



| Research Article / Araştırma Makalesi |

## A New Roadmap for Reskilling and Upskilling (R&U) in Türkiye: Vocational Training Center Skill Development Programs

### Türkiye’de Mevcut Becerileri Geliştirme ve Yeni Beceriler Edinmede Yeni Yol Haritası: Mesleki Eğitim Merkezi Tamamlama Programları

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#### Keywords

1. Reskilling
2. Upskilling
3. Vocational education and training
4. Adult skills
5. Vocational training centers

#### Anahtar Kelimeler

1. Beceri yenileme
2. Beceri edinme
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#### Abstract

*Purpose:* The skills that adults possess are very important for their adaptation to the technological transformation and contribution to the economy. Therefore, large-scale projects are implemented to develop these skills within a lifelong learning approach. The Ministry of National Education (MoNE) has initiated “Vocational Training Center (VTC) Skill Development Programs” to improve the skills within the paradigm shift in VET system. This study aims to evaluate the performance of these programs in the first four months through the data collected from the participants.

*Design/Methodology/Approach:* The study compares the number of students in VET skill development programs and the change of demographic characteristics in the last four months. Therefore, the data in the programs were used anonymously. The study is designed as descriptive research. Thus, descriptive comparisons were used for comparing statistics across diverse time intervals and groups.

*Findings:* The findings show that adults demand greatly for skill development programs in just four months and the number of participants has increased from approximately 6000 to 79000. The adults aged 31 and above constituted largest share of participants. The gender distribution of the participants is quite balanced and it is mostly valid at different age levels. In addition, 19% of participants graduated from associate degree and higher education levels. This reveals that adults need to develop their skills and are in high demand regardless of their education level. The service sector and creativity-related fields are highly preferred by adults and this pattern is valid for adults from different education levels.

*Highlights:* VTC skill development programs have a great potential for upskilling and reskilling of adults in Türkiye. For the last four months, these programs are demanded from adults and the percentage of females have reached the peak level in VET. The fact that 19% of the participants are tertiary graduates indicates that adults who have graduated from tertiary education have a demand for acquiring new skills. The findings in the first four months show that the skills development programs reach the target group and meet an important need in skills development.

#### Öz

*Çalışmanın amacı:* Yetişkinlerin sahip olduğu beceriler, günümüzde yaşanan teknolojik dönüşüme uyum sağlamaları ve ekonomiyeye katkı sağlayabilmeleri için oldukça önemlidir. Bu nedenle birçok ülkede, yetişkinlerin becerilerini geliştirmek için büyük ölçekli projeler yürütülmekte ve yaşam boyu eğitim yaklaşımı kullanılmaktadır. Millî Eğitim Bakanlığı da son yıllarda mesleki eğitimde başlattığı dönüşüme yetişkinleri de dahil ederek becerilerini geliştirmek için mesleki eğitim merkezi tamamlama programlarını başlatmıştır. Bu araştırmanın amacı, 2021 yılında Millî Eğitim Bakanlığı (MEB) tarafından yetişkin becerilerini geliştirmek amacıyla oluşturulan mesleki eğitim merkezi tamamlama programlarının ilk dört aydaki performansının katılımcı verileri aracılığıyla değerlendirilmesidir.

*Materyal ve Yöntem:* Çalışmada, mesleki eğitim merkezi tamamlama programlarında eğitim alan öğrencilerin sayısı ve demografik özelliklerinin zamana bağlı değişimi incelenmiştir. Bu nedenle, programlara kayıtlı yetişkinlerin bilgileri anonim olarak kullanılmıştır. Tarama desenindeki çalışmada katılımcı verilerinin ve demografik özelliklerinin zamana bağlı değişimi ile birlikte gruplar arası farklar betimsel bir yolla karşılaştırılmıştır.

