Applying Correspondence Analysis to the Statistical Data Obtained from Juveniles Received into Security Units in Turkey Between 1997-2003

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Abstract: Undoubtedly, it is important to put forth the variables thought to be effective in the emergence of juvenile delinquency, to understand the relationship between these variables and to find out the extent to which each is significant. Thus, the purpose of this study, through putting forth the variables on juvenile delinquency with correspondence analysis, is to show the level of the relationships and to shed light on preventive actions against juvenile delinquency. The study has employed correspondence analysis through using the statistics for the juveniles received into security units collected by State Institute of Statistics. As a result of the study, it can be stated that it is necessary that juvenile delinquency be evaluated within the framework of economic, social and political events and that the precautions be planned and decided upon within this framework.

Key words: Correspondence analysis % juvenile delinquency % juveniles reception to the security units % crime

INTRODUCTION

Society strives to survive in a powerful and proper fashion. Upon facing activities to threaten its existence, society, with a natural instinct, punishes them. Punishment refers to the predetermined sanctions through written and tacit rules in order to minimize or block the recurrence of the actions that violate the order in society. In this sense, crime can be considered as punished behavior. It has been one of the controversial issues whether psychopathological features exist in criminals by birth or they are the outcomes of the environment, education or etc. Broadly speaking, both viewpoints are likely to hold true [1]. When the issue is examined in terms of juvenile delinquency, it is suggested that such factors as heredity, family, their attitude, family structure, number of juveniles, financial problems, education, emigration from villages to bigger and more developed cities and related problems, homelessness, local traditions and customs, physical and psychological illnesses and alcoholism have a significant part to play [2].

Undoubtedly, it is important to put forth the variables thought to be effective in the emergence of juvenile delinquency, to understand the relationship between these variables and to find out the extent to which each is significant. This can be possible through simplifying the collection, analysis and interpretation of the categorical data related to the variables in question and through interpreting the cross tabulation correlation and similarity analysis accurately and easily.

CORRESPONDENCE ANALYSIS

It has recently become necessary to analyze the categorical data and to simplify its interpretation, with an accurate and easy interpretation of the similarity and correlation analysis of the cross tabulation. Correspondence analysis is a

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multivariate method of analysis which simplifies the interpretation of similarity, difference and the relationship between the variables in rows and columns in cross tabulation. It also allows for the illustration of the results on a graph [3]. In cross tabulation in the form of "r xc" and when categorical number of variables are two, simple coefficient analysis, a kind of correspondence analysis, is employed.

In correspondence analysis, the row and column profiles are the basic concepts. Row profile is obtained through dividing each element by the total. The same method is also used for the column. The term inertia in correspondence analysis is used by analogy with the definition in applied mathematics of "moment of inertia", which stands for the integral of mass times the squared distance to the centroid. Inertia is defined as the total Pearson Chi-Square for the two-way divided by the total sum.

What makes correspondence analysis exceptional is that the relationship between categories is shown on a graph. For this purpose, the dimensions are determined from Min ((r-1), (c-1)) and the coordinates of rows and columns are calculated and the graph is drawn accordingly.

The purpose of this study, through putting forth the variables on juvenile delinquency with correspondence analysis, is to show the level of the relationships and to shed light on preventive actions. In this study, answers to the following questions are sought:

C   Between the years 1997-2003, in which years and for which reasons were juveniles received by security units?

C   Between the years 1997-2003, in which age groups of juveniles and for which reasons were received by the security units?

C   Between the years 1997-2003, in which age groups of juveniles and according to what kind of accusation were juveniles received by the security units?

C   Between the years 1997-2003, in terms of their educational status according to what kind of accusation were juveniles received by the security units?

C   Between the years 1997-2003, which geographical regions were the juveniles received by the security units from and for which reasons were they received by the security units?

C   Between the years 1997-2003, which geographical regions were the juveniles received by the security units from and according to what kind of accusation were they received by the security units?

C   Between the years 1997-2003, by which living situation and by which type of offence were juveniles received by the security units?

METHODOLOGY

The form entitled The Statistical Form Related to Juveniles and the Young Received into Security Units, is prepared by State Institute of Statistics (SIS) in collaboration with The Ministry of Internal Affairs, The Ministry of Justice under the coordination of Turkish State Planning Agency as an initial stage of establishing a database in avoiding juvenile delinquency according to the regulation 109 of 1995 Executive plan Transition Program. This form has been used in 27 provinces that were chosen through representative sampling. These provinces are Adana, Ankara, Antalya, Bursa, Çorum, Denizli, Diyarbak2r, Elaz2–, Erzurum, Gaziantep, Isparta, Mersin, 1stanbul, 1zmir, Kars, Kayseri, Kocaeli, Konya, Malatya, Manisa, Mu–la, Sakarya, Tekirda–, Samsun, Trabzon, Ôanl2urfa, Zonguldak.

