this region, particularly Kurds, and serious social, economic, and security problems in its neighboring countries.

More studies examine the influence of rational calculations (Becker, 1968; Krebs, Costelloe, and Jenks, 2003). These studies demonstrate that when expected utility, rewards, and benefits are higher than losses and punishments individuals to involve in activities even they are not legal. Turkish DTOs are such criminal networks because their educations and skills are very low but their gains and profits are higher.

Not surprisingly, the education level for the members in Turkish DTOs is quite low. Among all members, 85 percent have education of high school and lower. Only 2

percent has university of college education in Turkish DTOs. This ratio is quite similar in PKK-linked and non-PKK linked ones. This result is very similar to literature since they say that drug trafficking does not require special skills or education.

Krebs, Costelloe, and Jenks (2003) argue that game theory can be applied to drug trafficking appropriately and an important goal of social science is to understand the nature of strategic social conditions and individuals' decision-making process to make accurate predictions about human activities. Decision making procedures in the East and Southeastern parts of Turkey is problematic because of political, social, economic, and geographical. People in these regions are having difficulties for finding legal jobs. Educated people in these regions usually prefer to move to other parts of the country because of this chaotic environment. However, a serious number of less educated individuals living in these regions prefer to involve illegal activities since they have not much alternatives, they have no education and skills. Of course, a revenue from drug trafficking is a big motivation for them.

Nye (1958) argues that reward and punishment by family, parents or other authorities are important factors to control the criminal behavior. Turkish DTOs includes serious number of relatives and family members in the same organizations. In addition, lack of control in the East and South Eastern regions of Turkey may be important factors in Turkish case analysis. Increasing control problems in specific regions in addition to social, economic, and political problems in them seem to be important factors for Turkey's Eastern and Southeastern regions. Vargas (2002) demonstrates similar results

for Andean Region in South America. Countries located in this area lose their trust in each other; local, national, and regional safety and security are destroyed; and legitimate trade, economy, and stability are influenced negatively from drug problems.

In Turkey, particularly in the East and Southeastern regions of the country, offenders are more motivated for drug trafficking activity, because of geographical, social, economic, and political problems there is an occurrence of available target and absence of capable guardians (Cohen and Felson, 1979). Individuals are not well educated and not skilled people have available opportunities in mostly Eastern and Southeastern Regions. Drugs are available, young generations are motivated since they have few options, and because of the security control issues individuals in these regions are joining DTOs. In addition to this, security and difficulty of controlling border problems creates positive environment for drug traffickers in these areas.

The importance of social bonds was also analyzed through logistic regression analysis, where the number of peers involved in DTOs seems to predict members' relationship with PKK under the model with two problematic variables with very high standard errors (type of evidence of relationship with PKK (TypeEvidRelPKK) and strength of relationship with PKK (RelStrength). The high standard errors of the coefficients mean that the variables are far from contributing to the model because their frequency distribution is not representative of the population and is very much skewed.

This means that data related to these variables is considerably far from the data that would be representative of the population of the DTO members. When the two

variables were removed from the model, in turn, the logistic regression model provides almost no explanatory power (only 1 percent) as well as no statistically significant coefficients. The related implication of the logistic regression analysis is that the police data collected about the type of evidence as well as the strength of the relationship with a terrorist organization like PKK is problematic and cannot tell us about DTO members' membership and link with PKK. It seems that Turkish Police may reevaluate their data entry techniques and measures if they want to demonstrate the link between drug organizations and PKK. Showing the evidence of terror and drug link may require special investigation and measurement techniques different than the classical drug investigations. For the cases and organizations that may be categorized as there is a drug and terror link, they may ask more clear questions to the offenders and find clear evidence of terror and drug link or demonstrate the evidence of drug and terror link more clearly in their investigations. Turkish law enforcement officers working in drug investigations may have a special education and training for professional investigation techniques. Also, it seems that Turkish drug case files have different formats, documents, and structure. They have to create a special and professional case file format to demonstrate the drug and terror link.

