



Using discriminant analysis to study the discrimination issue of refugees and migrants from MENA region in European countries

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Abstract. *In the last years and after the arrival of a significant number of migrants, asylum seekers, and refugees. Foreigners from MENA region started facing numerous issues in the host countries. One of the major issues that the refugees and migrants are facing now adays is discrimination. As most of the studies exposes that this topic is recently debatable among the European governments. Likewise, the literature review on this matter shows that most of the European countries who welcomed refugees in large numbers were more able to understand and keep away factors that drive to discrimination. It is well known that are many factors that lead to discrimination such as the difference in nationalities, religion, and gender. Although there are different places where the migrants and refugees can feel discriminated for instance: public authorities, workplace, schools, and universities. Moving on to the methodology used in this paper is the quantitative method, we conducted an online survey distributed on refugees and youth migrants in both languages (English and Arabic) that are living in European countries. We tried in our survey to ask questions related to discrimination, in order to understand how they are dealing with this issue and to what extent is discrimination affecting them. For that reason, we used the discriminant analysis. the discriminant analysis feature is split into a 2-step process firstly is testing significance of a series of functions that most affect the migrations as the results of the discriminant analysis had shown us that the number of years lived in Europe was directly affected by discrimination, in addition to the classification. As using the discriminant analysis was an efficient way to study the main factors affected by discrimination.*

Keywords: MENA region, Migration, Discrimination, Refugees, Migrants, Discriminant analysis.

Introduction

The main feature of this paper is to climax on the discrimination of refugees and migrants that came from MENA region into the European countries, as it is knowledgeable that the European countries completely differs with respect to (culture, traditions, languages, and behavior).

Refugees and migrants who left their countries to escape from traumatic conditions, young people from refugees and migrant who have also been pushed out their country of

origin (Brough, et al. 2003; Ellis, et al. 2008; Fazel et al. 2005). As for some of the cases where may have been friends and families that left their home countries without even understanding their destiny, in their armed wars and civil disturbances, they have experienced home nation and temporary camps of settlement (Brough et al. 2003; Paardekooper, et al. 1999).

The refugees started landing in Europe since 2015, Europe has been struggling with a growing number of Asylum seekers. At the end of 2018, 2.4 million refugees and 860 thousand asylum seekers were hosted in the EU-27 Member States (UNDESA International Migration Report (2019). The Migration and the mobility of refugees and migrants into the European countries was one of the core factors that led to the coalescence and diversity of people's culture, and traditions.

This diversity and the mixture of people that was distributed over Europe the world started witnessing different issues such as barriers that asylum seekers and immigrants face when they came to Europe, integration issues, legal documents issues, difficulties in finding jobs, and matters in finding good housing conditions. Migrants and refugees came to European countries for different purposes such as seeking to have a good life conditions, going away from war, educational purposes, and finding job opportunities. This paper will be centralized on refugees and immigrants who came to European countries for education purposes and asylum seekers that left their countries because of War.

We conducted an online survey distributed on refugees and migrants in European countries. The aim of this survey was to compare two different groups of respondents that came to Europe for education purposes and because of war, while both factors will be related to discrimination. Using the discriminant analysis method, where the variables are the purposes of leaving the home country and other factors that affect discrimination which will be listed in the paper.

The structure of the paper will be branched as follows: first section we show the Literature review regarding the discrimination of migrants and asylum seekers, how did those groups affect by this issue. As in section two we will be displaying the methodology of by using the discriminant analysis. In section three will be displaying the sample study. lastly, we will discuss the analysis of the study results we come up with, and finally a brief conclusion.

