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Evaluating Active Labour Market Policies in Türkiye by Regions via Multidimensional Scaling and Clustering Analysis

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ABSTRACT

Unemployment causes significant problems in society and governments develop different policies to mitigate unemployment. Active labour market policies (ALMP), which are among such policies, constitute crucial instruments for the re-adaptation of the unemployed to the labour markets. However, significant social groups and regional differences occupy an essential role while formulating the programmes. Moreover, economic, cultural, and political factors are also effective in labour force participaction rates. Therefore, regarding the participation of social groups such as women, youth, and disabled individuals in employment, ALMP represents a policy instrument that enables a connection between the needs of the labour market and the demands of these groups. The factors affecting the structural characteristics of employment are also applies to regional differences, and many factors ranging from economic development levels of regions to cultural differences have an impact on participation in ALMP programmes. In this study, regional similarities and differences of female, male, and total participation in ALMP programmes in Türkiye according to NUTS-I classification are examined using multidimensional scaling and K-means clustering analysis. Given the importance of the differences between women and men in participation levels in employment, relevant analyses have also been carried out focusing on gender differentiation at the regional level. According to the results of the study, it is observed that Southeast Anatolia (TRC) is significantly separated from other regions in terms of total participation rates. On the other hand, when participation rates are analysed based on unemployment, different regional clusters are encountered and the West Black Sea Region (TR8) is differentiated from other regions. Moreover, different clustering patterns are also observed at the regional scale in the participation of women and men in the programmes.

Keywords: Active Labour Market Policies, Unemployment, Multidimensional Scaling Analysis

Türkiye'de Aktif İşgücü Piyasası Politikalarının Bölgelere Göre Çok Boyutlu Ölçekleme ve Kümeleme Analizi ile Değerlendirilmesi

ÖZ

İşsizlik toplumda önemli sorunlara yol açmakta ve devletler işsizliği azaltmak için farklı politikalar geliştirmektedir. Bu politikalar arasında yer alan aktif işgücü piyasası politikaları (AİPP), işsizlerin işgücü piyasalarına yeniden uyum sağlamaları için önemli araçları oluşturmaktadır. Bu programların hazırlanmasında sosyal gruplar ve bölgesel farklılıklar önemli bir rol oynamaktadır. Ayrıca ekonomik, kültürel ve siyasi faktörler de işgücüne katılım oranlarında etkili olmaktadır. Dolayısıyla kadınlar, gençler ve engelli bireyler gibi sosyal grupların istihdama katılımı açısından AİPP, işgücü piyasasının ihtiyaçları ile bu grupların talepleri arasında bağlantı kurulmasını sağlayan bir politika aracına işaret etmektedir. İstihdamın yapısal özelliklerini etkileyen faktörler bölgesel farklılıklar için de geçerlidir ve bölgelerin ekonomik gelişmişlik düzeylerinden kültürel farklılıklara kadar pek çok unsur AİPP programlarına katılım düzeyini etkilemektedir. Bu çalışmada, İBSS-I sınıflandırmasına göre Türkiye'de AİPP programlarına kadın, erkek ve toplam katılımın bölgesel benzerlik ve farklılıkları çok boyutlu ölçekleme ve K-ortalamalar kümeleme analizi kullanılarak incelenmiştir. İstihdama katılım düzeylerinde kadınlar ve erkekler arasındaki farklılıkların önemi düşünüldüğünde, ilgili analizler ayrıca bölgesel düzeyde cinsiyet ayrımına da odaklanılarak gerçekleştirilmiştir. Çalışmanın sonuçlarına göre, Güneydoğu Anadolu Bölgesi'nin (TRC) toplam katılım oranları açısından diğer bölgelerden önemli ölçüde ayrıldığı görülmektedir. Öte yandan, katılım oranları işsizlik temelinde incelendiğinde farklı bölgesel kümelenmelerle karşılaşılmakta ve Batı Karadeniz Bölgesi (TR8) diğer bölgelerden farklılaşmaktadır. Ayrıca, kadın ve erkeklerin programlara katılımında da bölgesel ölçekte farklı kümelenme örüntüleri gözlenmektedir.

Anahtar Kelimeler: Aktif İşgücü Piyasası Politikaları, İşsizlik, Çok Boyutlu Ölçekleme Analizi

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Introduction

As in many other countries, the problem of unemployment in Türkiye is a multidimensional socioeconomic problem. The unemployment phenomenon is influenced by various factors, including labor force participation, the economy's capacity to create jobs, and overall employability. To overcome unemployment, governments are implementing various labour force programmes such as vocational training programmes, programmes to increase labour market flexibility, entrepreneurship promotion programmes, public sector job creation programmes, support and counselling services.

These policies, which aim to prevent unemployment, increase employability and strengthen the labour market, need to be well coordinated and effectively organised. The process of implementing these policies is shaped within a structure formed by national, regional, and local networks. Along with national indicators, regional differences are also an important determinant in terms of employment processes. Therefore, identifying regional differences and similarities within the framework of active labor market policies (ALMP) is crucial for developing more effective strategies. Within the scope of this study, it is aimed to examine the regional similarities and differences of the ALMP programmes carried out by Turkish Employment Agency (İŞKUR). Within this framework, multidimensional scaling analysis, which is used to obtain quantitative estimates of similarity between groups of items (Hout *et at.*, 2013: 93), and K-means clustering analysis, which clusters the relations between objects, were used in the study. According to the NUTS-I regional classification in Türkiye, a comparison of the regions in terms of women, men, and overall total within the scope of participation in ALMP programmes (Vocational Training Courses and On-the-Job Training Programmes) carried out by İŞKUR was made and their positions were mapped according to their similarities and differences. The data used in the study were obtained from the 2022-İŞKUR statistical yearbook and analysed with R 4.0.3 software. In addition, the fact that there are significant differences in employment participation rates for men and women in accordance with structural effects makes it necessary to conduct the relevant analyses in a gender-sensitive manner within the regional framework. Therefore, while examining ALMPs at the regional level, analyses have also been carried out by focusing on gender differentiation.

In this context, first, the characteristics and effectiveness of active labour market policy programmes at various levels are discussed, followed by an assessment of the institutionalisation process and general outlook of the programmes in Türkiye. Finally, regional analyses were made according to the ratios obtained from both the number of participants of the programmes and the number of unemployed, and the locations of the regions were mapped and the related ones were grouped. Thus, within the context of active labour market policies, it has become possible to evaluate regional outlooks and similarities in terms of both programme participation and unemployment.

Active Labour Market Policies: Concept, Development and Policies in Türkiye

Unemployment constitutes one of the most important problems in social life and creates problems for different levels of labour categories. Therefore, states define many different policy instruments to reduce unemployment and aim to eliminate the problems caused by it. Active labour market policies offer a wide range of policies that constitute crucial instruments for the reintegration of the unemployed into the labour markets. In this regard, within the scope of this sub-section, first, active labour market policies will be defined and the effectiveness of the programmes will be evaluated, and then the ALMP instruments in Türkiye will be elaborated.

Conceptual Framework, Implementations and Effects of Active Labour Market Policies

The phenomenon of unemployment points to an important problem area not only for the unemployed individual but also for society. In this context, it is pointed out that unemployment as a social problem is global, structural, persistent, and extensive and among the main causes of unemployment, factors such as the globalisation process and technological change are emphasised (Koray, 2012: 175). In addition, it is pointed out that unemployment has many various features according to countries and regions and is affected by different micro and macro factors (Lordoğlu & Özkaplan, 2007: 380).

