



# THE DISTRIBUTION OF WOMEN TRAFFICKING MARKET IN TURKEY: DOES DEMAND MATTER?

## Kadın Ticareti Pazarının Türkiye'deki Dağılımı: Talep Önemli midir?

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### Abstract

Even though a significant number of studies on trafficking in women have been devoted to investigation of causal factors in sending countries over the past decade, few studies have focused on destination countries to examine the impact of demand for the services of traffickers on the distribution of women trafficking markets. This study applies Rengert's (1996) framework for the diffusion of illegal drug markets and utilizes Negative Binomial Regression Models to examine patterns of human trafficking across 81 cities in Turkey. The study demonstrates that hierarchical diffusion and social disorganization have significant impact on the distribution of women trafficking markets in Turkey. Moreover, migrant prostitution has significant impact on the distribution of women trafficking, public order crime, and organized crime incidents even when the impact of hierarchical diffusion and social disorganization are held constant. Overall, the findings suggest that women trafficking in Turkey is mainly driven by the demand for illegal services of human trafficking markets which thrives upon existing social disorganization and disorder in a given community.

**Keywords:** Human trafficking, trafficking in women, hierarchical diffusion, social disorganization, disorder, demand.

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## Özet

Son yıllarda kadın ticareti ile ilgili olarak yapılan araştırmaların büyük çoğunluğu kaynak ülkelerdeki nedensel faktörler üzerinde yoğunlaşırken, hedef ülkelerde insan tacirlerinin sundukları hizmetlere olan talebin kadın ticareti marketlerinin dağılımı üzerindeki etkisine ilişkin sınırlı sayıda çalışmaya rastlanmaktadır. Bu çalışmada Rengert (1996)'in yasadışı uyuşturucu pazarlarının yayılımına ilişkin teorik çerçevesi ve negatif binomial regresyon modelleri kullanılarak Türkiye'deki kadın ticareti pazarının 81 ildeki dağılımı incelenmiştir. Çalışma, hiyerarşik yayılım ve sosyal düzensizliğin kadın ticareti pazarının Türkiye'deki dağılımı üzerinde anlamlı bir etkisinin olduğunu ortaya koymuştur. Ayrıca, yabancıların karıştığı fuhuş olaylarının kadın ticareti, asayiş suçları ve organize suçların dağılımı üzerinde anlamlı bir etkisi bulunmakta ve bu etki hiyerarşik yayılım ve sosyal düzensizlik kontrol edildiğinde de devam etmektedir. Sonuç olarak, elde edilen bulgular herhangi bir toplumda var olan sosyal düzensizlikten beslenen insan ticareti pazarlarının yasadışı hizmetlerine yönelik talebin Türkiye'deki kadın ticaretinin başlıca nedenlerinden olduğunu ortaya koymaktadır.

**Anahtar Kelimeler:** İnsan ticareti, kadın ticareti, hiyerarşik yayılma, sosyal organizasyonsuzluk, düzensizlik, talep

## Introduction

Trafficking in women for the purposes of sexual exploitation is claimed to be one of the most prolific areas of international criminal activity (Miko, 2004). The value of the global trade in the market of trafficking in women for the purposes of sexual exploitation is estimated to be between \$7 and 12 billion (Hughes, 2001; Tomasi, 2000). People get involved in this international illicit trade to satisfy the demand of the bosses of illegal labor and the clients of sexual and other services (provided by the migrants), but not the demand of the traffickers or smugglers (Okereke, 2005). In other words, human trafficking is driven by the sex industry and the growing demand for exploitable labor (US Department of State, 2005). Unfortunately, as indicated by Hughes (2001), little or no attention is paid to the legitimacy of demand, though the traffickers and smugglers take the advantage of that demand (Okereke, 2005).

Turkey became one of the most preferred destinations of trafficking in women mainly because of its geographic location bordering and bridging the countries of origin and destination in the region. The women from the former Soviet Union initially are known to have engaged in small economic enterprise by selling clothes, which is called the "suitcase trade" in Turkey, following the demise of the Soviet regime (Williams and Balaz, 2002; Yukseker, 2004). However, as soon as those women lost their purchasing power and started to become involved in the lucrative tourism and entertainment business, there has been significant evidence that they have been trafficked and recruited into prostitution in Turkey. According

police statistics, the former Soviet Union countries account for almost 75 percent of the deportations because of sexually transmitted diseases (STD) and involvement in prostitution between 1996 and 2005. Moreover, 94 percent of the victims identified between 2003 and 2005 were from these countries and all trafficking victims were exclusively females trafficked for the purpose of sexual exploitation (Karakuş and McGarrell, 2010). Yet, research on those women trafficked into Turkey from the former Soviet Union is still sparse (IOM, 2001).

Building on existing research on human trafficking and drawing insights from Rengert's (1996) conceptualization of illegal drug markets as well as the communities and crime research literature, this study attempts to fill this void by exploring the distribution of women trafficking markets across 81 cities in Turkey. Overall, the distribution of human trafficking markets in Turkey is predicted to be driven by the demand for the illegal services of trafficking markets which thrive upon existing social disorganization and disorder in a given community.

## 1. Theoretical Framework for the Distribution of Human Trafficking Markets

Geographers suggest that the spread of innovations, epidemics, and urban decay in space and time occurs in a similar pattern, reflecting the social, economic, and geographic structuring of an underlying community (Wallace and Wallace, 1993). These patterns, on decreasing spatial scales, are generally classified as hierarchical, spatially contagious, and network diffusion. Hierarchical diffusion refers to the spread from larger, more socially dominant cities to smaller ones, usually along the transportation (national/international) networks. Spatial contagion or expansion diffusion involves the radial spread from an infected geographic epicenter into nearby communities. Network diffusion involves transmission along personal, domestic and community social networks (Wallace and Wallace, 1993; Wallace, Huang, Gould, and Wallace, 1997).