The data was collated by each security unit in the districts of the provinces. The forms were collected and filled for everybody under the age of 20 who have been received for once or more, who have been recorded or not in the records of the security units, whose files have been sent to the public prosecutor or not. Afterwards, these forms were sent to Turkish Statistical Institute via mail monthly. According to the definition that "anybody under the age of 19 is a juvenile, these forms, for juveniles between 0-18 years old, were analyzed and the rest of the forms were discarded.

In this study, the correspondence analysis has been employed through using the data, statistics for the juveniles received into security units collected by SIS.

In order to conduct the analysis, the data collected by SIS have been placed in the cross tabulation formed in 2x2 and were merged without discriminating sex and security unit type. Due to the difficulties in illustrating and understanding the analysis of the data, the following actions have been applied:

C   While grouping the offense types, the research entitled "Socio-demographical Characteristics", conducted by Seber [2] and presented at the symposium entitled "I. National Juvenile and Crime: Reasons and Preventive Activities" was benefited from. Accordingly, the offenses were grouped as offenses against individuals, offenses against property, sexual offenses, offenses against state and violating the laws.
C   The 27 provinces, taken as the sample of the study, were merged according to the geographical provinces.
C   The educational status of the juveniles received by the security units were defined and grouped as dropout for those who are not students. On the other hand, students were grouped and defined according to the schools they had graduated from or they had been given a diploma. Afterwards, correspondence analysis was applied.

The correspondence analysis were applied on the data tabled about the juveniles received into security units according to the offense types charged, where and whom they live with, educational status, age groups, provinces, reasons for their reception, years of reception and security units in regions.

FINDINGS

Between the years 1997-2003, the reasons for juveniles reception to the security units: In Chart 1, the data shows the most common reasons why juveniles were received by the security units between the years 1997-2003. In 1997, the most common reason for reception was being a suspect, in 1998 and 1999 because of an offense charged and being suspect, in 2000 and 2001 because of an offense charged, of other reasons and of being a victim, in 2002 and 2003 because of being lost, of leaving home, of being abandoned.

Between the years 1997-2003, reasons for the reception of juveniles by the security units by age groups: In Chart 2, the most common reasons why juveniles by age groups were received by the security units are given. Between the years 1997-2003, juveniles between 0-6 were received by the security units because of being abandoned, or foundling, 7-11 age group of being beggar, being street child and other reasons, 12-15 age group of leaving home and other reasons and 16-18 age group of being charged an offense and being a suspect.

Between years 1997-2003 Reasons for reception of juveniles by the security units by age groups and offence charged: In Chart 3, the reasons for reception of juveniles by the security units by age groups and offence charged are given. Between the years 1997-2003, juveniles, between 0-6 and 7-11 because of charges against property, between 12-15 because of charges against property and sexual, between 16-18 against individuals, state and violation of laws, were received by the security units.