Unemployment is defined as *"a situation in which the main factor of production, 'labour', is not fully utilized"* (Biçerli, 2014: 427), and the unemployed basically refers to those who have the desire to work and the action of searching for a job but are unable to be employed (Lordoğlu & Özkaplan, 2007: 379). The Turkish Statistical Institute (TÜİK) makes a similar definition and defines unemployed as *"all non-institutionalized persons of working age who have used at least one of the active job search channels in the last four weeks to look for a job and who are able to start work within two weeks"* (TÜİK, 2024a).

Unemployment has an impact on the social existence of individuals, and social risks such as poverty and sickness pose a significant danger to these individuals (Deacon & Patrick, 2012: 324). Moreover, although unemployment is a personal situation, its consequences extend its impact on the social dimension as it affects families. Individuals may face physical or psychological illnesses due to unemployment, long-term unemployment may lead to loss of skills, weaken the sense of social belonging, and increase the risk of social exclusion (Tokol & Alper, 2014: 128-129). Due to its results, unemployment is an extremely crucial problem at social level and defines an area of intervention within the scope of social policies for states (Acar & Kazancı Yabanova, 2017: 88). Active labour market policies (ALMPs) are one of these intervention tools, referring to the whole set of public policies aimed at eliminating the effects of unemployment. In the most general framework, ALMPs can be defined as improving

the employment opportunities of the unemployed and ensuring adequate job placement (Kasapoğlu & Murat, 2018a: 486). Thus, ALMPs characterise policies that aim to increase the employability of the unemployed without direct financial support (Kapar, 2005: 344).

ALMPs include programmes such as counselling, placement services, vocational training programmes, private sector incentive programmes and job creation programmes, and these programmes target social groups such as women, young people, the long-term unemployed and migrants (Uşen, 2007; Erol, 2013). A multitude of programmes addressing ALMPs are organised in a wide range of categories, including training programmes, wage subsidies, matching services, and public work programmes. Vocational training programmes are designed to address the need for upskilling among individuals whose skills may be inadequate due to technological transformation. These programmes aim to facilitate the re-employment of individuals whose skills may be insufficient due to technological transformation. Another active labour market policy is wage subsidies. The objective of wage subsidies is to reduce the employment costs of specific groups to employers during periods of unemployment and to enhance the employability of these groups. Furthermore, programmes that encourage the unemployed to become entrepreneurs by facilitating the establishment of their own businesses are regarded as active labour market policies. Through these programmes, individuals may be provided with opportunities such as counselling, training, and tax incentives. Another component of ALMP programmes is direct public employment programmes, which are institutionalised in Türkiye as "Public Work Programmes". In these programmes, the objective is to enable the unemployed to generate income through short-term work, particularly during periods of high unemployment (Kasapoğlu & Murat, 2018a: 488-490). Unlike other ALMP instruments, programmes involving direct public employment are defined as "last resort" programmes, especially for groups whose employment cannot be provided by existing policies (Biçerli, 2014: 512). Even if these programmes are described as relatively costly programmes, they can be shown as a tool to eliminate poverty, especially for groups and periods that require urgent intervention (Brown & Koettl, 2015: 26).

In this regard, ALMPs prioritise the re-employment of individuals who are located outside the labour market in groups and regions affected by unemployment (Guzmán, 2014: 4). Furthermore, considering the unemployment-reducing effect of training programmes (Borjas, 2015: 584), it is stated that ALMPs developed on the basis of training can be considered as a tool in the mobility of individuals within labour markets and in eliminating structural unemployment (Biçerli, 2005: 9). These characteristics also make ALMPs a tool for restructuring labour markets.

The role of ALMPs in the restructuring of labour markets can be observed historically in the transformation of the features of the programmes. ALMPs have been on the agenda since the 1950s, but have reached their main operational area after the 1980s (Uşen, 2007: 66; Immervoll & Scarpetta, 2012). ALMPs play an important role especially in the economic restructuring processes of the 1990s and aim to bring together the actors of the labour market through public employment services (Kuddo, 2009). It is emphasised that the transformation in policies also refers to individual responsibilities developed within the framework of neoliberal policies. Thus, these programmes have a significant framework in the context of active citizenship and the transformation of the welfare state, and ALMPs describe a means of intervention in socio-economic problems that arise due to this transformation (Haikkola, 2019: 335; Işığıçok & Emirgil, 2009: 218).

In this context, the differentiation of policies is closely linked to the transformation of welfare state policies. ALMPs have a distinct place within the framework of flexibility policies; moreover, these policies are designed simultaneously with the restructuring of labour markets along the lines of flexibility (Haapanala, 2022; Bolukbasi & Ertugal, 2013). Flexibility in this area can be effective not only in terms of programmes or the structure of the labour market, but also at the governance level. Thus, it is noted that programmes organised flexibly at local level and involving many different social actors can generate positive results (Damgaard & Torfing, 2010).

The dynamic structure of the programmes has led to the transformation of the target groups. While the programmes focused on fulfilling the need for qualified labour in the 1950s, in the 1990s, the programmes shifted their focus to the employability of disadvantaged groups (Bayrakdar, 2019: 341). After the 1990s, it is noted that the scope of the programmes has been formed to cover broader groups (Immervoll & Scarpetta, 2012: 2). This situation causes ALMPs to present various forms as dynamic policies both historically and in terms of employment strategies.

Bonoli (2010: 441) categorises ALMPs in terms of their impact on employment orientation and human capital and describes their effects as strong or weak. As a result of the classification, incentive programmes among ALMPs are generally categorised as strong programmes in terms of employment orientation without any impact on human capital. Public employment programmes and non-employment-related training programmes are characterised as weak programmes in terms of both employment orientation and human capital impact. Employment matching and counselling services define programmes that are weak in terms of human capital investment but strong in terms of employment orientation. Finally, employment-oriented vocational training programmes that indicate an increase in skills are categorised as strong programmes in terms of both classifications.

ALMPs have two main functions in employment increase: individual and market-oriented. First, ALMPs aim to prevent the unemployed from leaving the labour market. Maintaining links with the market is ensured

through factors such as creating employment in times of recession and increasing the qualifications of individuals through training programmes. Secondly, it aims to eliminate imbalances between labour supply and demand in the long run (Calmfors & Skedinger, 1995: 94). In this context, it is stated that ALMPs serve two main functions, economic and social, and it is argued that while the elimination of unemployment and labour productivity are central at the economic level, socially, it is aimed to create a participatory and inclusive social structure (Kuddo, 2009: 39).

ALMPs are essentially expected to have an impact on labour supply/demand and the efficient functioning of labour markets, but the effectiveness of programmes at different degrees is controversial (Uşen, 2007: 68). In addition, programmes also involve significant financial costs. This makes impact evaluations and monitoring processes of programmes crucial (Kuddo, 2009: 40). In fact, in several studies evaluating the effectiveness of programmes, various results are encountered. For example, Kluve (2010), examining 137 programmes in 19 countries, states that training programmes are effective to a limited extent and the most significant effects are observed in programmes that include practices such as employment counselling and wage subsidies. On the other hand, it is emphasized that programmes involving direct public employment have negative effects.