Based on the inferential analysis findings above, therefore, we can firstly suggest that social bonds do matter in how DTOs operate and whether they have a relationship with PKK. The use of social networks in such crimes as drug trafficking seems to contribute to their effectiveness, or at least to the way DTOs operate internally as well as externally. Social bonds provide trust and serve as an invaluable link for drug trafficking

business. In addition, it is important to note that social network characteristics pertaining to DTO members as well as DTOs themselves may have an influence, even though weak, on several variables including potential structure of the DTO and the way hierarchy is managed among members. A serious portion of Turkish DTO members have another relative in the same drug organization. These results are very similar to other studies in the literature. It seems that trust among Turkish DTOs is a very important factor and they prefer to involve peers and relatives in their drug trafficking activity. This finding is based on the networks with the average size of 8 which might be different in larger networks.

The study sheds light at some of the dark side of Turkish drug trafficking organizations, their characteristics and structure. It also demonstrates the strength and the level of drug and terror connection particularly in PKK link. There has been a long discussion among practitioners and law enforcement agencies about the PKK's involvement in drug trafficking. This study examines this connection and assesses its strength. The study does this by using firstly used police data and scientific approach to the drug and terror link in Turkey. Even Turkish drug traffickers, their roles and capacity, and their link with terrorist groups mentioned by many scholars and official reports before, particularly with PKK, no study used this type of detailed data and analysis techniques before.

6.4.2. Practical

To develop and implement effective counter drug and terror policies understanding their nature and examining their activities are critical for officials (Caulkins and Reuter, 2006). From this view, very limited number of study focus on this critical area (Roth and Sever, 2007; Tudor, 2002). For these reasons, this study makes important contributions to drug field. This contribution is not only for Turkey but also countries in the region and Europe.

It is critical to say that investigating drug crime especially trafficking side and large organizations is very complicated and difficult. This type of investigations requires information sharing between organizations in a country or organizations at the international level. For instance, investigations on FARC in Colombia, on PKK in Turkey and Europe, Al-Qaeda in Afghanistan is very difficult, complex, and risky (Berry et al., 2002). However, the results of quality research will contribute developing effective drug control strategies and policies.

Existing research demonstrated that there are similarities and differences between drug and terrorist organizations. For instance, both of these organizations operate at the international level. They use the benefits of global economy and international trade. In addition both of these organizations are very active in the areas where the government authority is ineffective or weak (Hutchinson and O'malley, 2007). On the other hand, combating these crimes require developing different strategies and policies (Caulkins, Reuter, and MacCoun, 2002; 2003; Committee on the Judiciary United States Senate,

2003). In Turkey, DTOs include various individuals from different nationality. In addition to this security and other problems create negative environment for law enforcement officer but positive environment for traffickers. Of course, PKK linked problems and their involvement to drug trafficking brings other problems to Turkish officials.

The link between drug and terrorist organizations is worthy of investigation. Related problems influence many regions and countries around the world (Caulkins and Reuter, 2006; Crossiant and Barlow; 2007; Vargas, 2002; Thoumi, 2005). Countries such as Colombia, Turkey, Afghanistan this situation can be seen more clearly (Berry et al., 2002). Committee on Foreign Relations, 1999; Labrousse, 2005; Roth and Sever, 2007). Many officials and governmental reports demonstrate that terrorist organizations gain serious amount of financial revenue from drug trafficking (Hutchinson and O'malley, 2007; (Cornell, 2007, Makarenko, 2002; Caulkins, Kleiman, and Reuter, 2003). In addition to these examinations, several studies express that terrorist groups directly or indirectly get benefits from drug trafficking (Berry et al, 2002; Curtis and Karacan, 2002; Gheordunescu, 1999.).

Terrorists and drug traffickers still prefer places that are more secure and inaccessible for legal authorities and regions where more minority groups are more common (Cornell, 2007). Ballentine (2003) states that insurgent groups try to increase their control over some specific parts of state territory. Insurgent groups prefer to be active in socially and economically chaotic environments and this help them to strengthen

their political and ideological arguments and local economy becomes dependent on drug trade (Felbab-Brown, 2005; Committee on the Judiciary United States Senate, 2003). This is one of the most important hidden and indirect negative effects of drug problem over insurgent groups in a country or a region (Croissant and Barlow, 2007). Drug and related problems create major and serious damage in societies in those areas and any solution would require long term efforts, high amount of cost, and very effective policies. This is very true for the East and Southeastern parts of Turkey where majority of DTO members comes from these regions. The analysis of this study supports these arguments for Turkey.