Between the years 1997-2003, Reasons for reception of juveniles by the security units according to offences charged and educational status: In Chart 4, Reasons for reception of juveniles by the security units by offenses charged and educational status are presented. Between the years 1997-2003, juveniles, who have never graduated from any school, were involved in offenses against property, illiterates and primary school graduates in offenses against property and sexual offences, primary school graduates offences against individuals and high school graduates in offenses against state and violation of laws, were received by the security units.
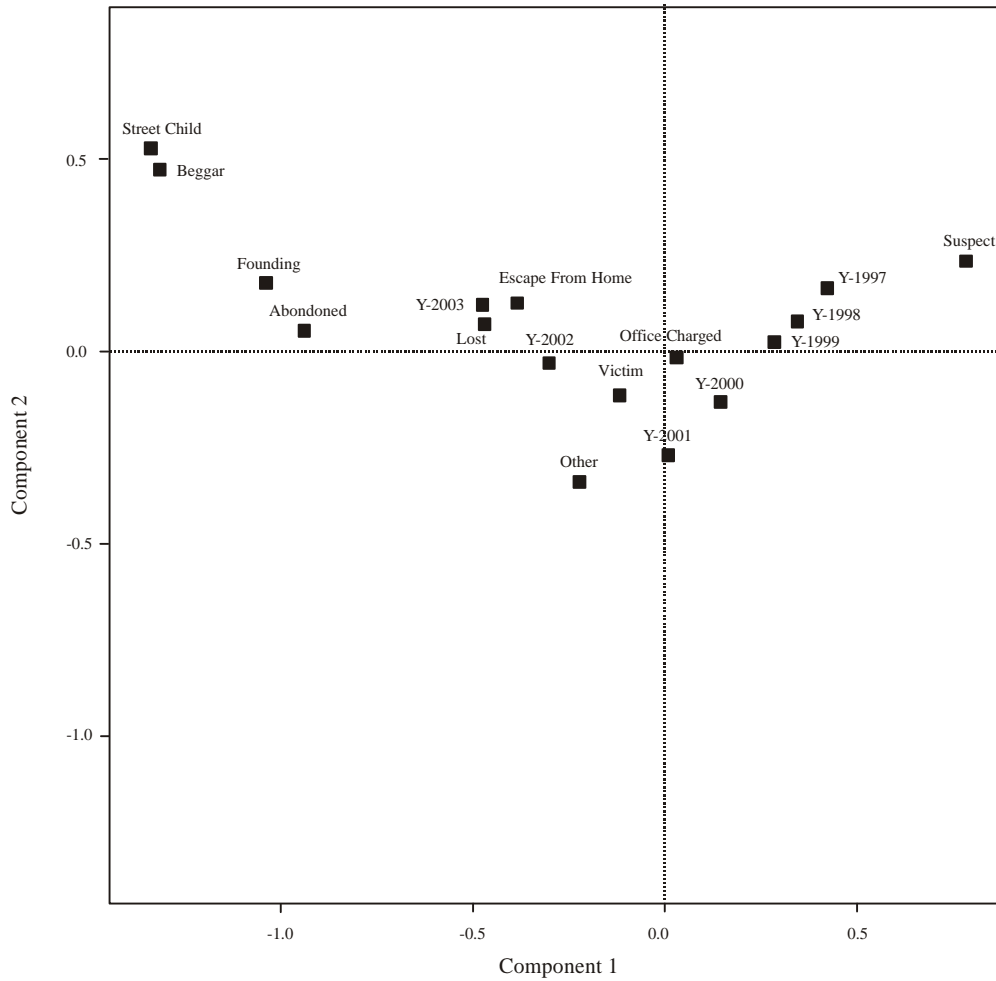
Chart 1: Row (reasons for reception) and column (years) coordinates in the distribution of reasons for reception by years

Between the years 1997-2003, reasons for the reception of juveniles by the security units according to geographical regions: In Chart 5, between the years 1997-2003, the reasons for the reception of juveniles by the security units according to geographical regions are presented. Between the years 1997-2003, juveniles were received by the security units in Eastern Anatolia and Black Sea Region because of being victims, in Central Anatolia because of being charged an offence, victim and other reasons, in Marmara Region because of being charged an offence and of foundling, in Aegean Region because of being an suspect and of other reasons, in Southeastern Anatolia because of being an suspect, of foundling and of being charged an offence and in Mediterranean Region because of escaping from home, lost and of begging.