*Bulgular:* Makalenin öne çıkan bulgusu, yetişkinlerin dört ay gibi kısa bir sürede tamamlama programlarına büyük bir talep göstermesi ve katılımcı sayısının yaklaşık 6 binden 79 bine çıkmasıdır. Programlardan en fazla yararlanan grubun 31 yaş ve üzerindeki yetişkinler olduğu belirlenmiştir. Bulgular, katılımcıların cinsiyet dağılımının oldukça dengeli olduğunu ve farklı yaş düzeylerinde de bu dengenin büyük ölçüde korunduğunu işaret etmektedir. Ayrıca, yetişkinlerin %19’unun önlisans ve daha üst eğitim düzeylerinden mezun olduğu belirlenmiştir. Bu bulgu, eğitim düzeyi ne olursa olsun yetişkinlerin becerilerini geliştirmeye ihtiyaç duyduğunu ve fırsat sağlandığında yüksek talep gösterdiklerini ortaya koymaktadır. Hizmet sektörü ve yaratıcılığın öne çıktığı alanların yetişkinler tarafından daha fazla tercih edildiği ve farklı eğitim kademelerinde bu örüntünün benzerlik gösterdiği bulunmuştur.

*Önemli Vurgular:* Mesleki eğitim merkezi tamamlama programları, Türkiye’de yetişkin becerilerinin yenilenmesi ve yeni beceri kazandırılmasında önemli bir adım olmuştur. İlk dört ay itibarıyla bu programlar yetişkinlerden büyük bir talep görmüş, kadınların oranı mesleki eğitimdeki en üst seviyeye çıkmıştır. Katılımcıların yaklaşık %19’unun yükseköğretim mezunları olması, daha yüksek eğitim seviyelerinden mezun olan yetişkinlerin de yeni becerileri edinme konusundaki talebi olduğunu göstermektedir. İlk dört ayda elde edilen bulgular, beceri geliştirme programlarının hedef gruba ulaştığını ve beceri geliştirme konusunda önemli bir açığı kapatmaya hizmet ettiğini göstermektedir.

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## INTRODUCTION

The recent technological developments and digitalization lead to major social consequences (Perc, Özer & Hojnik, 2019; Phillips, 2011). These consequences include significant changes in the way we communicate, transfer our knowledge, family dynamics, use technology in our daily life (Antonucci, Ajrouch & Manalel, 2017; Roztocki, Soja & Weistroffer, 2019; Simona-Mioara, 2012). The way we exchange information and interact rapidly changes (Vasliescu et al., 2020; Zilian & Zilian, 2020). The technological developments –particularly artificial intelligence (AI) and automation technologies- cause major improvements in production and service sectors (Fayomi, Adelakun & Babaremu, 2019; Özer & Perc, 2020). In particular, these technologies have led to revolutionary changes in the labor market (Frank et al., 2019). While these technologies promise a faster and almost error-free production, they have remarkable effects on the labor market and society.

Today, it is impossible to refuse the impact of technological development and its effects on labor market and education (Joyner, 2017; Taghi Sheykhi, 2002). Therefore, societies which cannot adapt to these changes may lose their competitiveness in the global market. The global information and technological development are increasing exponentially (Roser & Ritchie, 2013). Based on last predictions, while the global information until 2016 was larger than it was 10 years ago, it will be at least ten times more in 2025 compared to 2016 (IDC, 2017). The countries' response to this development will be determinative for their future.

The continuous improvement of production technologies is important for both producers and users. Technological developments provide efficient outcomes when a qualified human source uses them effectively (Doucette & Parsons, 2020; Frankiewicz & Chamorro-Premuzic, 2020). Therefore, the quality of human capital becomes even more critical. As Frankiewicz and Chamorro-Premuzic (2020) mentioned "transformation is not about technology, it is about talent".

Technological transformation also remarkably changes the needs of the labor market (Bughin et al., 2018; Grundke et al., 2018; Özer, 2020a, 2020b, 2022). A recent estimate showed that approximately 375 million employees will have to transfer to new professions in a short time (McKinsey Global Institute, 2017; Ra et al., 2019). Another prediction indicated that around 57% of jobs in OECD countries are at risk of some degree of automation (Frey & Rahbari, 2016).

While the transformation changes the needs and expectations of the labor market, skills are affected in diverse ways. Highly routine jobs including manual sewers, telemarketers, account clerks, cargo and freight agents are among the jobs most affected by automation (de Vries et al., 2020; Frey & Osborne, 2013; Ra et al., 2019). A hierarchy has emerged over time in employee skills demanded by the labor market: while the demand for non-routine works has increased greatly, the demand for routine works declined concurrently. The fact that routine tasks require low cognitive and psychomotor skills causes them to be copied by automation easier. On the other hand, the need for analytical skills such as critical thinking, problem solving and social-emotional skills are increasing.