Literature review

When Europe started to receive massive number of refugees and migrants in the twenty centuries, multiple groups of people from different backgrounds started meeting each other. Migration was the beginning of ethnic, cultural, and religious diversity. Researches has shown that meaningful face to-face interaction between members of the majority and minority groups is the most efficient ways to minimize inequality between groups and encourage social integration (Pettigrew, et al. 2006)

The first and the very common factor to distinguish two persons is the difference in languages they speak. As Extensive research has shown that language can be intended to play a role in transmitting and maintaining intergroup discrimination (Maass, 1999; Maass, et al. 1996; Reid, et al. 1999). Researchers have argued, as far as language literacy is concerned, that a common language is part of a national identity and that immigrants who are unable to speak their host country's language can pose a threat to host citizens (quoted in Schwartz, et al. 2010).

Discrimination started to emerge when refugees and migrants started settling to prepare for their new lives, many of the migrants started witnessing discrimination on different levels such public authorities, migrants who were leaving their countries for educational level they were discriminated in the schools and universities. Studies has shown that there was migrants and refugees that were discriminated upon their gender too.

The experience and consequence of racism during armed conflict is obviously a gendered experience: male teenagers are the majority of those killed or "disappeared." This applies to refugee groups, the majority of which are women and their dependent children, who have been subjected to serious physical abuse in general. UNCHR, "Guidelines on Preventing and Responding to Sexual Violence against Refugee Women" (Geneva: UNCHR, 1995). Other researches stated that there are a wide variety of ways and cases of direct discrimination that reached the housing condition of most refugees and migrants. For instance, an evidence of overt discrimination was reported from Spain, "In the use of ads by landlords reporting" National entities only "or" We do not lease to non-EU foreigners. In some of these cases, the agents claimed that they were carrying out the owners' wishes (NFP Spain Housing Report 2003, p. 32). As the prices of the accommodation was higher for non-EU people compared with the EU citizens.

Conjointly asylum seekers and immigrants which are considered as outsiders in migrant countries, started to become part of a community of disadvantaged or lower status, subjected them to the risk of being discriminated crimination (Major, et al. 2013) face discrimination in the workplace.

As it is known that the non-EU citizens will be paid less than the EU citizen, as also the legal documents that they have play an important role in finding suitable job opportunities. Besides that, the foundation of economic growth and prosperity in many nations is migrant workers. Migrant employees are foreign nationals who work in professional and unskilled jobs outside their country of origin. Finding better economic prospects than the country of origin is a common reason for migration (Talib et al. 2012).

At any stage of the employment lifecycle, discrimination against migrant workers will occur of the two migrant parties, the unqualified group of employees were found to be more vulnerable to discrimination (Mallender et al. 2014) this is because unskilled employees prefer to focus on markets that are vulnerable to the market cycle and are thus more likely to be impacted. The types of prejudice they witnessed include bullying. at college (Hogh et al. 2011), sexual abuse (Rospenda, et al. 2009), when area employees take days off, they are the most likely to be called to work over the holiday (Stevens, et al. 2012). Racism, mistreatment and inequality precarious situations at work (Agudelo-Suárez et al., 2009) among the migrants' employees. All the points mentioned above strongly affect the integration and adaptation process of migrants and refugees.

In the following section we will be particularizing the questions that were addressed to the refugees and migrants from MENA region, and after that analyzing and displaying the research mechanism of the study.

A discriminate analysis is used to distinguishing between two or more groups, which were similar in many characteristics on the basis of several metrics (variables) through the use of the characteristic function. In our case they are refugees and migrants who left their countries because of war and educational purposes. The classification process is the right process after the formation of the characteristic function, where this function is used to

predict and categorize the new viewing of the groups under study with the lowest possible classification error.

Moreover, multivariate analysis of Variance (MANOVA) is reserved by discriminant function analysis. The independent variable in MANOVA are the groups and the predictors are the dependent variables. In the discriminant analysis the predictor is independent variables and the classes are the dependent variables. In the following portion of the paper, we will be presenting the methodology of our study.

Methodology

As mentioned prior in the introduction the fundamental scope of this study is to show how discrimination affect the refugees and immigrants who left their home countries and came to the European countries to seek for a good life conditions away from war and the group of people who came for educational purposes by using a cluster analysis of a sample conducted online.