Similarly, a study analysing 97 studies conducted between 1995 and 2007 (Card *et al.*, 2010) also highlights the differences between the short- and long-term effects of ALMPs. Among the programmes examined in the study, training programmes are described as ineffective in the short term but effective in the medium term. In addition, the study finds that job creation support services have a positive impact on employment, while public employment programmes are defined as less effective programmes. ALMPs indicate a diversified pattern depending on the structural features of countries' labour markets and the limitations of public employment services (Immervoll & Scarpetta, 2012). As a result of the different outcomes of the programmes, it is not possible to establish a single valid model for countries (Kasapoğlu & Murat, 2018a: 500).

Therefore, while analysing ALMPs, structural problems, micro, and macro indicators of different countries are deemed to be of utmost importance. It is underlined that ALMPs alone will be insufficient in eliminating structural problems in the labour market (Erdil Şahin & Sevimli, 2013; Biçerli, 2005). In fact, O'Higgins (2001: 119-120), who highlights the inadequacy of the results of ALMPs in terms of youth unemployment in the UK, cites the lack of a proper definition of the problems, the inadequacy of monitoring and evaluation processes, the design of training programmes that are far from providing universal qualifications, the lack of involvement of the various social partners and the inadequate identification of the target group. It is pointed out that ALMPs are complementary policies that should be regulated together with other policies, and it is stated that programmes defined in a holistic framework can create effective tools in the relevant problem areas (Kapar, 2005: 335; Acar & Kazancı Yabanova, 2017: 90).

ALMPs have three main direct effects on labour markets: the establishment of an effective matching mechanism, the emergence of an improved labour supply and an increase in labour demand (Brown & Koettl, 2015: 5). Thus, ALMPs refer to a wide range of programmes, from the continuation of existing employment relations to the creation of new areas of employment. However, ALMPs also have indirect effects on the labour market, which makes it necessary to evaluate the effectiveness of the programmes in a much more complex structure. Providing employment incentives to certain groups within the scope of the programmes may have an impact on the employment of the groups which are excluded from these incentives, while the fact that the incentive mechanisms are subject to regulations that involve significant sanctions for employers may result in these groups not being preferred as employees. The indirect effects of programmes can be grouped under several headings. Firstly, it is possible to observe a phenomenon known as deadweight loss when groups that would have been employed even in the absence of ALMPs are employed within the scope of the programmes. Secondly, the substitution effect may occur, whereby the employment of groups with incentives may be preferred over other groups, in which case the long-term employment effect is zero. In addition, by selecting the most employable candidates for participation in the programmes (selection bias), controversial results can be obtained on the effectiveness level of the programmes (Fay, 2009: 43; Brown & Koettl, 2015: 5; Kuddo, 2009: 46).

Furthermore, depending on the perception of being unemployed in social life, the risk of stigmatisation may arise for individuals participating in these programmes, and participants may encounter issues in their employment processes in the following periods (Biçerli, 2014: 499). In addition to these effects, individuals may not prefer mobility from regions where programmes are implemented to regions where labour demand is high or may lead to a decrease in the general wage level due to the increase in labour supply (Akbaş, 2017: 45). Consequently, programmes aiming to protect certain groups may both indirectly have negative consequences for those who are not included in the programmes and may also have controversial consequences for the disadvantaged groups they directly aim to protect.

Active Labour Market Policies and Institutional Context in Türkiye

The Turkish Employment Agency (İŞKUR) is responsible for implementing ALMPs in Türkiye. The agency, which commenced operations in 1946 as the "Institution of Providing Jobs and Employees (IPJE)" within the scope of public employment services, has essentially served as an intermediary in the labour market. The socio-economic changes experienced on a global scale in the 1980s necessitated the restructuring of this institution. In 2000, the IPJE was closed down and the "Turkish Employment

Agency (İŞKUR)" was established in accordance with the Statutory Decree No. 617 (İŞKUR, 2024a). After its establishment, İŞKUR gained its legal basis with the Turkish Employment Agency Law No. 4904 enacted in 2003, and its efficiency in the labour market has expanded in the direction of conducting active and passive policies in addition to its previous roles (Uşen, 2007: 84). In addition, these policy processes were shaped on the basis of social dialogue and had an organizational structure involving many different institutions and actors (Kasapoğlu & Murat, 2018a: 491). As a result of this transformation, it is pointed out that İŞKUR has a more systematic approach in terms of policies and its institutional capacity has been strengthened in line with the projects developed in the European Union (Bolukbasi & Ertugal, 2013: 243).

ALMPs organised within İŞKUR in Türkiye appear in various forms similar to the examples described above. Within the scope of active labour market policies, İŞKUR organises basic vocational training programmes, on-the-job training programmes, projects for people with disabilities and ex-convicts, vocational training of employees and public work programmes. It is also stated that İŞKUR conducts "labour market needs assessments" and provides consultancy services (İŞKUR, 2024b). Although different requirements and working processes are defined for each programme, vocational training programmes and on-the-job training programmes need to be elaborated as they provide the main set of data for the analysis presented in this study.

Considering the connection between qualifications and employment, training programmes targeting the development of new qualifications constitute valuable examples in terms of ALMPs. In this context, policy instruments including both vocational training and on-the-job training programmes have an impact on employability by contributing to the acquisition of new skills or updating existing skills (Şen, 2016; Acar & Kazancı Yabanova, 2017). A comparable programme structure is evident in the context of the İŞKUR. A significant number of ALMPs defined by İŞKUR are organised in a way that prioritises training and focuses on the employability of individuals through upskilling.

Vocational Training Programmes (VTP) aim to improve the employability of those who do not have a profession or who want to improve their skills in the field relevant to their profession. In order to participate in the courses, conditions such as being registered unemployed, being over the age of 15, not having completed the programmes organised by the agency in the same profession, benefiting from counselling services and not being retired are sought. The courses are designed for a minimum of 5 and a maximum of 8 hours per day. It lasts a maximum of 160 days, maximum 6 days a week. A certain level of expenses and insurance of the participants in vocational training programmes are covered by the agency and participants are not charged for the training programmes (İŞKUR, 2024c). On-the-job training programmes (OTP) have similar conditions to vocational training courses in terms of participation and can be designed to last no more than 45 hours per week. Although their duration is variable, it is stated that the programmes can be extended up to 9 months for young people between the ages of 18-29 in fields such as software/IT, which are described as "professions of the future" (İŞKUR, 2024d). Therefore, before moving on to regional level analyses, the next sub-heading will detail the general structure of ALMPs in Türkiye, especially in terms of VTPs and OTPs.

General Overview of Active Labour Market Policies in Türkiye

Unemployment represents one of the significant socio-economic challenges in Türkiye, along with the problem of employment creation. The prevalence of unemployment in Türkiye is contingent upon a multitude of variables, including the prevailing economic conditions, the actions of the government, shifts within specific sectors, and the evolving demands of the labour market. The resolution of the unemployment problem and the mitigation of the effects of unemployment are regarded as the responsibility of the government. Consequently, a range of employment policy implementations have been developed, although these differ from one country to another. The main labour force indicators of a country provide a significant rationale for the formulation of employment policies. For this reason, the main labour force indicators for Türkiye are first examined, after which the general outlook of ALMPs by education level, age, sectors and regions is evaluated.