Between the years 1997-2003, Reasons for the reception of juveniles by the security units according to geographical Regions and offences charged: In Chart 6, between the years 1997-2003, the reasons for the reception of juveniles by the security units according to geographical regions and by offences charged are presented. Between the years 1997-2003, juveniles were received by the security units in Central and Eastern Anatolian Regions because of
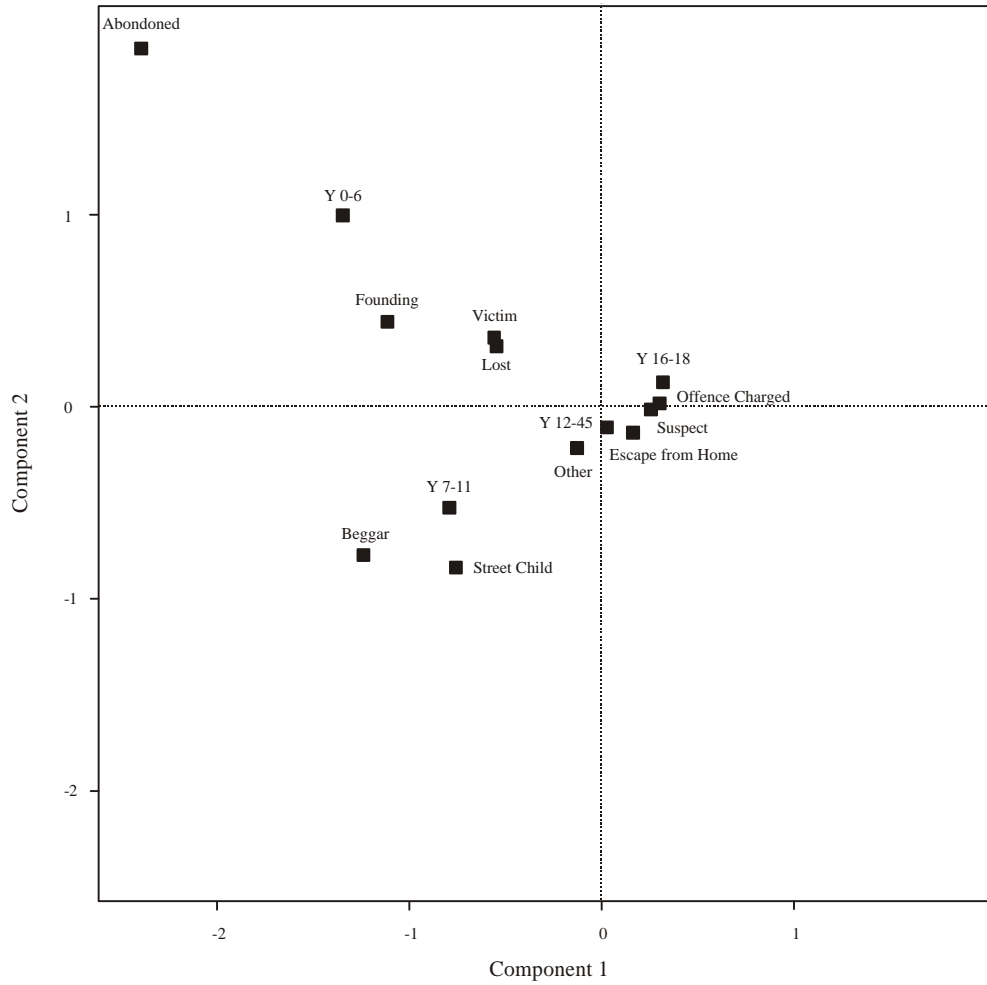
Chart 2: Row (reasons for reception) and column (age groups) distribution in reasons for reception by age groups

offences against individuals, in Marmara and Aegean Regions because of offences against property, in Marmara and Mediterranean Regions because of sexual offences, in South Eastern and Marmara Regions because of violating laws and offences against the state.

Between the years 1997-2003, reasons for the reception of juveniles by the security units according to where and with whom they live, place and the types of offences charged: In Chart 7, between the years 1997-2003, reason for the reception of children by the security units according to where and with whom they live and the types of offences charged. Between the years of 1997-2003, juveniles living with their siblings, wife and children being involved in sexual offences,
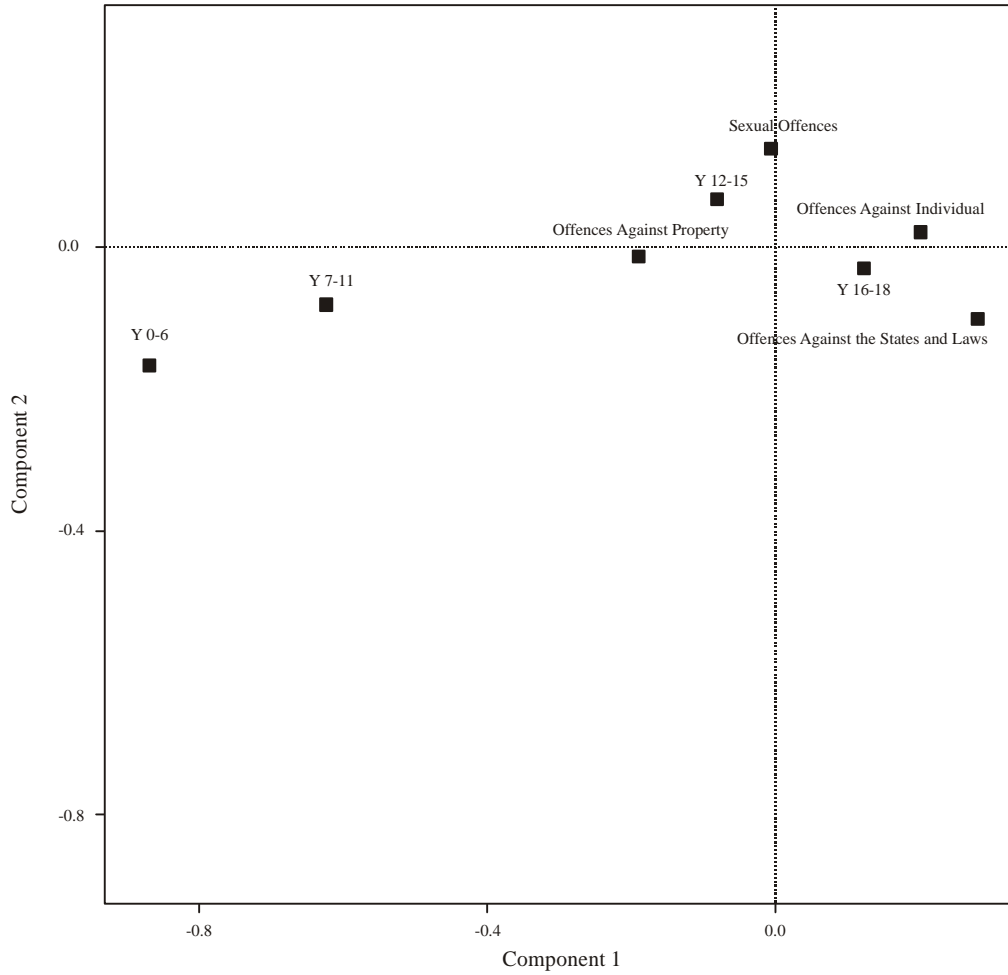
Chart 3: Row (offenses charged) and column (age groups) coordinates in distribution of offenses charged by age groups