Rengert (1996) explored the implications of these processes for the geography of illegal drug markets in the U.S. Based on his analysis of official data on illegal drug use and distribution across different regions, states, counties, cities, and neighborhoods, Rengert found that the diffusion of illegal markets is driven by reinforcing motivations of two active agents of the illegal drug markets, that is, drug traffickers and the users. In the first place, the distribution of illicit drugs by the traffickers originates in the largest cities and subsequently filters down through an ordered sequence of metropolitan centers of decreasing size, as the larger cities with more population are supposed to have more potential customers compared to smaller urban centers. In addition to the cities with more population, the cities that are closer to established illicit markets or to the places where the illicit commodities are produced/imported/originated are also selected as targets by drug traffickers.

In the second step of Rengert's model, local or neighborhood expansion of illegal markets takes place in each city, and illegal drug distributors expand their activities outward from the central city into surrounding suburban area in a contiguous expansion process in which distant-minimizing effects largely shape the spatial patterns of drug distribution. However, lack of legal protection and the risk of apprehension in illicit markets also influence



market location preferences of illegal market distributors and this in turn impacts the spatial distribution of illegal markets as well. In order to avoid apprehension by police, prevent violence and theft, and increase the monetary return, illicit drug dealers want greater control over the exchange of drugs and money. Therefore, Rengert argued, illegal market distributors prefer the locations where the residents are too weak and disorganized to resist the establishment and activities of illegal markets. In this respect, population size, geographic proximity (to where the illicit goods are produced or imported), and community disorganization and disorder are all expected to shape the distribution of illicit drug markets in space and time in a given country.

Human trafficking shares many characteristics similar to the illegal drug trade. It is an illicit market driven by citizen demand, traffickers, and cross-border movement of illicit goods. Moreover, the same criminal groups that traffic drug and guns are also claimed to be involved in human trafficking as well (Hughes and Denisova, 2001; Hurriyet, 2007; Raymond and Hughes, 2001; UNODC, 2006). Given simultaneous involvement of criminal entrepreneurs in both drug and human trafficking and functional similarities especially between drug trafficking and trafficking in women for the purpose of sexual exploitation, Rengert's (1996) approach to illicit drug markets based on diffusion principles could also apply to trafficking in women.

Simply put, as distributors of illegal services -such as the exploitation of migrant labor and/or prostitution-, human traffickers would also desire more control over monetary exchange as they can't rely on the civil and criminal justice system to mediate the disputes and protect their business from violent and property crimes. Hence, whereas large metropolitan centers could provide more customers for illegal services of human traffickers, social disorganization and related structural features of a given community would also impact the distribution of human trafficking as traffickers would look for more control over their illegal transactions in order to be able to control potential arrest, theft, and violence (Eck, 1995). Social disorganization and disorder in a community would also benefit the consumers of the illegal services of traffickers and increase the demand for illicit services, for that community would be less likely to regulate the behavior of its residents and visitors (Bursik and Grasmick, 1993).

### ***1.1. Previous Research on Human Trafficking: Implications for Hierarchical Diffusion and Social Disorganization***

Even though we are unaware of any study that reviews human trafficking from this suggested theoretical perspective, the findings reported by previous research on human trafficking have implications for operating framework in the current study.

First, congruent with the proposed framework, existing research on human trafficking demonstrates that traffickers generally target major urban centers that provide more customers and are closer to the source countries or both (Miko, 2005; Bales and Lize, 2005). As far as trafficking in women in Turkey is concerned, Istanbul, the largest and most industrialized city in the country, is the major destination of human trafficking followed by other large urban and tourism centers such as Antalya, Ankara, and Izmir.

Second, as for the impact of social disorganization and control, in their 2004 report on EU-Enlargement, Migration, and Trafficking in Women in South Eastern Europe, Straubhaar, Mayer, Hefeker, Lammers, Wohlers (2004) concluded that urban areas are more likely to be exploited by the traffickers as these locations are characterized by a lower degree of social control compared to small communities and villages (p.50) where the people are less likely to break community norms. In her review of research on trafficking in women and children in Europe, Kelly (2002) contends that sex industries are quite flexible across the world and they shift their locations as well as their structure and contents through market testing and also in response to informal and formal social controls within the society.

Finally, as a sign of existing social disorder and lack of control in a given community (Skogan, 1990; Taylor, 1995), like other indicators of social and physical disorder, prostitution also accounts for the variation of human trafficking and other serious crime across time and place. Current research on human trafficking by international migration scholars already indicates simultaneous emergence and continuance of migrant prostitution and human trafficking (for the purposes of sexual exploitation) in different parts of the world such as the U.S., Italy, Spain, Turkey, Greece, Norway, and Korea (Agustin 2005; Brunovskis and Tyldum, 2004; Dong-Hoon, 2004; Erder and Kaska, 2003; Fergus, 2005; Gulcur and Ilkcaracan, 2002; Kelly, 2005a; Lazaridis, 2001; Schauer and Wheaton, 2006). The U.S. government also insists that prostitution and human trafficking are inextricably linked by stating “Where prostitution is legalized or tolerated, there is a greater demand for human trafficking victims and nearly always an increase in the number of women and children trafficked into commercial sex slavery” (United States Department of State, 2005, 19). In Turkey, Karakuş and McGarrell (2010) found that cities with more migrant prostitution also had significantly more cases of human trafficking.