The main focus of this study, in particular, is drug trafficking in Turkey and scope of involvement of PKK to this criminal act. Turkey's historic, ethnic, cultural, and economic connections with its bordering countries makes the country a preferred transportation alternative for drug traffickers in its region. Although the Ottomans ended in the beginning of the century, those ties still exist and are used for both in legal or illegal opportunities (Keser and Ozer, 2008). (Change wording)

This connection exists not only in the Turkish region but it also exists with European countries (Sahin, 2002; Unal, 2012). For instance, Turkish and European officials declared that PKK controls the majority of drug trafficking coming from the Afghanistan region to the Balkans and to Europe by taking the advantage of its geopolitical location and distribution networks (Dorn et.al., 2005; Gheordunescu, 1999; Hutchison and O'Malley, 2007; Kule, 2007; Unal 2009; Roth and Sever, 2007; Tudor,

2002). According to official numbers, there are almost 3 million Turkish-origin people living in Germany, and 5 to 6 million in overall Europe. Besides, there is a serious number of Kurdish populations in almost all European Countries (Unal, M. 2009). Turkey is located on the Balkan Route and this make the country a perfect alternative for drug traffickers in addition to geographical, political, and economic (Keser and Ozer, 2008; Van Solinge, 1998). In particular, Turkey is suffering from terrorism and drug trafficking problems in several decades. The conflict in its eastern regions has created significant dilemmas in the country in the near past (Teymur and Smith, 2008; Unal, M. 2009).

An important focus of this research is evaluation of PKK's involvement in drug trafficking activities. Turkish and European officials are worried about PKK's involvement in drug and arm trafficking (Sahin, 2002; Kiser, 2004; Department of Anti-Smuggling and Organized Crime, 2008). According a report, 80 percent of the drugs produced in Afghanistan and Southeast Asia goes to European markets through Turkey (Roth and Sever, 2007). In Turkey and Europe, PKK-linked groups play key roles in the transportation, security, and distribution process of these drugs. This argument is supported in the U.S. Department of State's International Narcotics Control Strategy in the years of 1996, 1998, and 1999 (Roth and Sever, 2007).

For Turkey, like other problematic regions, it is important to emphasize the role of location and geography. PKK-linked groups have a major role in drug trafficking in the southeastern region of Turkey (Freedman and Levitt, 2009; Roth and Sever, 2007).

In Turkish land, the regions where the PKK supporters are active is the closest area of Turkey to Iran, Afghanistan, and South Asia, which are the main opiates producing regions in the world. PKK-linked groups and other drug traffickers use the lack of security problems for their advantage. They take position in inaccessible locations which mainly consist of high mountains close to the Iranian and Iraqi borders. They have family members, relatives, friends, and supporters, and they are connected to individuals who manufacture drugs and engage in other illegal activities living in the cities, towns, and villages on both sides of borders. These connections and advantages increase the capacity and capability of drug traffickers (Committee on the Judiciary United States Senate, 2003; Curtis and Karacan, 2002).

In an investigation Hutchinson and O'Malley (2007) discuss that PKK established a strong network infrastructure to control organized crime and drug-trafficking in the region and Europe. Having many members in European countries, PKK created a large drug distribution network in European markets. (Sahin, 2002; Roth and Sever, 2007; Reuter, 2004; Curtis and Karacan, 2002; Teymur and Smith, 2008). The PKK-linked groups have very strong criminal networks in Europe, and its members expanded to almost all European countries and Turkey (Reuter, 2004; Financial Action Task Force, 2007; Committee on the Judiciary United States Senate, 2003).

Tudor (2002) and Roth and Sever (2007) reports that 80 percent of drugs seized in European countries have been linked to PKK or other Turkish organized crime groups. Reuter (2004) states based on the Interpol reports that Turkish criminal networks play

very active role in transportation and distribution of heroin in Europe. Fazey (2007) reports that cocaine comes to Europe through Spain and most of the heroin comes from Afghanistan; but drug trade is dominated by Turkish DTOs in Europe.

PKK's active role in drug trade is recognized by many important government and law enforcement agencies, including U.S. State Department, DEA, and UN International Drug Control Program in 1990s. Judicial records shows that some drug traffickers have prior criminal records before being members, providing aid or support the PKK terrorist group (Financial Action Task Force, 2007). For the same time period, Interpol reports that many drug trafficking activities are linked to PKK and Kurdish crime groups located in European countries (Gheordunescu, 1999; Curtis and Karacan, 2002). PKK's involvement in drug trade is seen at all phases from the production stage to street distribution of drugs.