the ones living with their mother, father siblings together with their wife and children of being involved in offences against the state and violation of laws, the ones living with their father and mother, mother and foster father, mother and brother, father and siblings of being involved in offences against property, the ones living with mother and siblings, mother and father of being involved in offenses against individual.

DISCUSSION

From the data presented above, it can be understood that reasons for the reception of juveniles by the security units, have increased, varied and differentiated in years. In 1997, while juveniles were received by the security units because of
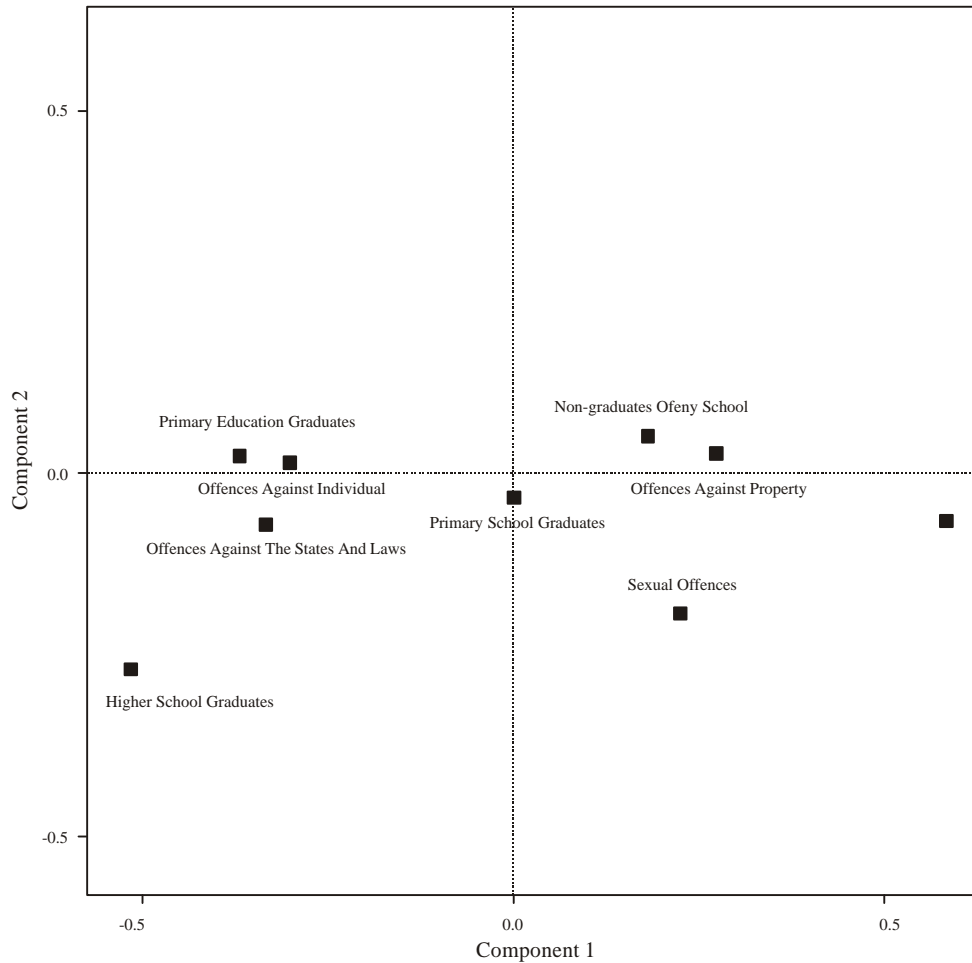
Chart 4:   Row (types of offenses charged) and column (educational status) coordinates in distribution of types of offences charged by educational status