The uncertainty of future jobs is a second challenge of transformation (Genz, 2022). While digital technologies take over jobs through automation, they also lead to new jobs (Genz, 2022; McKinsey Global Institution, 2016). Therefore, the quality of human resources becomes prominent in ambiguous times. A qualified human resource with high adaptation skills will be needed in the future labor market.

Which policies will be best in a period of rapid transformation and uncertainty? Large-scale studies may give important insights for better policies. The findings of the Programme for the International Assessment of Adult Competencies (PIAAC) showed that at least 10% of adults in OECD countries have significant gaps in basic verbal and numerical skills (OECD, 2013). The percentage of adults with inadequate digital skills for today's digital world is substantial (OECD, 2016a). These adults can still contribute to the economy; however, the current skill deficiencies are major drawbacks for economic development.

Countries use education systems as a main tool for both upskilling and reskilling (CEDEFOP, 2020; Hamburg, 2021). Therefore, education takes responsibility for training students in the education age and developing the skills of adults. The PIAAC results contributed to the extending of adults' lifelong learning opportunities in many countries. In the EU area, "The new skills agenda for Europe: Working together to strengthen human capital, employability and competitiveness" and "Upskilling pathways: New opportunities for adults" (CEDEFOP, 2020) projects have been initiated. The International Labor Organization (ILO) has published the 2030 agenda for the development of adult skills (ILO, 2021). In brief, countries implement related projects to increase their adults' skills for a better and competitive future.

Türkiye is among the countries that urgently need the adults' reskilling and upskilling (Gür et al., 2012). Firstly, the PIAAC results indicated that the verbal and numerical literacy skills of adults in Türkiye are significantly below the OECD average (OECD, 2013). The verbal and numerical literacy of a major share of adults (45.7% in verbal literacy and 50.2% in numerical literacy) was lower than second level. On the contrary, the proportion of adults who report difficulties in using basic digital skills is well above the OECD average (OECD, 2016b). The second reason is that a significant share of the employees in Türkiye work in routine jobs. This indicates that a significant portion of employees are working in jobs with a high risk of automation. Third, the digitalization and the transformations regarding Covid-19 pandemic increase the importance of adaptation skills. Therefore, there is an urgent need for mechanisms for reskilling and upskilling for these employees in Türkiye.

During the recent transformation of the vocational education and training (VET) system in Türkiye, a new mechanism is built for upskilling and reskilling of adults. Vocational training center (VTC) programs, which have made significant improvements in recent years, are restructured as skill development programs with the practice-focused training. These programs are

harmonized with the demands of the labor market and provide practice-based training. Graduates have the opportunity to upskill and re-skill through short-term skill development programs. This study aimed to evaluate the first four months of VTC skill development programs through students' participation and demographic data. In this context, the demographic distribution of the students, their preferences in diverse fields and participation in the skill development programs were examined.

### **LITERATURE REVIEW**

Adult skills are vital for individuals to keep up with today's conditions and adapt to constantly developing technologies (UNESCO, 2022). Studies on this subject underline that adult skills are not sufficiently prioritized despite their economic and social importance (Boeren & Rubenson, 2022). Studies on the education of adults began to come to the fore especially in the 1990s. In the "Jomtien Declaration for Education for All" in 1990 and the Fifth International Conference for Adult Education held in 1997, it was emphasized that adult education gains importance in increasingly aging societies (Biao, 2022).

Adults' skill development is evaluated within the scope of "quality, inclusive and equitable education opportunities that are accessible to everyone with a lifelong learning approach" among the sustainable development goals (WEF, 2016). Although skill development is included in the SDGs and its importance is often emphasized, participation in these trainings is still very low. In one of the current studies on this subject, even in countries such as Denmark and Switzerland, where participation in adult education is highest, participation rates are partially above 25%. Türkiye, on the other hand, is among the countries with the lowest participation in adult education among these countries, with a participation rate of less than 5% (UK Government, 2014). In this context, the participation to adults' skill development programs, which is gaining importance, has not yet reached the desired level and incentive mechanisms are needed.

Eurydice (2021) grouped the countries based on the rate of adults with low competence in population and participation in adult education programs. The first group (A group), which includes countries such as Denmark, France and Luxembourg, is in the where the proportion of individuals who have not completed high school (with a low level of competence) is relatively low and the proportion of adults (between 25-64 years old) participating in educational activities is above the average. Türkiye; Spain, Greece, Italy and Portugal are in group C, where the proportion of individuals who have not completed high school (with a low level of proficiency) is relatively high and the proportion of adults (between 25-64 years old) participating in educational activities is below the average. As emphasized in the study, countries that need more to adults' skill development programs for their adaptation to today's changes and for economic development are in groups C and D (Eurydice, 2021).