Exploring the results from two decades of legalization of brothel prostitution in the state of Victoria, Australia, Sullivan and Jeffreys (2002) concluded that although legalization was intended to minimize the harm in prostitution, related crimes, and to control the expansion of the industry it conversely caused an increase in trafficking of girls and women into Victoria to meet the increased demand within an expanding and profitable sex industry. Though the number of legal brothels were doubled following the legalization of prostitution in Victoria, the researchers said, there are three times as many illegal brothels as legal ones. As regard to the distribution of trafficking markets, the researchers asserted that legalization is perceived by the traffickers as a signal that shows them where they can develop their business. Simply put “For trafficking to occur there must exist in the destination country an economic context in which enslaved workers can be exploited and a social context that allows treating human beings in this way” (Bales, 2005, 156).

Once the traffickers are attracted to these locations along with other criminals, trafficked victims are also forced into other types of crimes such as pick-pocketing, car theft, drug smuggling or begging besides prostitution (Bales and Lize, 2005). Increased prostitution in the community is also found to be related to an increase in other types of crimes as well. Law enforcement officers in the city of Vyborg in St Petersburg indicated



that as the city became a site for prostitution tourism for Finnish men, there has been an increase in the robbery of Finnish men and murders among rival prostitution gangs (Hughes, 2002). Nevada, which is the only state with legal prostitution in 13 of its counties, is also contended to have significantly higher rates of sex crimes than all other states in the U.S. in 1990s (Albert, 2001).

Overall, there is ample evidence suggesting that hierarchical diffusion and social disorganization should increase human trafficking in the community as much as they would drive other violent and property crimes mainly because of the inability of the community to regulate and control the behavior of its residents and visitors. Prostitution, on the other hand, would further increase human trafficking both as a sign of increased disorder and demand. The following analysis is intended to test hypothesized impacts of hierarchical diffusion, social disorganization, and disorder (prostitution) on human trafficking and other serious crime in Turkish context.

## 2. Method

### 2.1. Data and Sample

Census data and official crime statistics are utilized to examine the distribution of trafficking in women across 81 provinces in Turkey. Statistical information about social and demographic characteristics of all 81 provinces is obtained from the Turkish Statistical Institute (TURKSTAT). Official crime statistics regarding the distribution of human trafficking markets, migrant prostitution, public order crimes, and organized crime across 81 cities are retrieved from annual crime statistics produced by the Turkish National Police (TNP). Consequently, we do not use any sampling strategy, for the entire population of all 81 cities is included in the assembled dataset. Finally, in addition to official crime statistics, the General Directorate of TNP also provided information about the number of international border gates across 81 cities.

### 2.2. Measures

#### 2.2.1. Hierarchical Diffusion

Given empirical evidence about crime diffusion (Frischer, Anderson, Hickman, and Heatlie, 2002; Messner, Anselin, et al., 1999; Rice and Smith, 2002; Smith et al., 2000); the similarities between human trafficking and illegal drug markets with regard to their structural and functional features; and also considering simultaneous involvement of some criminal networks in both human and drug trafficking (Hurriyet, 2007; Raymond and Hughes, 2001; Shelley, 2003), human trafficking markets are expected to follow a similar trend as illegal drug markets in terms of their distribution across different regions and/or cities in a country<sup>1</sup>. Simply put, population size could contribute to the development of human trafficking

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<sup>1</sup> A crosssection of such trends, however, could only provide evidence for hierarchical diffusion in place but not in time.

markets because of the increased number of potential customers and increased anonymity which disrupts the level of control over the traffickers and the customers of their illegal services. As for geographic proximity, the cities bordering neighboring countries or those with international airports and seaports might be more likely to be exploited by traffickers as such proximity would decrease the cost and duration of transportation and thus the risk of detection and apprehension. Therefore, we use the size of total population and the presence/absence of international borders in each city to measure the impact of hierarchical diffusion on the distribution of human trafficking markets in Turkey.

### 2.2.2. Social Disorganization

Social disorganization in a community provides a convenient context for illegal transactions and services of illicit markets because of weak formal and informal social controls. Accordingly, as suggested by social disorganization theory (Sampson, 1986; Sampson, 1987; Shaw and McKay, 1972), poverty, instability, heterogeneity, family disruption, and urbanization can impact establishment of illicit markets in a community through their influence on informal and formal social controls in the society. To the extent that these structural characteristics promote a lack of primary, parochial, and public level of controls (Bursik and Grasmick, 1993), related consequences such as lack of relational and friendship networks, weak social bonds and cohesion, increased anonymity, decreased supervision, lack of consensus and low organizational participation could benefit the distributors of illegal markets and facilitate their diffusion into the community.

Given that direct measures of social disorganization are not available at the city level in Turkey, we use variables shown in prior research to be antecedents of social disorganization to estimate its impact on distribution of human trafficking markets. Gross domestic product (GDP) per capita in Turkish Lira is used as a measure of absolute poverty. Residential mobility is measured as the total number of people moving in and out of each city during the last 5 years. The proportion of foreigners as percentage of total population in a given city is utilized as a measure of heterogeneity. Family disruption refers to the number of divorces per 1,000 marriages. Finally, urbanization measured as the proportion of population living in the city centers and in the districts with more than 100,000 population, as the latter measure generally applies to the central districts surrounding the city centers in metropolitan cities (i.e., Izmir, Istanbul, and Ankara). Information about these structural characteristics is obtained from the 2000 census and all five measures are expected to be positively related to the distribution of human trafficking markets in Turkey.