Main Labour Force Indicators in Türkiye

Before examining the ALMPs implemented in Türkiye, it is essential to review the key labour force indicators that show the dimensions of unemployment and employment on the basis of gender segregation. This distinction also embodies important regional differences and provides opportunities to observe the differences in the functioning of ALMPs. Gender inequality is reflected in the basic indicators of the labour market as it is seen in almost every field. Wage and non-wage factors (labour market conditions, social attitudes towards women's employment, the development level of societies, job opportunities for women, education level, age, marital status and having children) affect women's labour demand and women's labour supply decisions (Biçerli, 2014). Since gender differentiation is also taken into account when analysing ALMPs at the regional level in this study, the general outlook of ALMPs in Türkiye and basic labour market indicators are also classified according to gender differentiation. Therefore, presenting the relevant data separately in this framework and explaining the reasons for this differentiation in Türkiye is particularly meaningful. In such a framework, women's participation in the labour force points to a set of structural reasons including economic, social, cultural and political factors. As Table 1 indicates, women's labour force participation and employment rates are considerably lower than the rates of men. Accordingly, unemployment rates are also higher than the rates of men in the following years. For example, in 2023, the labour force participation rate is 71.0% for men and 35.8% for women, while the employment rate is 65.8% for men and 31.6% for women. While the unemployment rate is 7.2% for men, this rate increases to 11.8% for women.

Table 1. Main Labour Force Indicators (15+ age) (2014-2023)

YEAR	Labour Force Participation Rate			Employment Rate			Unemployment Rate		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
2014	55,1	76,6	33,6	49,5	69,5	29,5	10,1	9,2	12,2
2015	56,1	77	35	50,2	69,8	30,5	10,5	9,4	12,9
2016	57	77,6	36,2	50,6	70	31,2	11,1	9,8	14
2017	58	78,2	37,6	51,5	70,7	32,2	11,1	9,6	14,4
2018	58,5	78,6	38,3	52	70,9	32,9	11,2	9,7	14,2
2019	58,5	78,2	38,7	50,3	68,3	32,2	14	12,7	16,8
2020	54,9	74,6	35	47,5	65,2	29,7	13,4	12,6	15,3
2021	57,2	76,9	37,3	50,2	68,6	31,7	12,2	10,9	15,1
2022	59,2	78,2	40	52,9	71,1	34,5	10,7	9,1	13,7
2023*	53,2	71,0	35,8	48,6	65,8	31,6	8,8	7,2	11,8

Source: Derived from the Labour Force Statistics of the Turkish Statistical Institute. www.tuik.gov.tr

*Quarter IV October-December 2023.

Economic factors in the low rate of women's participation in employment are mostly centred around wage-related debates. Cultural factors can be traced in a wide range from gender roles to physical, sexual and psychological violence in the workplace. Political factors directly refer to social power relations and the role of the state, and it is stated that all these factors cannot be considered independently of spatial factors (Tuysuz & Mutlu, 2021: 134-135). Although the identified factors provide a general framework, the evaluation of socio-cultural effects on women's participation in employment is particularly significant for the analysis of women's labour supply. Women are considered responsible for domestic reproduction and care activities due to the gender-based division of labour. In addition, women's participation in labour markets can be shaped according to the decision of men, and this decision is valid only in terms of jobs "suitable" for women. Inadequacies in public services related to care also constitute an obstacle to women's participation in labour markets (Toksöz, 2007: 58).

However, women's participation in employment has increased since the 1970s. Although this process, which was observed due to the restructuring of production on the basis of flexibility and globalisation, had a significant impact on women's participation in employment, parallel to the recognition of women as low-cost labour (Burtan Doğan & Kaya, 2014: 95-96). As women's participation in employment involves restructuring through flexibility at the global scale, informal employment has become an important determinant for women (Dedeoğlu, 2000: 153). In addition to the changes in production, education levels are also decisive for women's employment. Especially in urban areas, having attained high school and higher education is effective in terms of participation in employment, whereas it is indicated that education does not have such an effect on men. Moreover, although education is an important determinant, it is not the sole explanatory factor and significant regional differences can be observed in labour force participation at the same level of education. This situation highlights the importance of evaluating regional differences and examining socio-cultural factors in this context (Toksöz, 2007; Burtan Doğan & Kaya, 2014). When women's participation in the labour market is evaluated from a multi-faceted perspective, it is evident that macroeconomic indicators play a pivotal role. A multitude of factors, ranging from the demand for women's labour to the stratification in labour markets, influence the participation process (Dedeoğlu, 2000).

This is also reflected in the differences between men and women in participation in ALMPs. Both the existence of conditions affecting women's participation in the labour markets and the fact that women are among the target groups of the ALMPs impact women's participation in the programmes. In their studies, Işığıçok and Emirgil (2009) underline the need for establishing sectoral programmes that are sensitive to women's employment, while Akbaş (2017) emphasises that women's participation in ALMP programmes should be evaluated simultaneously with policies such as care policies. Therefore, it is important to examine the prospects of the programmes in terms of different ALMPs prior to the regional analysis.

Active Labour Market Policies in Türkiye based on Different Categories

Active labour market policies within the scope of VTPs and OTPs by education level

Another important data on the characteristics of the Turkish labour market is the distribution of participants in active labour market programmes according to their educational level. Of the participants in vocational programmes, 39.5% are primary school graduates. This is followed by secondary education with 27%. Similarly, when the education levels of the participants in on-the-job training programmes are examined, 37.3% are primary education graduates, followed by 37.2% secondary education graduates (Table 2). Considering the aim of ALMPs to add qualifications to individuals, it seems noteworthy that the relevant groups have higher rates. In addition, when participation by gender is evaluated in terms of educational status, it is observed that women with primary and secondary education graduates participate more in both programmes. While a total of 5,683 women participated in vocational training programmes, 78,996 women participated in the on-the-job training programmes (Table 2). The participation of women with low education levels in ALMPs is important in terms of supporting women's participation in the labour force.

Table 2. Types of Active Labour Market Programmes by Education Level -2022

	Vocational Training Program (Employment Guaranteed)			Vocational Training Program (Without Employment Guaranteed)			On-the-Job Training Program		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
TÜRKİYE	**10,479**	**4,797**	**5,682**	**80**	**79**	**1**	**156,356**	**77,360**	**78,996**
Illiterate	11	1	10	0	0	0	68	37	31
Literate	896	254	642	0	0	0	4,303	1,826	2,477
Primary Education	4,139	1,670	2,469	0	0	0	58,290	28,715	29,575
Secondary Education	2,832	1,350	1,482	0	0	0	58,252	32,034	26,218
Associate Degree	869	417	452	80	79	1	19,181	7,816	11,365
Bachelor's Degree	1,683	1,076	607	0	0	0	15,841	6,755	9,086
Postgraduate Degree	49	29	20	0	0	0	411	173	238
Doctoral Degree	0	0	0	0	0	0	10	4	6

Source: Turkish Employment Agency, Statistical Yearbook 2022.

Table 3. Types of Active Labour Market Programmes by Age Groups-2022

	Vocational Training Program (Employment Guaranteed)			Vocational Training Program (Without Employment Guaranteed)			On-the-Job Training Program		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
TÜRKİYE	**10,479**	**4,797**	**5,682**	**80**	**79**	**1**	**156,356**	**77,360**	**78,996**
15-19	1,501	638	863	0	0	0	19,239	10,355	8,884
20-24	3,402	1,682	1,720	61	60	1	52,654	28,487	24,167
25-29	2,471	1,436	1,035	17	17	0	32,721	18,341	14,380
30-34	1,054	488	566	2	2	0	17,726	8,560	9,166
35-39	792	259	533	0	0	0	14,439	5,211	9,228
40-44	674	167	507	0	0	0	11,177	3,517	7,660
45-49	381	81	300	0	0	0	5,669	1,889	3,780
50-54	151	38	113	0	0	0	2,005	746	1,259
55-59	38	8	30	0	0	0	588	197	391
60-64	5	0	5	0	0	0	112	44	68
65+	10	0	10	0	0	0	26	13	13

Source: Turkish Employment Agency, Statistical Yearbook 2022.