Gheordunescu (1999) reports that Kurdish organized crime groups and supporters of PKK living in Romania are a major threat to country's national security. The study reports that those groups are highly involved in different organized crimes such as drug, human, and arms trafficking, fraud in travel documents, and money laundering. Including Romanians and other 17 different nationalities are involved in Turkish DTOs.

An important focus of this study is to measure the strength of link between PKK and drug trafficking. According to analysis of this study, among all organizations almost 12 percent of individuals have some type of evidence of PKK connection. This ratio is 30 percent among all PKK-linked organizations. Among the total 12 percent, 9 percent have

stronger evidence of PKK connection. In other words, among all 773 members, 122 individuals have some type of financial, physical, or documentary evidence of connection. Particularly, it seems that among PKK-linked group, some of the members have some evidence of terrorism connection and these members have prior record of terrorism.

The findings of the study demonstrate that PKK-linked groups have different characteristics. There are important and logical reasons why they are categorized in this group. The findings reveal that there is strong evidence to claim they have connections with PKK.

The findings also demonstrate that PKK-linked groups have more international connections rather than national connections. They are more transnational and more cooperative with other criminal organizations rather than non-PKK linked groups. This is an important reason why officials need to focus on PKK-linked groups.

An important finding of the study demonstrates that PKK-linked groups have more relatives and friends in the same organization. This result support that for PKK-linked groups trust and security is more important and they prefer to cooperate with the individuals they know and they trust. In another words, social bonds and ties are more important for PKK-linked groups.

The role distributions of PKK-linked groups also vary than non-linked ones. Their roles are more clear and commonly at the lower levels at the organizations. In

organizations, PKK linked members have less connected to other individuals. This may be an important evidence or their security concerns. Law enforcement officials and other agencies may focus on this point to be more successful against drug trafficking.

6.4.3. Methodological

Identifying and accessing data about drug and terror organization are major challenges for researchers. These datasets are mostly controlled by security agencies and they are classified. If the practitioners in the field understand the value of the research and see its potential benefits related to the field of practice, they may share and open these data more often. This is one of the main reasons why current research is more at the exploratory and descriptive levels (Reuter, 2004).

By examining these organizations, their complex relationships, transfer techniques, and communication skills this type of field research can be understood by practitioners and decision makers in their efforts to control drug trafficking activities.

6.4.4. Policy

This study has several policy implications. First, understanding the general characteristics of drug networks, offenders involve in these crimes, their network structure, and their connection with terrorist groups may provide effective prevention and treatment strategies by law enforcement agencies.

Second, policy makers, practitioners in the field, court and correction officials may develop more effective ways to be successful against drug trafficking organizations

(DTOs) if they know their structure, network skills, and characteristics. Since anti-drug efforts are very expensive, better knowledge of predictors or factors associated with drug trafficking are likely to enhance the efficiency and effectiveness of resources dedicated to this growing global challenge.

Third, analysis of Turkish DTOs demonstrate that members from many countries are involved in these activities. This means that drug trafficking is definitely a global and transnational crime. For this reason, cooperation, information sharing, and coordinated efforts against these criminal networks are increasingly necessary. This research demonstrates that many countries are at risk and thus need to heed this call for collaboration and action.

6.5. Limitations

The police cases used in this study were selected randomly, but have certain limitations. Cases were selected based on certain aforementioned criteria such as some key words (i.e., leader", "structure", "national link", "international link", "terror", "PKK") that are critical to the scope of this study. On the other hand, the dataset contains 100 cases that does not have any other selection bias such as region, amount or type of drug seized. Therefore, the scope of the study is limited by a portion of drug-trafficking cases in Turkey. The total number of cases categorized as PKK related, is around 353 between the years of 1984 to 2010 (Department of Anti-Smuggling and Organized Crime, 2008) and only 50 of them included in this study are selected among these cases

in the police responsibility area. As mentioned in the literature (Zaitch, 2007; Thoumi, 2005), it is difficult to collect such a type of data and code it.

Second, drug trafficking cases are more common in specific cities such as big metropolitan cities, border cities, and cities with ports, airports, and other transportation opportunities, which are under the police jurisdiction in Turkey. However, selected cases do not include cases occurred in the gendarmerie and/or customs jurisdictions. This study is limited to explain merely that portion of the nature of DTOs in those areas.