### 2.2.3. Social Disorder/Migrant Prostitution

Prior research on prostitution, human trafficking, and social disorder suggests a positive relationship between prostitution and human trafficking and prostitution and more serious crime (Skogan, 1990; Bales and Lize, 2005; Sullivan and Jeffreys, 2002). Prostitution is legal but regulated (limited to Turkish women) in Turkey, and involvement in prostitution is considered as a reason for immediate deportation of foreigners. Similar to human trafficking,





migrant prostitution is also specific to certain cities in Turkey. In 2003, 33 (41%) cities reported no prostitution related deportation, where 8 (10%) cities reported one prostitution related deportation and the remaining 40 (49%) cities had two or more prostitution related deportations in the year (TNP, 2003). Statistics regarding the number of deported women because of their involvement in prostitution in 2003 is provided by the Turkish National Police. As an indicator of both social disorder and demand, migrant prostitution is measured as the number of foreign women deported because of involvement in prostitution per 100,000 population in a city in 2003.

#### 2.2.4. Human Trafficking

Turkey has ratified the United Nations Convention (2000) against Transnational Organized Crime and its additional Protocol to Prevent, Suppress and Punish Trafficking, Especially Women and Children in 2003, and incorporated almost the same definition of human trafficking into the Turkish Criminal Code (Article 80). Thus, human trafficking is understood in accord with its globally accepted definition by Turkey across 81 cities. In practical terms, however, operationalization of human trafficking as a crime is not quite as straight forward as in other type of crimes because of the small number of cases of human trafficking in most cities. In 2006, for example, there were no cases of human trafficking in 58 cities (72%) and only 23 cities (28%) had one or more incidents of human trafficking in the entire year (TNP, 2006). In this regard, following previous research on the distribution of uncommon crimes in and across cities (Osgood, 2000; Osgood and Chamber, 2000) the number of human trafficking incidents as identified by the police in the entire year of 2006 is used as a dependent variable for the analysis of the distribution of human trafficking markets in Turkey. However, given the limitations of secondary data gathered by other people for agency purposes, official police records are likely to underestimate existing human trafficking in a city. Moreover, police reported measures of human trafficking might be confounded by police discretion and performance (Hagan, 2006). Therefore, an alternative measure of the distribution of human trafficking markets is also utilized. Specifically, the number of calls for rescue as reported by the International Organization for Migration (IOM) office in Turkey for the entire year of 2006 is used (IOM, 2006).

#### 2.2.5. Public Order Crime and Organized Crime

In addition to the number of human trafficking incidents, the TNP provide separate annual statistics for different types of crimes. For example, terror, smuggling, human trafficking, and (illegal) drug related crimes and organized crime rates are reported separately. However, certain type of crimes are aggregated under the name of “public order crimes” and TNP provides aggregated annual statistics for these crimes which include murder, rape, robbery, aggravated assault, burglary, larceny, and motor vehicle theft. As these include both property and violent crimes, they constitute a measure for total crime; therefore, the number of public order crimes in the year 2005 is going to be used as indicator of the number of overall crimes in each city.



Finally, the number of organized crime incidents across 81 cities in the entire year of 2005 as provided by the TNP Department of Anti-Smuggling and Organized Crime (generally known as 'KOM') is going to be used as a measure of the distribution of organized crime incidents in Turkey. Like in the U.S., there is not a universally accepted definition of organized crime in Turkey. In general, organized crime incidents include any crime incidents that involve the use of threat, violence, and other forms of coercion and that are committed only by organized crime groups which are established for the purpose of generating (illegal) monetary profit (KOM, 2008)<sup>2</sup>.

#### 2.2.6. Control Variables

Two control variables, unemployment and the proportion of population between the age of 15 and 24 in a city, are going to be included in the analysis of human trafficking markets in Turkey<sup>3</sup>.

### 3. Analysis

In the first place, we examined bivariate correlations between independent and dependent variables<sup>4</sup>. Moderate to strong bivariate correlations between the measures of human trafficking, total crime, and organized crime in Turkey indicate concentration of crime and disorderly behavior in certain places in Turkey. Moreover, both measures of human trafficking correlate with five independent variables of international borders, total population, urbanization, heterogeneity, and migrant prostitution in the theorized direction. In fact, the same set of independent variables is also positively and significantly correlated with total crime and organized crime as well. In other words, besides having more human trafficking incidents and calls for rescue, the cities with international borders and more population, urbanization, heterogeneity, and with more migrant prostitution also have more total crime and organized crime. Unexpectedly, GDP per capita is positively correlated with both measures of human trafficking and two other measures of serious crime. Residential mobility and family disruption and both control variables (population aged 15-24 and unemployment) are not significantly correlated with the measures of human trafficking. However, unemployment is positively correlated with total crime (.22) and organized crime (.24). Overall, the bivariate correlations provide substantial support for hypothesized relationships between the measures of human trafficking and hierarchical diffusion, social disorganization, and social disorder. Although specified relationships between human trafficking and residential mobility and family disruption are not supported in the bivariate analyses, considering the support from suggested theoretical model and prior empirical evidence, all these independent variables and two other control variables are retained in multivariate analyses.

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<sup>2</sup> See KOM, 2004, 16, for a detailed explanation of activities that arrested organized crime groups were found to have been involved in Turkey in the years 2003 and 2004.

<sup>3</sup> Descriptive statistics for all dependent and independent variables are provided in Appendix A.

<sup>4</sup> See Appendix B

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In order to model the impact of hierarchical diffusion, social disorganization, and social disorder on the distribution of human trafficking markets in Turkey, we estimated Negative Binomial Regression Models<sup>5</sup> for each measures of human trafficking and measures of public order crime and organized crime. Indications of model fit are based on minus two times the log likelihood (-2LL), spearman's correlation (r) between observed and predicted values (Osgood, 2000), and the AIC statistic (Hilbe, 2007), which are provided for each individual model below. It should be noted that instead of migrant prostitution counts across the cities, migrant prostitution rate per 100,000 population was used as an explanatory variable in the following models. Moreover, because of severe positive skewness (West et al., 1995; Pridemore and Freilich, 2006) in migrant prostitution rates across the provinces, natural log transformation was performed for this variable after adding 1 to the cities with 0 cases of migrant prostitution as the log of 0 is undefined (Osgood, 2000).