In this context, various programs and projects implemented by different countries to improve the skills of adults were briefly introduced.

#### **Vocational Packages for Adults (Sweden)**

In Sweden, the National Education Agency has prepared vocational training packages to promote the skills of adults. Packages prepared for different professions according to the current needs of the labor market have been developed for the training of adults at high school level and above. National vocational education system experts, labor market representatives, and occupational standards experts collaborated to ensure that the more than 50 vocational packages developed are aligned with labor market demands (Eurydice, 2021).

#### **Education and Training Guarantee for Young Adults (Austria)**

As of 2017, Austria has launched a national project to support the education of young adults up to the age of 25. Targeting unemployed young adults who have not completed high school, the program aims to equip them with vocational skills through vocational programs. Within the scope of this program, state-funded apprenticeship trainings are provided to young adults, and intensive on-the-job training is offered in these trainings (Eurydice, 2021).

#### **Second-Chance Schools (Greece and Romania)**

Greece and Romania aim to develop the skills of adults who have not completed their compulsory education for various reasons. In this context, two-year full-term programs or three-year evening programs for adults have been developed in Greece. In the Romanian program, on the other hand, as a result of 720 hours of intensive practical training, adults are provided with vocational skills. It is anticipated that the support provided in this context will facilitate the transition of adults and minorities to education and employment (Eurydice, 2021).

#### **On-the-Job Training Program (Norway)**

Norway recently launched a new program aims to develop the professional skills of adults who do not have formal education in their profession despite practicing a profession. In this program, on-the-job training is prioritized, apprenticeship-based training is provided, and adults are exempted from the core areas of the national curriculum. As a result of the short-term intensive training programs, these adults can have valid and professional certificates about their jobs while updating their professional skills (Eurydice, 2021).

#### **Train to Gain (England)**

UK initiated a specific program to provide vocational skills to individuals aged 25 and over. There has been a significant participation in the program, in which there is cooperation with employers from different sectors in the process of acquiring skills for adults. 1.2 million adults participated in the program, which lasted for about three years, and 554,100 of which were successfully completed and were entitled to receive certificates. Interviews with employers also yielded important inferences

about the effectiveness of the program: 75% of employers stated that employees develop skills that are compatible with their jobs, 66% stated that long-term employment and competitiveness of employees increased, and 50% mentioned that their productivity increased. In interviews with employees, it was stated that the training increased their skills and self-confidence, and 25% stated that they provided an increase in their wages, promotions or other benefits (UK Government, 2014).

### Shortened Apprenticeship (Switzerland)

Switzerland initiated a new program for equipping adults with skills in diverse profession through short-term apprenticeship training. With this program, adults can improve their professional skills and increase their employability thanks to the practice-oriented training in different fields (Eurydice, 2021).

### National Targets for Adult Education

With these projects, countries strive to achieve the quantitative targets they have declared for skill development of adults. For example, Croatia aims to increase participation in adult education from 10,531 to 13,350 in its announced Strategic Plan for the years 2019-2021. Hungary has set a goal of reducing the proportion of adults with low digital skills in the 25-64 age group from 60% to 30% through the adult education programs. Within the framework of the Master Plan for 2013-2020, Slovenia has prioritized the participation of at least half of the unemployed adults in educational activities (Eurydice, 2021).

### Vocational Training Center Skill Development Program in Türkiye

For many years, vocational training center (VTC) programs provide apprenticeship and mastership training as a part of the Turkish VET system (Özer, 2019, 2021a; Özer & Suna, 2020). These practice-based training aims to acquire professional skills via practical training four days a week in working environments, and one day of theoretical training at school. VTC programs correspond to the dual system which has been used for many years in Germany and Switzerland, which have strong links with the labor market (Özer, 2021b).

The practice-based training of programs contributes greatly to the students' employability. Based on a recent study by the Ministry, 88% of the graduates work in their field of education, and approximately 75% of these graduates work in companies where they received on-the-job training (MEB, 2018). The higher employability in VTC programs compared to the other VET programs and general high school programs indicates the strong links with labor market needs (Özer & Suna, 2022).