Active labour market policies within the scope of VTPs and OTPs by age

Another variable that should be taken into account when evaluating ALMPs is the distribution of participants according to age groups. The first three groups regarding the distribution of ALMPs according to age groups are important in terms of presenting data on youth unemployment in Türkiye. Youth unemployment in Türkiye is above the general unemployment rate. As of December 2023, while the general unemployment rate was 8.8%, the youth unemployment rate (aged 15-24) was 15.5% with a difference of 6.7 percentage points (TÜİK, 2024b). Therefore, it is not surprising that the participation of young people in employment policies is high. As can be seen in Table 3, participation in VTPs is highest in the 20-24 age group with 33%. Participation in OTPs is highest in the 20-24 age group with 33.7%.

Share of VTPs and OTPs by sectors

Sectoral distribution of employment also refers to an important economic indicator. While assessing ALMPs, it is essential to identify which sectors stand out in terms of the number of participants by sector in order to evaluate factors such as competition, economic diversity and resource management. Table 4 shows the prominent sectors in terms of the number of participants in VTPs and OTPs. The manufacturing sector ranks first with 104,553 participants (67%) in OTPs, followed by accommodation and food services activities with 13,911 participants and human health and social service activities with 10,184 participants. Within the scope of VTPs, the manufacturing sector ranks first with 8,255 participants (77%) and the education sector ranks second with 1,325 participants.

Table 4. Types of Active Labour Market Programmes by Prominent Sectors-2022

Sectors	On-the-Job Training Programmes			Vocational Training Programmes			Total		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Information and Communication	2,347	1,283	1,064	373	256	117	**2,720**	**1,539**	**1,181**
Education	4,194	932	3,262	1,328	895	433	**5,522**	**1,827**	**3,695**
Administrative and Support Service Activities	5,600	2,763	2,837	107	32	75	**5,707**	**2,795**	**2,912**
Manufacturing	104,553	54,251	50,302	8,255	3,385	4,870	**112,808**	**57,636**	**55,172**
Human Health and Social Work Activities	10,184	2,112	8,072	48	8	40	**10,232**	**2,120**	**8,112**
Construction	1,638	1,040	598	38	2	36	**1,676**	**1,042**	**634**
Accommodation and Food Service Activities	13,911	7,533	6,378	19	15	4	**13,930**	**7,548**	**6,382**
Professional, Scientific and Technical Activities	3,841	1,633	2,208	313	232	81	**4,154**	**1,865**	**2,289**
Wholesale and Retail Trade; Repair of Motor Vehicles	3,104	1,661	1,443	0	0	0	**3,104**	**1,661**	**1,443**
Transportation and Storage	2,701	1,725	976	80	79	1	**2,781**	**1,804**	**977**
Other Service Activities	1,573	861	712	151	79	72	**1,724**	**940**	**784**

Source: Turkish Employment Agency, Statistical Yearbook 2022.

Table 5. Number of ALMP Participants by Regions-2022

Code	Region (NUTS-I)	Vocational Training Programmes			On-the-Job Training Programmes			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
TR1	İstanbul	1100	436	1536	7323	7225	14548	8423	7661	16084
TR2	West Marmara	55	138	193	1400	2802	4202	1455	2940	4395
TR3	Aegean	36	234	270	7970	10498	18468	8018	10732	18750
TR4	East Marmara	700	355	1055	8653	9004	17657	9353	9359	18712
TR5	West Anatolia	96	145	241	4070	4516	8586	4169	4668	8837
TR6	Mediterranean	69	107	176	13354	11731	25085	13454	11860	25314
TR7	Central Anatolia	58	125	183	3081	3188	6269	3139	3313	6452
TR8	West Black Sea	107	326	433	9405	11270	20675	9523	11608	21131
TR9	East Black Sea	34	124	158	2657	3131	5788	2691	3255	5946
TRA	Northeast Anatolia	542	610	1152	1479	1578	3057	2021	2188	4209
TRB	Central East Anatolia	721	1065	1786	4960	4152	9112	5705	5233	10938
TRC	Southeast Anatolia	1358	2018	3376	13008	9901	22909	14376	11921	26297
Total		4876	5683	10559	77360	78996	156356	82355	84764	167119

Source: Turkish Employment Agency, Statistical Yearbook 2022.

Active labour market policies within the scope of VTPs and OTPs by regions

The differences in terms of social and economic development between regions in Türkiye varies considerably. These differences also have an impact on regional employment policies. Compared to other regions, regions that are relatively socio-economically disadvantaged require intensive employment policies. Thus, the level of effectiveness of ALMPs can be enhanced through more efficient use of resources (Cam & Altan, 2018: 103). The population density in the region, the number of courses opened, and local employment policies affect the level of regional participation in the programmes. It is argued that regional/local measures should be emphasised especially when macro policies are insufficient for the unemployment (Kasapoğlu & Murat, 2018a: 501).

Table 6. Nomenclature of Territorial Units for Statistics-I (NUTS-I)

Code	Region (NUTS-I)	Province
TR1	İstanbul	İstanbul
TR2	West Marmara	Tekirdağ, Edirne, Kırklareli, Balıkesir, Çanakkale
TR3	Aegean	İzmir, Aydın, Denizli, Muğla, Manisa, Afyon, Kütahya, Uşak
TR4	East Marmara	Bursa, Eskişehir, Bilecik, Kocaeli, Sakarya, Düzce, Bolu, Yalova
TR5	West Anatolia	Ankara, Konya, Karaman
TR6	Mediterranean	Antalya, Isparta, Burdur, Adana, Mersin, Hatay, Kahramanmaraş, Osmaniye
TR7	Central Anatolia	Kırıkkale, Aksaray, Niğde, Nevşehir, Kırşehir, Kayseri, Sivas, Yozgat
TR8	West Black Sea	Zonguldak, Karabük, Bartın, Kastamonu, Çankırı, Sinop, Samsun, Tokat, Çorum, Amasya
TR9	East Black Sea	Trabzon, Ordu, Giresun, Rize, Artvin, Gümüşhane
TRA	Northeast Anatolia	Erzurum, Erzincan, Bayburt, Ağrı, Kars, Iğdır, Ardahan
TRB	Central East Anatolia	Malatya, Elazığ, Bingöl, Tunceli, Van, Muş, Bitlis, Hakkari
TRC	Southeast Anatolia	Gaziantep, Adıyaman, Kilis, Şanlıurfa, Diyarbakır, Mardin, Batman, Şırnak, Siirt

Method and Research Findings

Research Method

The organisation of the labour market is affected by many different structural elements, which vary not only at the national level but also regionally. In addition, regional differences in this field directly include different dynamics for women and men (Tuysuz & Mutlu, 2021). This situation leads to the differentiation of many aspects from the policies implemented to the participation processes. The aim of this study is to make a comparison of ALMPs in terms of similarities and differences between regions of Türkiye by using multidimensional scaling analysis. As research variables, province-based data on Vocational Training Programmes (VTP) and On-the-Job Training Programmes (OTP) obtained from İŞKUR statistical yearbook were categorised according to the regions and the values calculated according to the regions were used. These programmes are preferred due to their high level of utilisation as ALMP programmes and the systematic availability of data at the provincial level. However, "Public Work Programmes (Toplum Yararına Programlar - TYP)", which are among the ALMPs, were excluded from the analysis both due to the criticisms of the programmes in terms of constituting a direct public employment (Eren, 2023) and due to the lack of regionally consistent data on the programmes. Therefore, the analysis was carried out within the scope of two programmes (VTP and OTP) in order to ensure that the data are consistent and clearly reflect the participation patterns in the regions. The regional grouping is categorised according to the Nomenclature of Territorial Units for Statistics-I (NUTS-I) as shown in Table 6 and the 2022-İŞKUR statistical yearbook is used for the data.