being a suspect, in the following years the types of offences charged turned to being a victim, lost, leaving home and being abandoned. 1997 was a period when the initial effects of the economical crisis which took place in Asia were first observed in Turkey. After that, the Great Marmara Earthquake happened and the economic and financial crisis inflated in November, 2000 and February 2001 [4, 5]. Such events have negative impacts on society and the fabric covering it. As a result, it was found out that with the outbreak of 2001 crisis in Turkey, the families whose financial conditions were ruined, tended to give up providing education for their children [6]. When specifically evaluated from the children's perspective, negative external factors such as emigration, industrialization, rapid urbanization, economic crisis, family problems and education headed children' attention to activities that can be defined as delinquency [7].
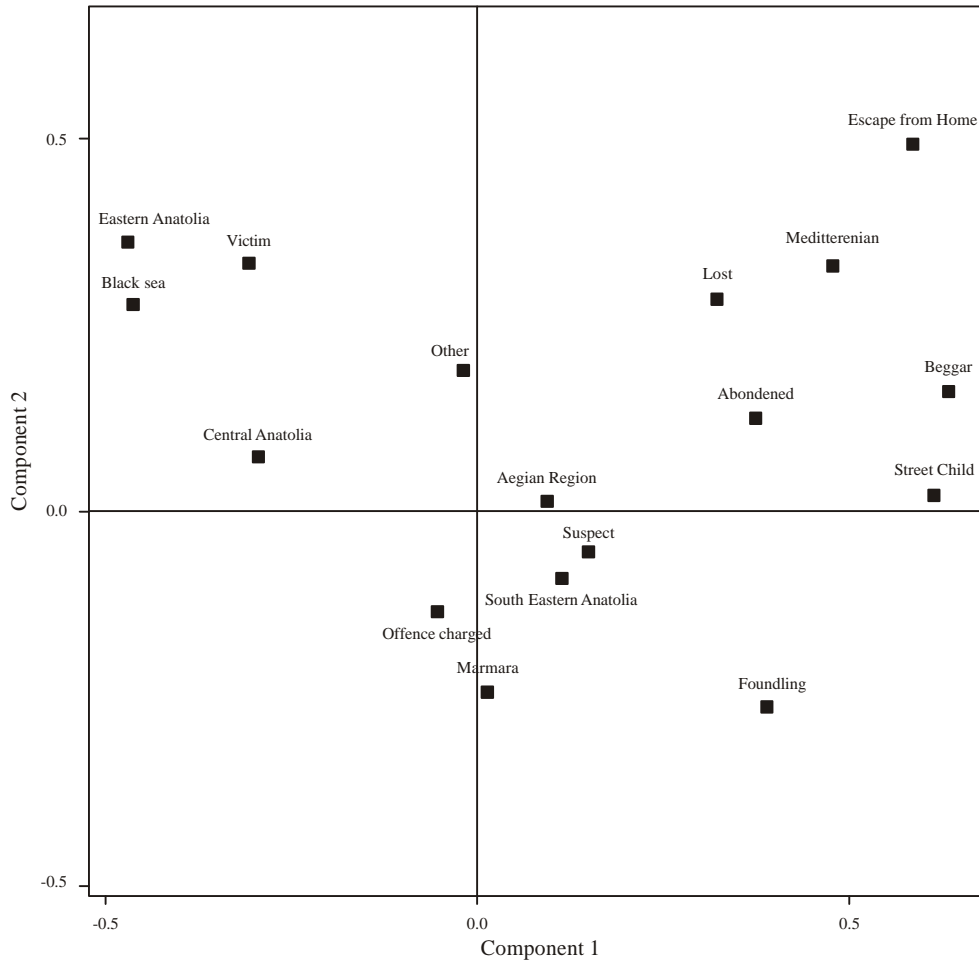
Chart 5: Row (reasons for reception) and column (geographical regions) coordinates in distribution of the reasons for reception by the security units by geographical reasons

Between the years 1997-2003, the reasons for the reception of juveniles by the security units according to age groups overlap with the previous research findings. For instance, it was found out that juveniles between the age of 16-18 were received by the security units because of being a suspect or a type of offence. The seven studies conducted between the years 1997-2003 indicate that 80% of the children who were convicted or oriented to delinquent behaviors were between 16-18 years old [8-11].