After the significant improvements made to VTC programs, the MoNE presented "VTC skill development programs" for reskilling and upskilling of adults. The skill development programs are launched in 2022 as short-term (6-8 months) VET courses. These programs include a revised version of VTC programs with a similar practice-based VET approach. Graduates are provided employment priority or guarantee through protocols.

## METHOD

### Research Design

This study is designed as a descriptive research to examine the how new VTC skill development programs were perceived and reacted by target group of adults in the first the last four months. The descriptive studies aim to collect detailed information to systematically describe a phenomenon, situation, or population in target (Creswell, 2002). The design is appropriate for using the data of participants for examining their response to these programs with a comparative approach.

### Participants

The participants of the study consist of 79.256 adults who receive training in VTC skill development programs in Türkiye. The participants demographic distribution is shown in Table 1.

**Table 1.**

*Demographic Distribution of Participants*

Characteristics	Group	f	%
Gender	Female	33,303	42.02
	Male	45,953	57.98
Age	18 or Less	3,066	3.87
	19-22	20,458	25.81
	23-26	15,757	19.88
	27-30	10,841	13.68
	31 or More	29,134	36.76
Education Level	Upper Secondary Education	47,405	59.81
	Vocational Upper Secondary Education	16,753	21.14
	Associate Degree	8,603	10.85
	Undergraduate Degree	6,371	8.04
	Graduate Degree	124	0.16
Total		<b>79,256</b>	<b>100.00</b>

Table 1 shows that the participants has a remarkable diversity in demographic characteristics. Gender distribution is mostly balanced, and young adults (19-22; 23-26 and 27-30 years old) have a higher share among participants. On the other hand, comparatively older adults (31 years or more) have a significant share (36.8%) in participation. Graduates from upper secondary education has the largest share (59.8% for general upper secondary education and 21.1% for VET upper secondary education), however, participants with associate degree and undergraduate degree has a significant rate (more than 19%) among participants.

**Data Collection**

The data of this study is collected through the General Directorate of Vocational Education and Training (GDVET) of MoNE. The GDVET uses data of participants to monitor the response of target group and report the diversity in participation. The data of 79.256 participants were anonymized and presented with demographic variables including gender, age, and level of education. In this manner, authors used a secondary-data which is already collected by the GDVET. Ethical considerations were prioritized and no personal information beyond the research purposes is received by authors.

**Data Analysis**

This study focus on the reponse of target group to skill development programs in the last four months. We used decriptive comparisons in number of students and ratios representing demographic characteristics. Our aim was to examine how the participation and diversity of participants have changed over time. Based on the fact that the data represents the population of VTC skill development programs, the statistical significance tests were not performed.

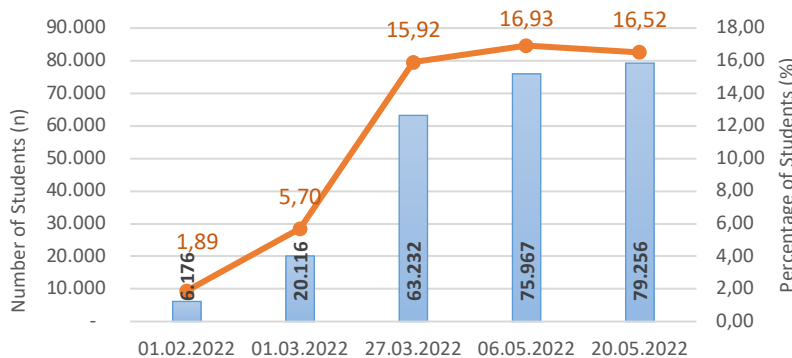
**RESULTS**

**Participation and Diversity in Skill Development Programs**

Figure 1 shows the number of students enrolled in VTC skill development programs in the last four months.