Multidimensional scaling, which is a graph-based statistical method, is used to analyse the data in two dimensions according to the VTP and OVP variables: female, male and total. The results obtained from multidimensional sampling and k-nearest neighbour analysis, which shows clustering, are also used. Analyses were performed using the packages "magrittr"[1], "dplyr"[2] , "ggpubr"[3] in R 4.0.3[4] software. Multidimensional scaling analysis is a widely used data analysis technique in the social sciences that attempts to represent high-dimensional data in space. The input data is measured by the difference and similarity of the observed objects and the output is given by a spatial mapping technique. In this analysis, similar objects are located close to each other and dissimilar objects are located far away from each other on the spatial map (Groenen & Velden, 2004: 389; Saeed *et al.,* 2018:2). In other words, it is a graph-based data analysis method that reveals the relations between objects and helps to obtain a map in space in cases where the relations between objects are unknown, but the distances related to "n" objects and "p" variables can be calculated (Alpar, 2011: 383). The "K-means Clustering" analysis method, which clusters the relations between objects, was also used in the study. K-means is a numerical, non-deterministic, iterative clustering algorithm that can produce decent clustering results. This method clusters the variables of the dataset based on common extracted features (Na *et al.*, 2010: 64-65). Cluster analysis is a general term for a set of methods that use multivariate and quantitative measures to group objects or incidents according to their similarities or distances (Jaeger & Banks, 2023: 17). In other words, the main function of cluster analysis is to bring together the data with high similarity and separate the data with low similarity (Hu et al., 2023: 2). Therefore, cluster analysis was preferred in the study for grouping the regions according to their similarities.

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Findings

Regarding the multidimensional scaling analysis, separate analyses were made for men and women according to two variables (VTP and OTP) and the general total was also analysed separately. In this analysis, firstly, the stress value and the number of iterations of development should be calculated. Iteration history for the 2 dimensional solution (in squared distances) Young's S-stress formula 1 is used. According to the result of Young's S-stress calculation in terms of female, male and general total, the S-stress value was ",00000" in the 1st iteration[5]. Iterations stopped because S-stress is less than ,005000. Stress and squared correlation (RSQ) in distances RSQ values are the proportion of variance of the scaled data (disparities) in the partition (row, matrix, or entire data) which is accounted for by their corresponding distances. Stress values are Kruskal's stress formula 1 (Stress = ,00000; RSQ = 1,00000).

Following the evaluation of stress values and RSQ values, the distribution of regions on the coordinate axis was determined by both multidimensional scaling analysis and K-means clustering analysis, with the resulting data presented as female, male and total. The analyses employed in the study were conducted using two dimensions (Dis-1 and Dis-2). In the multidimensional scaling analysis, the similarity of indicators that are in close proximity is high, while the similarity between those that are distant is low.

According to the results of multidimensional scaling analysis in terms of female indicators in Figure-1; TR2, TR9, TR7, TR5 are located close to each other, while TR1, TR4, TR3, TR8, TR6 regions are also located close to each other. TRA, TRB and TRC regions are mapped in different locations. In terms of female indicators, K-means Clustering analysis clustered the regions that are related to each other. Based on the results of the analysis, a total of four cluster groups have been formed: TRA and TRB as one cluster, TR2, TR9, TR7, TR5 regions as one cluster, TR1, TR4, TR3, TR8, TR6 as another cluster and TRC as a separate cluster.

In Figure-2, according to the results of multidimensional scaling analysis in terms of male indicators; TR2, TR9, TR7, and TR5 regions are located close to each other, TR3 and TR8 are located close to each other, while the other regions are located apart from each other. K-means Clustering analysis results in terms of male indicators show that the regions that are related to each other are represented by four clustering groups. According to the results; TR2, TR9, TR7, and TR5 formed one cluster, TR3, TR8, and TR6 formed another cluster, TRA, TRB, and TR4 formed a single cluster, TR1 and TRC formed a separate cluster.

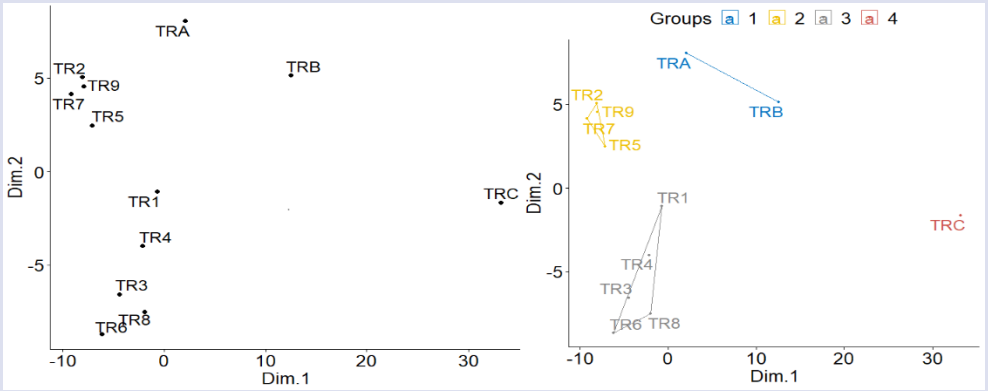

Figure 1. Multidimensional Scaling and K-means Clustering for Female (Participation-Based)

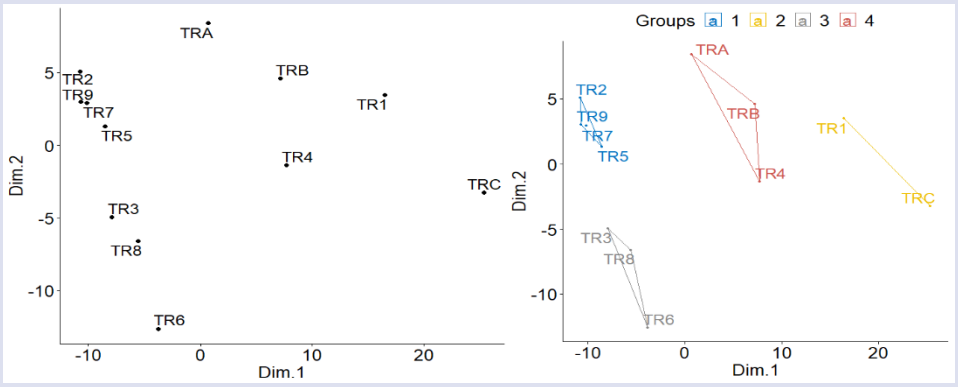

Figure 2. Multidimensional scaling and K-means clustering for Male (Participation-Based)

[5] Classification of the compliance of the positioning distances with the original distances according to the magnitudes of the stress values: Stress 1 value and degrees of compliance: ≥0.20 poor, 0.10 - <0.20 fair, 0.05 - <0.10 good, 0.025 - <0.05 excelent and 0.00 - <0.025 perfect compatibility (Alpar, 2011: 403).