Likewise, in this study, it was found that juveniles between 16 and 18 years old were received by the security units because of the offences charged against individuals, against the state and violating the laws. The mentioned age group's educational status accounts for high school graduates and above levels. In the study, it was understood that high school
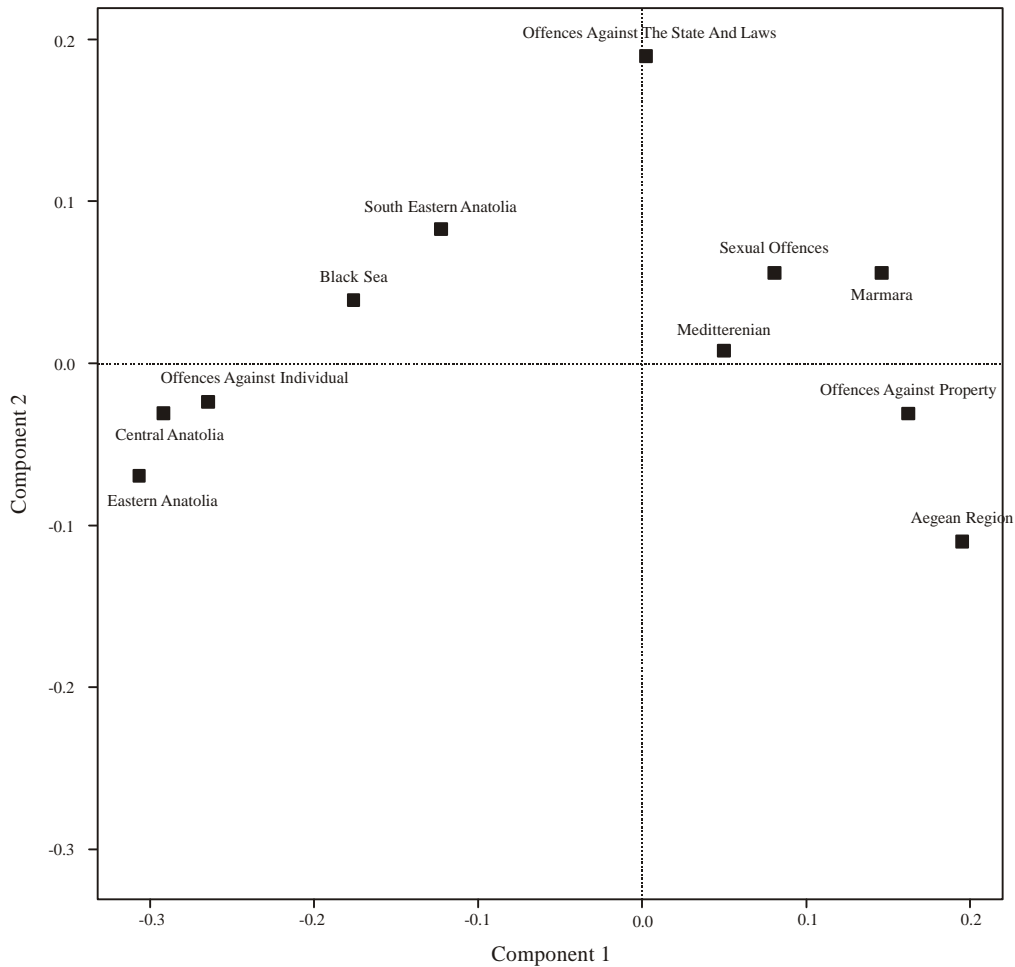
Chart 6: Row (types of offences) and column (geographical regions) coordinates in distribution of types of offences charged in Geographical Regions