Finally, diagnostic procedures using residual analyses based on standardized deviance values indicated that the 23<sup>rd</sup> case was a potential outlier, although its influence on parameter estimates was not significantly high. Therefore, we estimated an alternative model with 80 cities by dropping this potential outlier and the results of this reduced model is also presented in the following analysis<sup>6</sup>.

#### 4. Findings

Table 1 presents the results of NBR analyses for human trafficking incidents, calls for rescue, total crime, and organized crime in Turkey. All four models significantly contribute to our understating about the distribution of human trafficking markets and other serious crimes in Turkey (as opposed base/intercept-only models) and significant alpha ( $\alpha$ ) coefficient in all models demonstrate that NBRM provides a better fit as opposed to PRM (Poisson Regression Model) because of overdispersion present in the data. For human trafficking incidents (Model 1), both hierarchical diffusion and social disorganization provide partial support for hypothesized relationships whereas migrant prostitution significantly increases

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<sup>5</sup> *The distribution of the measures of human trafficking, migrant prostitution, total crimes, and organized crime incidents in Turkey are all highly skewed with no or rare incidents/calls/deportations/crimes in several cities. Therefore, using linear regression models for counts of human trafficking incidents, calls for rescue, total/public order crime, and organized crime can result in inefficient, inconsistent, and biased estimates (Long, 1997, 217).*

<sup>6</sup> *In addition to outliers, potential problems of multicollinearity across all models were also investigated using OLS estimation procedures. All VIF scores are lower than the critical limit of 10 as suggested in the literature (Gujarati 2003; Neter, Wasserman, & Kutner, 1990; DeMaris, 2004).*

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per capita<sup>7</sup> trafficking incidents. Even though the cities with larger population are theorized to offer more potential customers and also provide anonymity for both traffickers and their customers, once the impact of social disorganization and disorder are controlled, proximity to the origin/sending countries turns out to be more important for the distribution of human trafficking incidents in Turkey. Thus, proximity to sending countries, poverty, heterogeneity, residential mobility and migrant prostitution have significant positive impact on the distribution of human trafficking incidents in Turkey.

On the other hand, both measures of hierarchical diffusion have significant positive impact on the latter measure of trafficking in women, that is, the distribution of per capita calls across 81 cities (Model 2). More specifically, the cities with larger population and international borders have more per capita calls for rescue. Moreover, heterogeneity, residential mobility, family disruption, and migrant prostitution also have significant positive impact on per capita calls for rescue. In this regard, NBR models based on two different measures of human trafficking provide substantial support for the propositions based on the hierarchical diffusion, disorganization and disorder theoretical models of human trafficking suggested in this study.

For total crime, the cities with more income, urbanization, and less unemployment appear to have more total crime (Model 3). The positive relationship between per capita gdp and total crime as well as the negative relationship between unemployment and total crime appears to be counterintuitive according to basic propositions of social disorganization perspective; however, given Bursik and Grasmick's (1993) argument about the relationship between social disorganization theory and routine activities theory as regard to both theories' focus on social control and guardianship, it can be speculated that increased income and thus relatively more social and financial interaction could increase the crime rate because of increased residential and commercial use of land. It is also consistent with routine activities theory in the sense of greater GDP creating more opportunities for property crime. Put differently, the cities with more income and relatively more social and commercial interactions can be considered as attractive places especially for property crime and disaggregated measures of public order crime rates, such as separate violent and property crime rates across the cities might help to better address this relationship. Increased unemployment, on the other hand, would decrease such interactions and also increase the guardianship back at

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<sup>7</sup> Even though NBRM is utilized to analyze count outcomes, when natural logarithm of population size is included in NBRM as an offset variable (with a fixed coefficient of one), per capita incidents/calls/deportations/crime rates become constant across provinces with different population sizes, controlling for other explanatory variables. Yet, when the impact of population size is estimated rather than fixed, as this is the case for the following models, a value of one should be subtracted from the coefficient of population size. Then, for the significance test, the estimated value of the coefficient should be compared to the value of one rather than zero (i.e.,  $b-1/SEb$ ; Osgood, 2000, 39-40). This transformation, which can be thought of as equivalent to converting the counts to per capita rates, adjusts for the impact of population size and allows controlling for the impact of population size.

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**Table 1. Negative Binomial Regression Models for Human Trafficking, Total Crime, and Organized Crime (N=81)**