Apart from gender-based differences, according to the results of the multidimensional scaling analysis in terms of total indicators in Figure-3, TR2, TR9, TR7 and TR5 are located close to each other, TR3, TR8, TR6 are located close to each other, and the other regions are located apart from each other. According to the results of K-means Clustering analysis, TR2, TR9, TR7, and TR5 formed a cluster, TRA, TRB, TR1, and TR4 formed another cluster, TR3, TR8, TR6 formed another cluster in relation to each other and TRC formed a single cluster.

The analyses described above indicate a clustering based on regional shares within the total number of participants. Although the results obtained in this context provide a meaningful framework for the similarities in the regional participation rates of female and male participants in terms of overall participation, it is not sufficient to see regional similarities, especially in terms of employment and unemployment. Therefore, in addition to direct programme participation, a separate analysis was also conducted on ALMP participation rates among the unemployed within the scope of NUTS-I.

The establishment of ALMPs requires a proactive approach in preventing unemployment. The most important requirement for participation in ALMPs is the criteria of being "unemployed". Therefore, it is meaningful to evaluate the connection between unemployment data and participation in ALMPs at the regional scale. In the analysis carried out with the VTP and OTP participant rates in the number of unemployed in each region, it is possible to identify the link between unemployment data and participation in ALMPs. According to the multidimensional scaling and K-means clustering analysis conducted by considering the VTP and OTP rates in the number of unemployed, the regions exhibited different distributions and clustering.

As illustrated in Figure-4, according to the multidimensional scaling analysis calculated with the female participant rates in the number of unemployed, TRA, TRC, TRB and TR8 show separate distributions, while TR1, TR2, TR5, TR7, TR3, TR4, TR6, and TR9 are located close to each other. According to K-means Clustering analysis, TRA formed a separate cluster, TRC and TR8 formed a cluster, TR1, and TR5 formed a related cluster, TRB, TR2, TR3, TR4, TR6, TR7 and TR9 formed a different cluster.

In Figure-5, according to the multidimensional scaling analysis conducted according to the male participant indicators among unemployed individuals, TRA, TR8 are located separately, TRB, TRC, and TR4 are located closer, TR1, TR2, TR3, TR5, TR6, TR7, and TR9 are located close to each other. K-means Clustering analysis, where the related ones are evaluated, TRA, TR1, TR2, and TR5 formed a cluster, TRB, TRC, TR4, TR6, and TR9 formed another cluster, TR3 and TR7 formed a different cluster and TR8 formed a single cluster.

Finally, as seen in Figure-6, according to the multidimensional scaling analysis performed by considering the total participant rates among unemployed individuals, TR8, TRC, and TRA are located separately, while TR1, TR2, TR3, TR4, TR5, TR6, TR7, and TR9 are located close to each other. According to the K-means clustering analysis, TR8 formed a single cluster, TR1 and TR5 formed a different cluster, TR2, TR3, TR7, TRB, and TRA formed a separate cluster, TR4, TR6, TR9, and TRC formed another cluster.

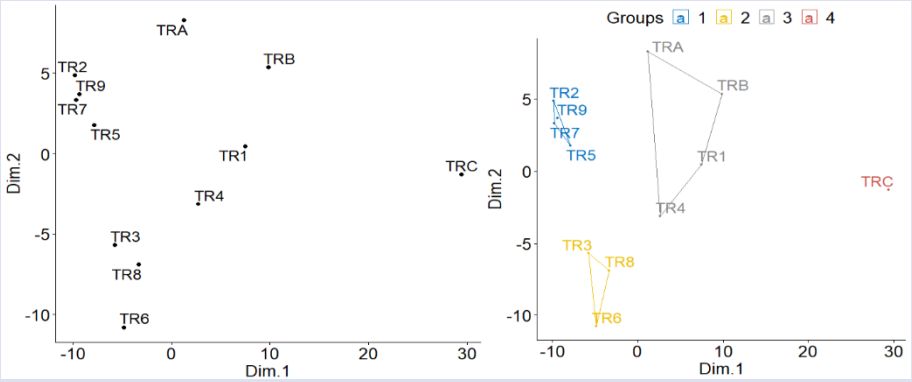

Figure 3. Multidimensional scaling and K-means clustering for Total (Participation Based)

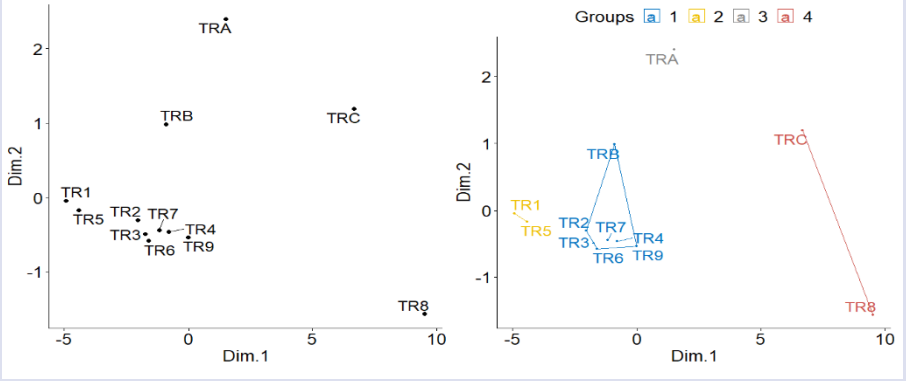

Figure 4. Multidimensional Scaling and K-means Clustering for Female (Unemployment-Based)

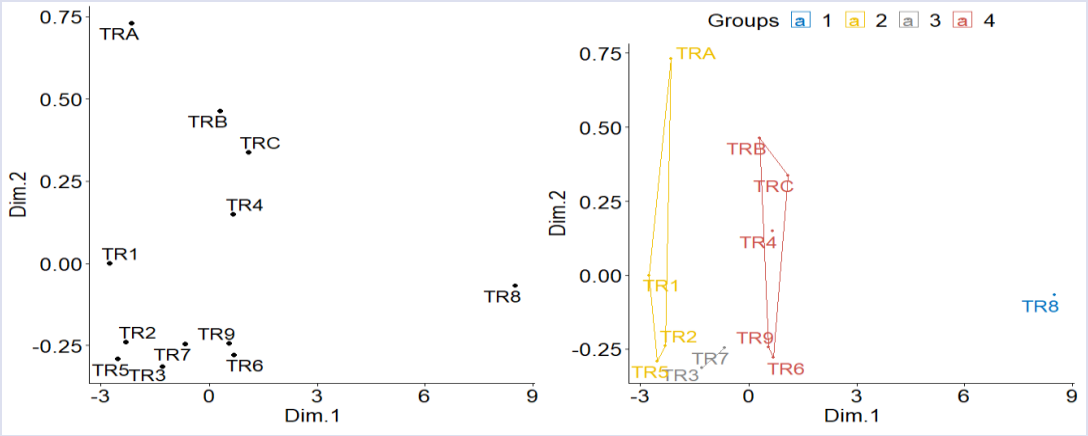

Figure 5. Multidimensional scaling and K-means clustering for Male (Unemployment-Based)