graduate juveniles in terms of educational status were received by the security units because of offences charged against the state and laws. Offences against individuals account for "homicide", "attempt to homicide", "assault and battery". Offences against the state and violating laws account for violating the existing constitutional order. When these findings are analyzed in terms of children's development process, these ages are the ones when they are in need of multi-dimensional support most. Furthermore, these ages are the ones when juveniles are in a social, personal and identity conflict and depending on the factors this is also the period when they become successful or not. When age group, the types of offences charged and educational status are all considered together, it likely to say that parents up until the high school grade and maybe at later stages are not able to provide the necessary help during this period of conflict.
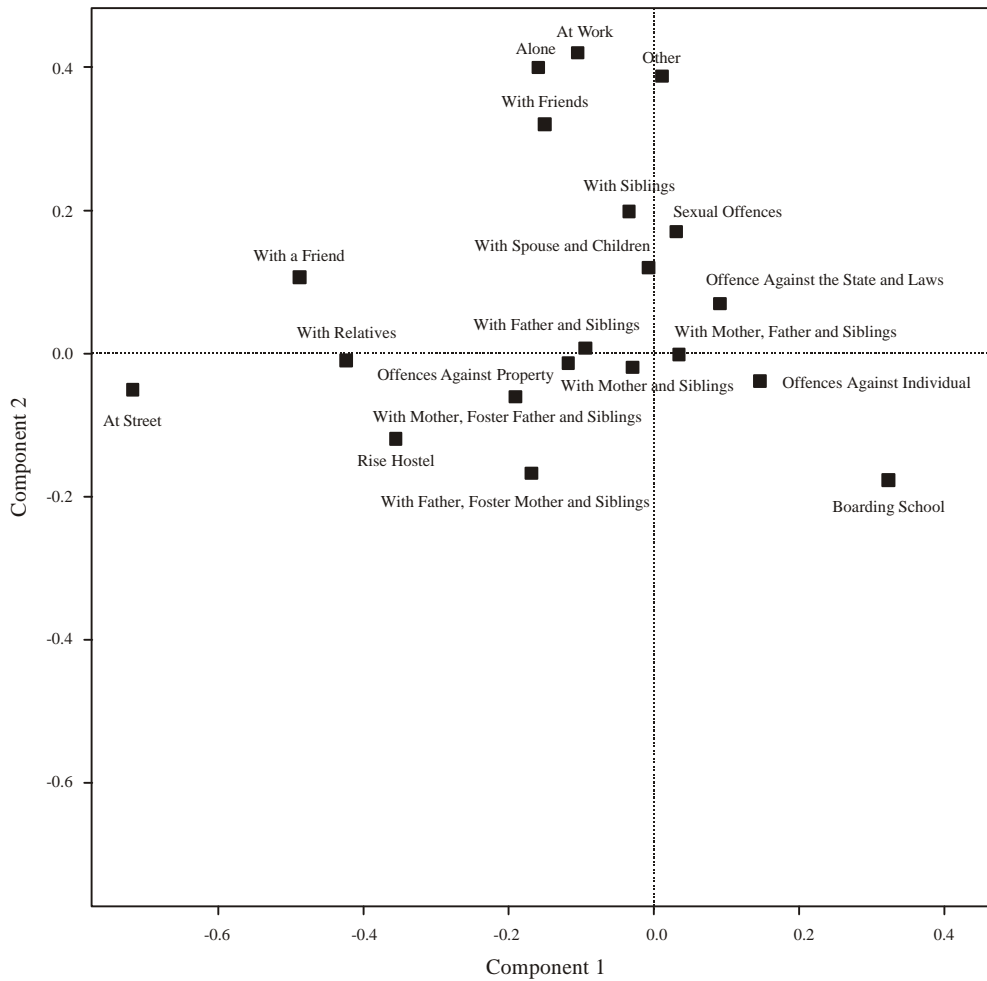
Chart 7: Row (where and with they live) and column / types of offences charged) coordinates in distribution of the types of offences charged according to where they and with whom they live

This finding indicates important clues for the relationship between age groups, possible delinquent behaviors and educational status. For instance, the most common reason for the reception of juveniles between 0-6 by the security units is because of being abandoned and offences charged against property. Juveniles between 7 and 11 years old were received by the security units because of begging, being street children and other reasons. As a result, due to the types of offences the juveniles of both age groups are involved in and the undesired consequences they are likely to face, they may be susceptible to physical, psychological, emotional, social and sexual abuse as well as health and educational risks.

In the light of the discussions made above, it is necessary that juvenile delinquency be evaluated within the framework of economic, social and political events and that the precautions be planned and decided upon within this framework. From another perspective, the data collected by the national agencies of statistics and other institutions should be provided to statisticians to let them conduct research and reach different clues on the issue within their topic of interest.

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