Thirdly, the classic problem associated with official data, namely uniformity. Even though there is a centralized structure in ASOCD; there is no uniformity and standard format for the classification of the case files. Rather, the quality of case files depends on the officers who involve in the case and prepare those files. For this reason, every document in a case file may not have the same information or may have the same quality of information in it.

In addition to the limitations above, researchers, law enforcement officials, and drug experts need to focus on some other points. Evaluation of the gap in drug trafficking research demonstrates that several problems exist in this area. Investigating drug networks is very difficult for two reasons. First, government and law enforcement officials are not very open to share information with researchers. Second, even they are open to share these information there is secrecy and the risk of drug crime (Cornell, 2007; Fazey, 2007; Thoumi, 2005).

Investigating Turkish DTOs is also very difficult for above reasons. For instance, even Turkish and their European counterparts blamed PKK for controlling drug activities in the region they are not very eager to share this data with the researchers (Office of National Drug Control Policy, 1997; Department of Anti-Smuggling and Organized Crime, 2008). Limited number of researchers focused on this issue with using exploratory examinations (Curtis and Karaca, 2002, Roth and Sever, 2007, Tudor, 2002). Some other investigations are reports and documents of government agencies, and national or international organizations (Ekici, 2006). In particular, focusing on the link between drug and terrorist organizations is more difficult because of the nature, secrecy, and dark side of these crimes (Everton, 2012; Reuter, 2004).

6.6. Recommendations for Future Research

This study examines the general characteristics of Turkish DTOs, their organizational structure, and their connection with terrorism. Future research that examines operational activities of drug trafficking from production step to its final destination may be useful to practitioners and leaders. Examination of these steps may provide important specific information about these criminals, their networks, communication skills, and organizational structure.

Additionally, studies that focus on cultural and geographical ties between these organization members can be very instrumental especially in terms of fostering coordination and collaboration among global partners in efforts to stem drug trafficking. The influence of coming from same region, speaking same language should be examined

specifically because this study finds some evidence of the regional and cultural ties. In addition to this, more investigation is needed on the influence of the use of social network in DTOs.

The methods and techniques of DTOs are worthy of further investigation. Since world economy is becoming more global, transportation and communication opportunities are increasing from day to day, further research must focus on them. Finally, there needs to be more research that focus on the information sharing and cooperation among law enforcement agencies. Most international organizations and countries seem to be open for cooperation and information sharing with their counterparts. If the world officials and governments are sincere in terms of this battle, they must open their information sources to qualified researchers.

CONCLUSION

The main purpose of this study was to identify the characteristics of drug trafficking organizations (DTOs) in Turkey. The main findings suggest that DTOs in Turkey are very much similar to other DTOs around the world in terms of their member socio-demographic characteristics. In addition, being involved in drug trafficking activities is found to be associated with being somehow linked with the PKK, meaning that part of the PKK's activities is doing drug trafficking business. Lastly, involving social network in drug trafficking activities is found to be a normal activity, perhaps for security and trust reasons.

An important focus of this study is the connection between drug and terror organizations. The findings suggest that this connection cannot be underestimated. There is some strong evidence that exhibit this connection in Turkish case. Social, political, economic, geographical, and cultural characteristics of a country or a region may influence drug trafficking and related crimes.

Social bonds and ties, namely, friendship and relatives in these organizations are very common. This finding may provide an important tool for law enforcement agencies during their investigations. To have more successful results, police and other law enforcement agencies may focus to these ties.

This study contributes to the literature on DTOs as well as provides implications for practitioners of the field, namely police organizations, to devise strategies based on characteristics and relationships described and identified in analyses. Replication of the study in other parts of the world would provide a bigger picture about the nature of drug trafficking organizations as well as their relationships with other illegal formations.

Some important findings of this study demonstrate that officials at the international level need to work more cooperatively. They need to share more information since drug crimes and their networks are becoming more transnational.