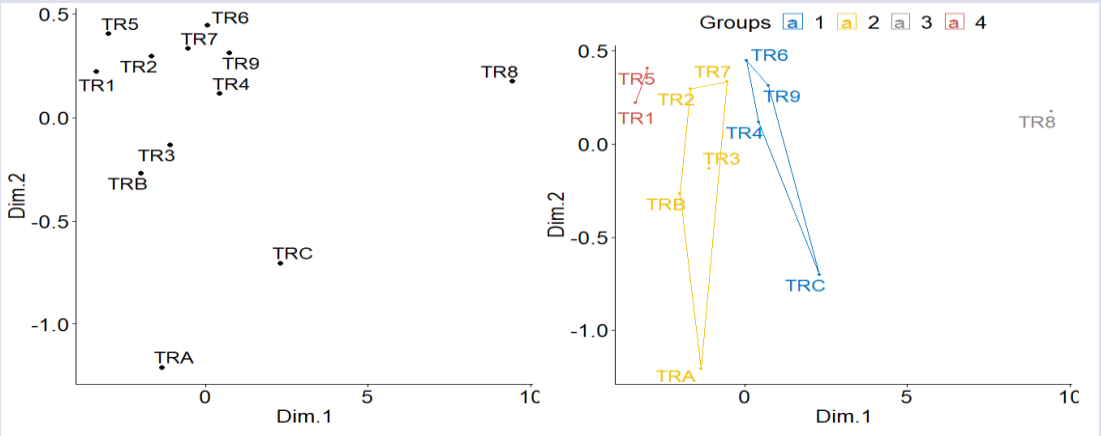

Figure 6. Multidimensional scaling and K-means clustering for Total (Unemployment-Based)

Conclusion

Unemployment rates in Türkiye vary across regions. There are many reasons for this difference such as migration, lack of infrastructure, transport facilities, socio-economic development level and education level. However, in this study, regardless of these variables, analyses were carried out firstly according to the number of participants and then by taking into account the proportion of those who participated in ALMPs among the unemployed. Clustering was performed according to the groups formed by these regions in terms of relevant variables. Comparison of cluster groups in terms of different variables requires additional analysis techniques and exceeds the limits of this study. The cluster groups are formed by taking into account the distances of the observations to each other in terms of variables. Moreover, in regional comparisons, other quantitative variables such as the rate of labour force in total population, the rate of labour force of working age, labour force participation rates are excluded from the analysis. Therefore, in multidimensional scaling analysis, the proximity and distance of the regions from each other and the clusters obtained as a result of K-means clustering analysis should be interpreted by neglecting these variables. Within the scope of ALMPs, VTP and OTP data were taken into account in the study and analyses were calculated regionally according to the participant rate of these two programmes. The main objective of the study is to make a comparison of regions in terms of participation in ALMPs and to identify regions that are similar and differentiated from each other. Thus, within the context of ALMPs, different coordinates and clustering of female, male and overall total analyses according to regions have been identified.

The analyses carried out in the study can be briefly described in several points:

-According to the participant-based results, it is seen that the Southeast Anatolia region forms a separate group among women. This situation can be explained by the higher rate of female participants compared to other regions.

-As a result of the clustering obtained as a result of female and male data, it is noteworthy that while the Southeast Anatolia (TRC) region is located separately and forms a single cluster for women, İstanbul (TR1) and Southeast Anatolia (TRC) regions are clustered as one for men. When considered independently from other

variables, it is possible to say that the percentage of male participants in ALMPs is close in Southeastern Anatolia (TRC) and İstanbul (TR1). In general, it is observed that the Southeast Anatolia (TRC) region is clustered separately. This differentiation can be explained by the fact that ALMPs are opened frequently and more participants take part in ALMPs due to the high unemployment rate in the Southeast Anatolia (TRC) region compared to other regions. Furthermore, in a study where regional unemployment data for the years 2008, 2009 and 2016 were analysed (Kasapoğlu & Murat, 2018b: 257), it was emphasised that the TR1 and TRC regions are among the regions with the highest unemployment rates and these regions also have high numbers in terms of labour force. Therefore, it is a significant finding that these two regions are related in terms of participation in ALMPs.

-Considering the participant rates among the unemployed, it is seen that the Northeast Anatolia (TRA) region is categorised separately, particularly for women. This may be explained by the low unemployment rate of women due to their predominant share in agricultural employment.

Unemployment is an important macroeconomic phenomenon that affects and is affected by factors such as economic growth, productivity of enterprises, labour supply and demand. ALMPs are designed to mitigate unemployment and support the labour market. Moreover, the implementation of ALMPs has also been subject to criticism, which has placed the evaluation of ALMPs on the basis of differences in a crucial frame. Within the limits of the study, it is seen that the participant rates in ALMPs differ according to the regions. It is possible to say that this difference is not directly related to the number of unemployed in the regions (e.g. TR1, TR6, and TR3 regions, which have the highest number of unemployed, are not grouped in the same cluster according to the result of the analysis based on unemployment), and the determinants of the number of participants depend on various indicators. These variables may differ depending on regional labour market conditions (Altavilla & Caroleo, 2013). Therefore, programmes based on general and sectoral economic conditions, demographic structure, labour market supply and demand balance and cost estimates by regions will exhibit a more effective and robust structure.

Katkı Oranları ve Çıkar Çatışması / Contribution Rates and Conflicts of Interest

Etik Beyan	Bu çalışmanın hazırlanma sürecinde bilimsel ve etik ilkelere uyulduğu ve yararlanılan tüm çalışmaların kaynakçada belirtildiği beyan olunur.	**Ethical Statement**	It is declared that scientific and ethical principles have been followed while carrying out and writing this study and that all the sources used have been properly cited
Yazar Katkıları	Çalışmanın Tasarlanması: BE (%50) ÖD (%50) Veri Toplanması: BE (%40) ÖD (%60) Veri Analizi: BE (%40) ÖD (%60) Makalenin Yazımı: BE (%60) ÖD (%40) Makale Gönderimi ve Revizyonu: BE (%60) ÖD (40%)	**Author Contributions**	Research Design: BE (%50) ÖD (%50) Data Collection: BE (%40) ÖD (%60) Data Analysis: BE (%40) ÖD (%60) Writing the Article: BE (%60) ÖD (%40) Article Submission and Revision: BE (%60) ÖD (40%)
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Çıkar Çatışması	Çıkar çatışması beyan edilmemiştir.	**Conflicts of Interest**	The author(s) has no conflict of interest to declare.
Finansman	Bu araştırmayı desteklemek için dış fon kullanılmamıştır.	**Grant Support**	The author(s) acknowledge that they received no external funding in support of this research.
Telif Hakkı & Lisans	Yazarlar dergide yayınlanan çalışmalarının telif hakkına sahiptirler ve çalışmaları **CC BY-NC 4.0** lisansı altında yayımlanmaktadır.	**Copyright & License**	Authors publishing with the journal retain the copyright to their work licensed under the **CC BY-NC 4.0**
Etik Kurul	Etik kurul iznine ihtiyaç bulunmamaktadır.	**Ethics Committee**	Ethics committee approval is not required.

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