**Figure 1.**

*Number of Students in the VTC Skill Development Programs and Ratio in All VTC Programs*

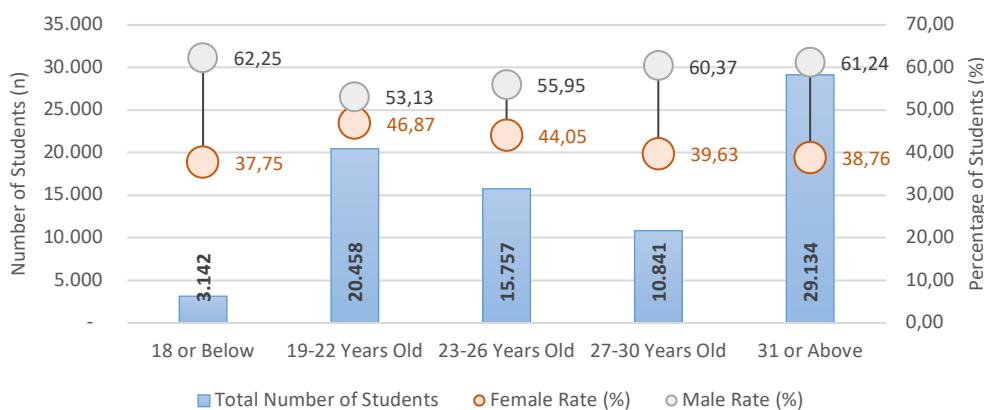


As seen in Figure 1, the number of students in skill development programs has increased greatly in about four months, from approximately 6,000 to 79,000. The dissemination of the programs to all VTC institutions in Türkiye increases the demand from graduates. Consequently, the rate of skill development programs in all VTC programs has increased significantly from 2% to 17%. In this context, the skill development programs experienced a great increase in demand and required supply is presented.

Figure 2 shows the age and gender distributions of graduates in VTC skill development programs.

**Figure 2.**

*Age and Gender Distribution of Students in the Skill Development Programs*



As seen in Figure 2, the skill development programs are demanded by graduates from different adult groups. 29,134 (36.72%) of the 79,332 participants are at the age of 31 and above with the highest participation rate. Additionally, relatively younger participants aged 19-22 (25.79%) and 23-26 (19.86%) showed high demand for the programs. This indicates that adults who have had a relatively long time since graduation have higher demands for upskilling and reskilling.

Figure 2 also shows that approximately 42% of adults in skill development programs are female. Although there is a minor difference between groups, this rate indicates a significant improvement for female representation in the VET system. The rate of female in programs is significantly higher than the rate of female in other VET programs (39.5% in the 2018-2019; 37.4% in the 2019-2020; 36.3% in the 2020-2021 academic year [MEB, 2019, 2020, 2021]). Thus, VTC skill development programs represent the type of VET programs with the highest representation of females. While the gender distribution is comparatively balanced in the 19-22 age group with relatively recent adults (53.13% for males, 46.87% for females), the gap widens for those aged 31 and above (61.24% for males and 38.76% for females). The increased participation of females in the labor market over time in Türkiye may lead to this gap for skill development programs.

The distribution of adults in different vocational fields and age groups are given in Figure 3.

**Figure 3.**

*Distribution of Students by Vocational Fields and Age Levels\*, \*\**

\*Age groups are clustered as 18 years old and under, 19-30 years old, and 31 years old and over.

\*\*Data labels indicate the ratio of adults aged 31 and above and the total number of adults, respectively.