The questionnaire was compromised of 32 question covered several topics such as (integration, barriers, employment status, education, legal status, discrimination, health insurance, and finally the recent and the global issue the world is facing COVID-19) those topics were consigned to two different groups refugees and migrants stated in different European countries. The total number of answers were 500 and the period when we distributed the questionnaire was between 10th May until the 31th of August. As we only extracted the questions related to discrimination. The total number of questions related to the topic were 9 questions. The first group of questions interpret the portfolio of the respondents (age, gender and nationality). The fourth question was about the reason of leaving the home countries, in our case we chose only two variables war and education. Moving on the fifth question the respondents were asked with whom did they managed to come (family, friends, or alone). The sixth question was asked regarding the country of stability as we focused on seven European countries which are (Romania, Belgium, Sweden, France, Germany, and lastly Turkey) as this question is absolutely vital since the policies, and constitutional laws differs from one country to another and how they are dealing with discrimination of refugees and migrants in their countries. Furthermore, the respondents were asked on how many years they had been in the European Union since it is obviously visible that persons who came to European countries 10 years ago, they already passed through obstacles and they are used to the local citizens, environment, culture and traditions compared to the person that they recently came and they are facing loads of issues and dilemmas in the host countries. Besides those questions we asked the respondents to answer how often do they feel discriminated because of their nationality and the options were (Never, sometimes, often, and always). Ultimate question was about where do those two groups feel most discriminated is it in the workplace, schools, universities, neighbors, public authorities, landlords, and social services personnel. The most important statistical part applied on this study is Discrimination analysis where we used SPSS software to apply our method which is considered an important topic in multivariate analysis that contributes to how two or more groups are distinguished. The basic idea of discriminate is to differentiate between overlapping or interlocking societies (refugees and migrants) that have the same characteristics or characteristics,

Research questions: we will explain the data we obtained in this paragraph so that can be interpreted easily.

First question: What is your nationality? Introduce X1

Second question: what is your gender? Introduce X2

Third question: What is your year of birth? Introduce X3

Fourth question: What are the reasons for you to apply for Asylum/Migration? Introduce X4

Fifth question: With whom did you came to Romania/Europe? Introduce X5

Sixth question: What is the country of your stability now? Introduce X6

Seventh question: For how many years have you been in Romania/Europe? X7

Eighth question: How often do you feel discriminated in current country because of nationality? Introduce X8

Ninth question: Did you feel discriminated in relation with? Many answers are possible introduce X9. (equation. no.1)

$$\text{likeness} = \frac{\sum_{i=1}^p \left[\frac{\lambda_i^2}{\frac{\sigma_{i1}^2 + \sigma_{i2}^2}{n_1 + n_2}} \right]}{p} \quad (1)$$

Where: $\sigma_{i1}^2, \sigma_{i2}^2$ for variance (i)

$i = 1, 2, 3 \dots p$. represent the adjectives using n_1, n_2 the sample size as the following: (equation. no.2)

$$\lambda_i = \bar{x}_{1i} - \bar{x}_{2i} \quad (2)$$

Where $\bar{x}_{1i} - \bar{x}_{2i}$ represent the mean for i .

The researchers had used a modern scale to measure distances between centers of two communities. He called this scale a scale (γ^2) and called Mahalanobis distance, and its formula is as follows:(equation. no.3)

$$\gamma^2 = (p^{-1}) \left(\sum_{i=1}^p \frac{\bar{x}_{1i} - \bar{x}_{2i}}{\sigma_i} \right) \quad (3)$$

σ_i : repercent the divention for i can writ as matrix as the following: (equation. no.4)

$$\lambda^2 = (\bar{X}_{1i} - \bar{X}_{2i})' S^{-1} (\bar{X}_{1i} - \bar{X}_{2i}) \quad (4)$$

Where: S^{-1} discernment function parameters.