Variable	Model 1 Trafficking Incidents '06 N=81		Model 2 Calls for Rescue '06	Model 3 Public Order Crimes'05	Model 4 Organized Crime'05
	B (S.E.)	B (S.E.)	B (S.E.)	B (S.E.)	B(S.E.)
<b>Constant</b>	-22.71*** (6.17)	-28.32*** (6.19)	-21.19*** (3.90)	-4.77*** (1.20)	-9.47* (3.90)
<b>Hierarchical Diffusion</b>					
Total Population (ln)	.27 (.42)	.48 (.38)	.41 <sup>a</sup> (.24)	-.02 (.09)	-.12 (.25)
International Border	1.18 <sup>a</sup> (.68)	2.75* (1.16)	.69* (.33)	.14 (.11)	.72* (.34)
<b>Social Disorganization</b>					
GDP per capita	-.0004 (.0004)	-.0006 <sup>a</sup> (.0003)	-.0002 (.0002)	.0002* (.0001)	.0006** (.0002)
Heterogeneity (ln)	.30 (.18)	.45* (.18)	.36** (.11)	-.05 (.04)	-.18 (.11)
Residential Mobility	.14* (.07)	.18** (.07)	.11* (.05)	-.007 (.01)	.009 (.05)
Urbanization	.17 (1.65)	-.50 (1.51)	-1.46 (1.06)	1.82*** (.36)	1.76* (.91)
Family Disruption	2.82 (4.18)	4.29 (3.91)	5.11 <sup>a</sup> (2.80)	-.07 (1.06)	-.54 (2.51)
<b>Social Disorder</b>					
Migrant Prostitution Rate (ln)	.61** (.21)	.51** (.19)	.35** (.13)	.23** (.07)	.34* (.17)
<b>Control Variables</b>					
Population Aged 15-24 (%)	.12 (.15)	.18 (.15)	.03 (.09)	-.04 (.03)	-.20* (.09)
Unemployment	-.05 (.11)	-.08 (.12)	.05 (.07)	-.07*** (.02)	-.03 (.06)
-2LL	170.48***	150.61***	273.24***	1354.46***	238.68***
Pseudo R <sup>2</sup>	.22	.29	.29	.04	.14
α	.89***	.51***	.37***	.16***	.28***
AIC	2.40	2.18	3.67	17.02	3.24
Spearman r	.59***	.64***	.80***	.92***	.73***

<sup>a</sup> p<.10; \*p<.05; \*\*p<.01; \*\*\*p<.001

home or in the neighborhood. In fact, the significant positive impact of urbanization on public order (total) crimes also supports such argument in that urbanization would also decrease guardianship and control by increasing anonymity because of ebb and flow of workers, visitors, foreigners into these cities.

Finally, as expected, organized crime is influenced by almost the same factors as total crime, for organized crime also prevails in the cities with higher industrialization and urbanization. The results also concur with Finckenauer and Voronin's (2001) argument

as regard to the distribution of organized crime in that as they suggested, the cities with international border gates, higher income and urbanization also have more organized crime incidents. On the other hand, the proportion of younger population has an unexpected negative impact on the distribution of organized crime incidents in Turkey. This unexpected finding might have emerged as a result of the fact that even though younger people are generally known to be more likely to offend and be victimized, a significant proportion (96 %) of the members of criminal organizations arrested in Turkey in recent years was 21 years old or older (KOM, 2002). A larger proportion of younger population in a city, on the other hand, may have a negative impact on member recruitment into these organizations, which might in turn impede the establishment and activities of criminal organizations.

Overall, all three approaches, that is, hierarchical diffusion, social disorganization, and disorder significantly contribute to our understanding of the distribution of human trafficking in Turkey as supported by both bivariate and multivariate analyses. While the presence of international borders, heterogeneity (ln), residential mobility, and migrant prostitution (ln) have significant positive impact on human trafficking incidents, per capita gdp has significant negative impact on human trafficking incidents. On the other hand, cities with international borders, larger population, higher heterogeneity (ln), residential mobility, family disruption, and migrant prostitution have significantly higher number of calls for rescue. Finally, as an indicator of social disorder, migrant prostitution has a significant positive impact on per capita total crime rates and organized crime incidents controlling for the impact of social disorganization and control variables. In more practical terms, a 10% increase in migrant prostitution leads to 5.2 % increase in human trafficking incidents, 3.6 % increase in calls for rescue, 2.3 % increase in total crime, and 3.5 % increase in organized crime incidents in a city when all other parameters in the models are held constant<sup>8</sup>.

## 5. Discussion

Although research on human trafficking has increased significantly in the last decade, empirical studies of the geographic patterns of human trafficking from a communities and crime perspective are rare. This is particularly the case for Turkey, a country that is a of prime interest for human trafficking research due to its strategic location at the crossroads of Europe and Asia and its proximity to the middle east and Africa. This study sought to examine whether patterns of trafficking across the 81 cities of Turkey follow patterns predicted by hierarchical diffusion as applied to drug trafficking as well as by social disorganization and disorder theoretical perspectives. The city level analysis of the distribution of human trafficking markets in Turkey provides strong support for the relationship between structural characteristics of the communities and proliferation of human trafficking markets. Specifically, similar to the diffusion of illegal drug markets (Rengert, 1996), human trafficking markets generally target cities with international borders as they are closer to the countries where the trafficked women are recruited from. Moreover, certain community

<sup>8</sup> An increase of  $x$  in an explanatory variable multiplies the fitted mean incident/call/crime rate by  $ebx$  (Osgood, 2000, 39).

characteristics, in particular heterogeneity, mobility and migratory prostitution were found to have a positive relationship with the distribution of human trafficking markets as suggested by the social disorganization framework. Support was also found for the impact of poverty, family disruption, and the size of the total population, although these results were less consistent. Accordingly, organized criminals in the illegal business of human trafficking mainly prefer the cities which promise higher profit with relatively lower risk of apprehension and criminal victimization. Higher profit is granted mainly by international borders which facilitate the supply of the victims and by larger populations that create higher demand or more potential customers for the services of human trafficking markets. Higher poverty, heterogeneity, residential mobility, and family disruption, on the other hand, decrease the ability of the communities to regulate and control the behavior of suppliers and consumers of human trafficking markets who are likely to be their residents and visitors.

Migrant prostitution, which is considered a sign of social disorder (Skogan, 1990; Taylor, 1995), also was found to have significant positive impact on provincial distribution of human trafficking markets net of the impact of hierarchical diffusion and social disorganization. The results indicate a clear relationship at the city level between rates of migrant prostitution, human trafficking, total crime, and organized crime. In fact, these relationships can also be reinforcing with crime and disorder attracting prostitution and human trafficking and with prostitution and trafficking reinforcing disorder, fear, and crime. Thus, in general, the results are in agreement with findings of communities and crime research literature (e.g., Bursik and Grasmick, 1993; McGarrell, Giacomazzi and Thurman, 1997; Skogan, 1990) and more specifically with the research on the distribution of illegal (drug) markets (Rengert, 1996).