APPENDICES

APPENDIX A - Drug Trafficking Cases that Involves Terrorism Connection from 1984 to 2010
Source: Department of Anti-Smuggling and Organized Crime of Turkey Dates: Cases from 1984 to 2010

PKK Related Cases' Variables

NR	NAME of VARIABLE	DESCRIPTION of VARIABLE	TYPE of VARIABLE	CODING of VARIABLE
1	PKK link Index	Strength of the link with the DTO and the PKK	Index	0-3 (0-no link, 1-Weak, 2- moderate, 3-strong)
2	Prior record	Prior record or physical involvement of the captured individual(s)' in the PKK terrorist organization	Dichotomous	0- if no,1- if yes
3	Documents	Existence of documents such as, propaganda documents, organizational mandates etc. related to the PKK terrorist organization,	Dichotomous	0- if no,1- if yes

4	Confession	Oral confession of the offender acknowledging his/her link with the PKK despite no prior record exists	Dichotomous	0- if no,1- if yes

Case-specific Variables

NR	NAME of VARIABLE	DESCRIPTION of VARIABLE	TYPE of VARIABLE	CODING of VARIABLE
1	STRUCTURE (DV)	Strength of the organizational structure of the DTO	Ordinal Scale	1-5 (1- weakest, 2- medium to weak, 3- medium, 4- medium to strong, 5- strong)
2	NATIONAL LINK	Number of non-transit cities involved in the trafficking action within Turkey	Continuous	1-n
3	INTERNATIONAL LINK	If there is international link	Dichotomous	0 if no, 1 if yes
4	OFFENDERS INVOLVED	Number of offenders arrested or at large	Continuous	1-n

NR	NAME of VARIABLE	DESCRIPTION of VARIABLE	TYPE of VARIABLE	CODING of VARIABLE
5	RELATIVES	Number of blood or matrimonial relatives from the same family	Ordinal scale	1-5 1: no family relations; 2 : 1-2 individuals; 3: 3-4 individuals; 4: 5-6 individuals, and 5: 7+ individuals
6	REGION	Region of Turkey where the drug is captured	Categorical	1-7(1 Eastern, 2- Southeastern, 3- Mediterranean, 4- Aegean, 5- Marmara, 6 - Black Sea ,7- Central Anatolia)
7	DRUG TYPE	Type of drug captured	Categorical	1-9 (1-if hashish/marijuana, 2 if heroine, 3 if morphine base, 4 if opium, 5 if cocaine, 6 if acetic anhydrite, 7 if captagon, 8 if ecstasy, and 9 other)
8	DRUG AMOUNT	Amount of drugs captured	Ordinal (open ended)	1-n (1- if 50 kg/lt or 500 tablets, increments by 1 per 50 kg/lt or 500 tablets)
9	DURATION	Number of days elapsed from the date investigation starts to the date trial process starts	Continuous	1-n
10	PKK LINK INDEX	Strength of the link with the DTO and the PKK	Ordinal	1-4(1- no link, 2- weak, 3- moderate, 4- strong)
11	YEAR	The year investigation was completed	Categorical	1984-2008

Offender Specific Variables

NR	NAME of VARIABLE	DESCRIPTION of VARIABLE	TYPE of VARIABLE	CODING of VARIABLE
1	Age	Age of the offender will be gained by subtracting the year the offender was born from the year the case happened.	Continuous	1-n
2	Region of birth	Geographical region where the case was finalized (captured).	Categorical	1-7 (1 indicates Eastern, 2 Southeastern, 3 Mediterranean, 4 Aegean, 5 Marmara, 6 Northern Black Sea and 7 Central Anatolia
3	Income	Income of the offender in current US$ when the case happened	Continues	1-n
4	Occupation	Indicating the job of the offender	Categorical	1-5 (1 if unemployed, 2 if own business, 3 if working for private sector, 4 if working for government and 5 if non regular part time)
5	Education	Level of education, including the levels dropped out, the offender	Categorical	1-8 (1 if illiterate, 2 if primary school dropout, 3 if primary school, 4 if elementary school dropout, 5 if elementary school, 6 if high school dropout, 7 if high school and 8 if university/college higher education)

NR	NAME of VARIABLE	DESCRIPTION of VARIABLE	TYPE of VARIABLE	CODING of VARIABLE
6	Gender	Sex of the offender	Categorical	1-2 (1-Male, 2- Female)
7	Marital Status	Marital status of offender	Categorical	1-4 (1 if single, 2 if married, 3 if divorced, 4 if separated)
8	Position in the org.	Hierarchical status of the offender in the organization	Categorical	1-5 (1- if organization leader, 2- if mediator/communicator, 3- if transporter/driver, 4-if carrier, 5 if other)
9	Prior Record.	Criminal record of the offender	Categorical	1-6 (1 if drug crimes, 2 if terrorism, 3 if violent crimes, 4 if organized crimes other than drug trafficking, 5 if non-serious crimes and 6 if others)

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