The statistical function T^2 which addresses the problem of making a decision about the two samples whose distribution is multivariate in nature and has the same matrix of covariance. The formula for this indicator is:

(equation. no.5)

$$T^2 = \sum \sum \left(\left(\frac{1}{n_1} + \frac{1}{n_2} \right)^{-1} \right) (S_{ij}^{-1}) (\lambda_i \lambda_j) \quad (5)$$

While the linear function linear characteristic function to reach the highest field of separation between two societies dependent on the same source by using a number of variables related to the classification and this is the first real distinction process to classify the singularity into one of the two societies and define the linear discriminant function as follows: (equation. no.6)

$$\gamma = \vartheta_1 x_1 + \vartheta_2 x_2 + \vartheta_\rho x_\rho \quad (6)$$

Results and discussions

Discriminate analysis" is an important topic in multivariate analysis that contributes to how to distinguish between two or more groups. The basic idea of discriminate analysis is to differentiate between overlapping or interlocking societies that have the same characteristics or qualities, in other words to assume that we have two or more communities and we have a sample containing a collection of observations from each community. This function of the distinctive analysis is to find a function by which new views can be categorized or distinguished to their communities of origin, the first idea was to distinguish between different communities based on the similarity of things of the researcher "Karl person" in 1921 by measuring the statistical distance between the two samples. The coefficient is called racial likeness. Applying the above information on our study, we indicated that the refugees and migrants are the 2 communities that came to Europe either for educational purpose or escaping from war. The variables that we used X1= nationality, X3= year of birth, and X9= related to where the migrants and refugees feel discriminated the most are equal to zero which means they do not affect directly. While X7 which is equals to how many years are the immigrants and asylum seekers they do affect as they are greater than 0.05. as shown in (table no. 1).

Moving to (table no. 2) we listed the variables from the most to the least important variables. The most important variable was X1= what is the nationality, after that the year of birth which indicates X3. Going further X9 was on the third level of the list which indicates where do the migrants and refugees feel discriminated the same. Additionally, X7 was listed as the fifth level on the list which indicates for how many years have the migrants and refugees have been in Romania/ Europe. the least important variable was X8 which indicates g how often the migrants and refugees feel discriminated.

Table no 1. Equality Teste of Group Means

Variables	Wilks' Lambda	F	Sig.
x1	.782	58.448	.000
x2	.992	1.724	.191
x5	.985	3.164	.077
x6	.999	.132	.717
x7	.981	4.153	.043
x8	1.000	.024	.877
x9	.902	22.822	.000
x3	.798	53.083	.000

Source: Authors' own research.

Where: F: F test; Sig: significance

We can analyze from the table that X1, X3, and X9 are equal to zero which is less than 0.05. While X7 also equals to 0.05 but equals to 0.43 also, which means that X7 has a direct effect on the variables.

Table no 2. Structure Matrix

	Relative importance
x1	.662
x3	-.631-
x9	.414
x7	.176
x5	.154
x2	.114
x6	-.031-
x8	.013

Source: Authors' own research.

According to the above table we listed in order the variables from the most important to the least importance. As X1 is the most essential among the other variables, which equals to 0.662, while X3 equals to 0.631, and X9 is equal to 0.414. As we can see the rest of the variables are not with the same level of importance as X1.

Conclusion

In spite of all, and to conclude this study paper we can say that the discrimination is a vital topic which appeared in Europe when the number of migrant's and refugees started to arise. Unfortunately loads of non-EU citizens are feeling discriminated in different places in the host countries. As mentioned in the paper that the laws and policies of each European country differs from one to another which may not balance to give an accurate result that discrimination is being resolved. It will always appear a room for discrimination despite the European country. In our research, it is important to note some circumspection. We used

The discriminant analysis, and the different functions are first evaluated for statistical significance, when interpret multiple discriminating functions, which emerge from studies of more than two classes and more than one continuous variable. If the functions are statistically relevant, then based on predictor variables, the categories can be distinguished, for each significant function, standardized b coefficients for each variable are computed. The larger the standardized coefficient, the greater the specific contribution of the respective variable to the discrimination defined by the discriminant function.

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