In addition to the consistency with these theoretical propositions, analysis of the distribution of human trafficking markets in the Turkish context demonstrates the relationship between certain community characteristics and the proliferation of human trafficking markets and points to potential prevention efforts. One of the challenges of human trafficking research and policy interventions is the hidden nature of these markets and the barriers to victim reporting to the police. This makes it difficult to focus police resources on human trafficking in light of more visible demands for police services. These results suggest the promise of risk-based strategies to prevent, control, and mitigate the harm associated with human trafficking.

First, since the cities with international borders, certain structural characteristics, and migrant prostitution are at higher risk for being targeted by traffickers, focusing on these cities, law enforcement officials can identify specific situations and micro places that facilitate both migrant prostitution and human trafficking and allocate resources for prevention efforts accordingly. Second, given the fact that the cities with international borders are exploited more by human trafficking markets and that the victims are exclusively comprised of foreign women recruited generally from the former Soviet countries (at least in the Turkish context), more research on the individual characteristics of the victims that could serve to the early identification purposes of law enforcement authorities at the international borders is warranted. Similarly, organized crime investigations focusing on transnational criminal networks operating in border cities appears warranted.

Third, considering the fact that the cities with more population, poverty, heterogeneity, mobility, and family disruption are found to be exploited more by human trafficking markets, prevention of trafficking in women in Turkey goes beyond human trafficking regulation and deterrence oriented policies toward comprehensive responses to the problem. Victim focused efforts to address the financial dependency and immigration status concerns of victims located in high disorder contexts is necessary. Broad-based community policing efforts including diagnosing and managing problems at the local level; increasing police and government responsiveness to human trafficking; and building police and community partnerships to address the issues of crime and disorder also appear warranted (McGarrell et al., 1997; Zhao, Scheider, and Thurman, 2002; Thurman, Zhao, and Giomazzi, 2001; Trojanowicz, Kappeler, and Gaines, 1998).

The fourth implication of this study is based on the finding that among the cities with international borders and social disorganization those reporting more migrant prostitution have significantly more human trafficking, total (public order) crime, and organized crime. In line with the community policing philosophy, law enforcement focus on the cities with migrant prostitution is likely to expedite the diagnosis of underlying physical, social, and environmental problems that lead to more prostitution, human trafficking, and other serious crimes. Consequently, a problem oriented approach which prioritizes the control of opportunities (Green, 1996; Mazerolle and Ransley, 2006) that create migrant prostitution, human trafficking, public order crime, and organized crime is supported as well.

In order to increase police and government responsiveness, problem oriented policing offers a variety of problem solving strategies including formal and informal interventions that range from the allocation of necessary resources and implementation of criminal and civil laws to collaboration with place managers and owners as well as the mobilization of the local residents (Goldstein, 1990; Mazerolle and Ransley, 2006). Targeting all parts involved in migrant prostitution and human trafficking including the prostitutes, clients, traffickers, and the owners and managers of the places that facilitate migrant prostitution and human trafficking can be considered as intervention points. To illustrate, exposing the clients to publicity or notifying those who have influence on clients' conduct; enforcing zoning, nuisance abatement, and business license regulations against properties used for prostitution; and redeveloping the area economy can help the community to better address the problems of migrant prostitution and human trafficking<sup>9</sup>. More importantly, all these and other interventions targeting migrant prostitution and human trafficking must have available social services to help the prostitutes and trafficked victims.

All of the afore mentioned potential responses would require money, resources, and changes in the local community environment and it will be difficult to prevent migrant prostitution, human trafficking, or any other problem of crime and disorder without community support. This, on the other hand, leads to recognition of the importance of the aspect of community policing that involves building police and community partnerships to

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<sup>9</sup> See [www.copcenter.org](http://www.copcenter.org) for a detailed list of possible interventions suggested to tackle the problem of street prostitution.



address the issues of crime and disorder. Specifically, law enforcement would definitely need community support and participation to insure legitimacy and allocate resources for such comprehensive intervention strategies. Communities and crime research literature has already pointed to successful results in terms of the prevention of disorder, including both drugs and prostitution (Weisburd et al., 2006; Eck, 1995; McGarrell et al., 1999) and also demonstrated diffusion of the crime control benefits without displacement (Weisburd and Green, 1995; Braga et al., 1999). As for human trafficking, as Bales and Lize (2005) argued, neighborhood watch projects can also be promising for the prevention of human trafficking incidents, especially in the cities where the exploitation of women takes place in private homes through the network solution (see Eck, 1995, 72)<sup>10</sup>.

## Conclusion

We sought to explore the impact of hierarchical diffusion, social disorganization, and migrant prostitution on the distribution of human trafficking markets across 81 cities in Turkey in this study. Moreover, the relationship between migrant prostitution, which is considered as a sign of social disorder, and other serious crimes is also examined. All three models significantly contribute to our understanding of the distribution of human trafficking markets in Turkey. Although the findings are generally consistent with theoretical predictions and specified hypotheses, conclusions must be drawn cautiously because of several methodological issues raised in the course of this research.

Even though the measure of migrant prostitution precedes the measures of human trafficking and serious crime in time (2003 vs. 2006 and 2005), the relationship between migrant prostitution and human trafficking and serious crime may be more complex. The communities and crime research literature points to the reciprocal relationship between disorder and crime, for they are considered not only as the outcomes of the process of neighborhood disorganization, but also as an integral part of that process (Bursik and Gasmick, 1993, 313). To be more specific, a feedback-loop could exist where migrant prostitution, human trafficking, and serious crime are mutually reinforcing (Skogan, 1990). Therefore, more research on the causal order of these relationships is warranted.

Measurement of human trafficking and migrant prostitution in Turkey emerges as another challenge for future because of the fact that the measurement of human trafficking is under-reported in these data. Although this is true for all crime data, the helpline calls for rescue (IOM, 2006) also demonstrate that it is particularly so for human trafficking where victims are unlikely to report to the authorities. The IOM office in Turkey (2006) reported that only 19 percent of calls for rescue were made by the victims themselves whereas remaining 81 percent of calls were placed by others including friends, customers, relatives, and neighbors of the victims. Thus, an extension of this research should consider alternative measurement of the distribution of migrant prostitution and human trafficking markets by

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<sup>10</sup> *In (social) network solution, sellers only sell to screened buyers and buyers only buy from screened sellers.*

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either looking for different (i.e., self reported or perceived) measures or combining available (secondary) measures from various institutions into a single construct.

The present study was limited by the lack of availability of more robust measures of disorder at the community level. Similarly, one can argue whether our measure of disorder, migrant prostitution is substantively distinct from human trafficking. Ultimately this is an empirical issue that could be addressed by inclusion of a broader range of measures of disorder.

The present research looks at the relationship between the distribution of human trafficking markets and community characteristics at the city level. However, the communities and crime literature suggests that the real variation in terms of structural characteristics, crime, disorder, fear, and formal and informal social control is at the neighborhood and even street block level (Bursik and Grasmick, 1993; Sampson, 2002; Taylor, 2000). Hence, future research should move to the neighborhood and block level of analysis to truly test the relationship between disorder, crime, and human trafficking. This could also help identifying micro places and situations that contribute to establishment and proliferation of human trafficking markets as well.

Finally, culture and country specific factors also need to be considered in Turkey where the people live in a society with a blend of Islam and secularism. Turkey has a strong tradition of family and community lives and thus individual behavior is subject to relatively higher social control exercised by family, friends, and religion. Accordingly, foreigner women who are involved in prostitution are viewed as “threats to family sanctity” especially by women and this also leads to stress between wives and husbands (Gulcur and Ilkkaracan, 2003). On the other hand, brothel prostitution is legal only for Turkish women and regulated by the government. Consequently, such cultural and legal restrictions surrounding migrant prostitution might have also contributed to women trafficking in Turkey as the foreigner women involved in prostitution are devoid of both formal and informal protection.

Despite these methodological reservations and the fact that it has been developed primarily in western contexts to explain crime generally, the current study has demonstrated that communities and crime research literature has applicability to the global and local issue of human trafficking. Indeed, the results of this research suggest there is value in further study of hierarchical diffusion, disorganization and disorder to better understand patterns of human trafficking



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**Appendix A. Descriptive Statistics (N=81)**

<b>Variable</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
<b>DEPENDENT VARIABLES</b>				
Human Trafficking Incidents '06	1.89	6.12	.00	45.00
Calls for Rescue '06	7.07	28.71	.00	218.00
Public Order Crime '05	6021.74	15831.79	232.00	135834.00
Organized Crime '05	2.78	5.99	.00	43.00
Public Order Crime '03	3972.90	10072.49	178.00	82529.00
Homicide '03	22.55	56.19	.00	465.00
Burglary '03	1479.15	4749.91	21.00	39118.00
<b>INDEPENDENT VARIABLES</b>				
Total Population	837085.50	1231462.02	93584.00	10018735.00
GDP per capita	1479.57	744.06	453.00	4696.00
Urbanization	.32	.17	.06	.89
Heterogeneity	2.38	8.38	.02	72.48
Residential Mobility	15.47	4.26	8.73	36.90
Family Disruption	.11	.06	.01	.28
International Border	.58	.49	.00	1.00
Migrant Prostitution '03	21.91	68.95	.00	432.00
<b>CONTROL VARIABLES</b>				
Population Aged 15-24 (%)	20.61	2.13	16.55	30.86
Unemployment	7.85	3.11	3.60	17.40

**Appendix B. Correlation Matrix**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.Human Trafficking Incidents	-													
2.Calls for Rescue	.81**	-												
3.Public Order Crime('05)	.58**	.90**	-											
4.Organized Crime ('05)	.53**	.77**	.90**	-										
5.GDP per capita	.23*	.25**	.33**	.48**	-									
6.Heterogeneity (ln)	.48**	.38**	.29**	.36**	.50**	-								
7.Residential Mobility	-.03	-.05	-.10	-.08	.24**	.06	-							
8.Urbanization	.28*	.38**	.52**	.55**	.25*	.09	-.14	-						
9.Family Disruption	.11	.11	.12	.15	.50**	.24*	.07	.03	-					
10.Total Population (ln)	.44**	.48**	.60**	.67**	.29**	.26*	-.54**	.43**	.13	-				
11.Migrant Prostitution	.77**	.84**	.74**	.63**	.20	.43**	-.07	.28**	.06	.42**	-			
12.International Border	.25**	.19	.23**	.31**	.20	.46**	-.09	.09	.01	.39**	.24**	-		
13.Population Aged 15-24 (%)	-.09	-.06	-.06	-.09	-.33**	-.24*	.20	.04	-.48**	-.14	-.03	-.12	-	
14.Unemployment	.11	.17	.22*	.24**	-.17	-.14	-.31**	.50**	-.48**	.35**	.14	.08	.36**	-

Note: Entries are Pearson Correlation Coefficients; \*p<.05, \*\*p<.01 (2-tailed tests).