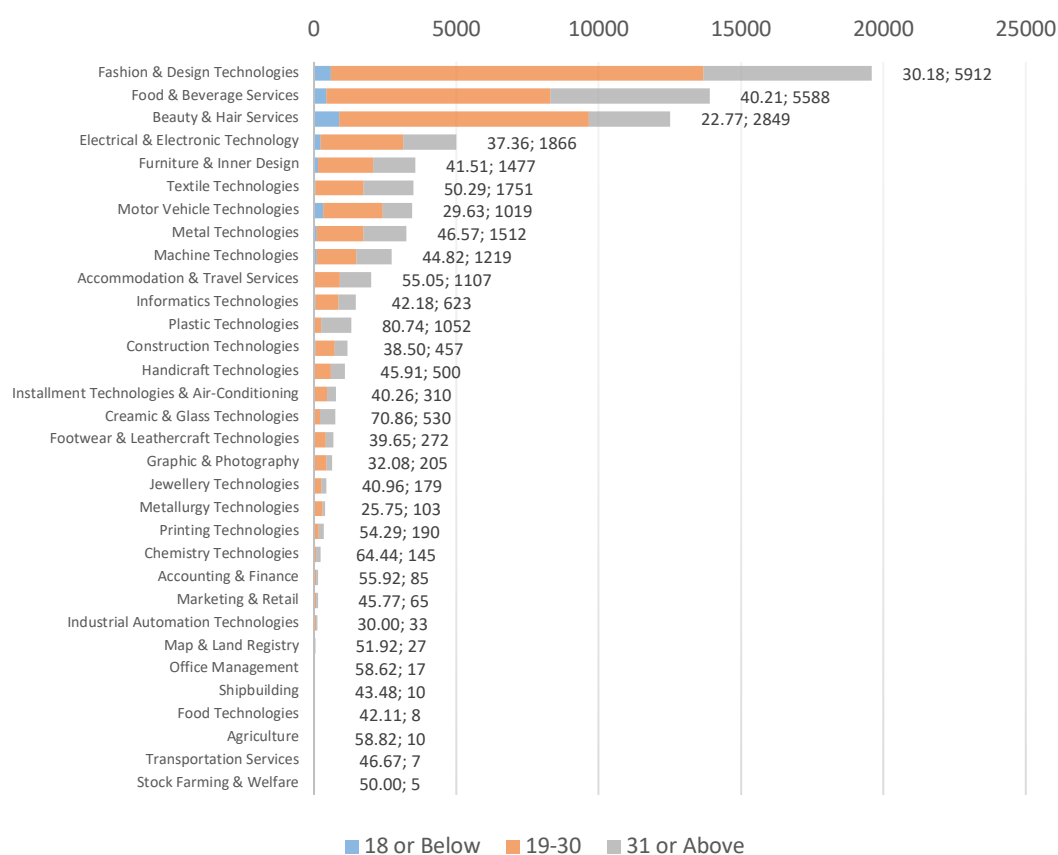
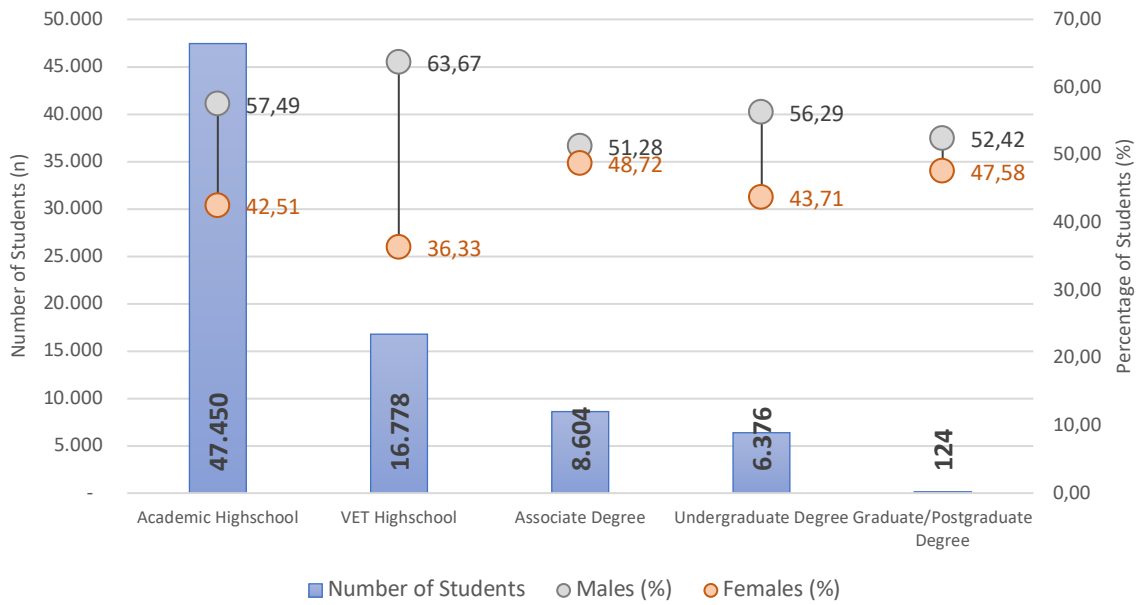


Figure 3 shows that the adults prefer mostly fashion design technologies, food and beverage services, and beauty and hair care services. The number of participants in these three fields corresponds to approximately 18% of all students in VTC skill development programs. This indicates that fields related to the service sector and design skills are highly demanded by adults. The fields with intensive production such as electrical-electronic technology, textile technology, motor vehicle technology, metal technology and machinery technology are also among ones with comparatively high demand. The distribution of adults in vocational fields are also similar to the field distributions in other VTC programs (Özer & Suna, 2022). Therefore, both students and adults have similar patterns and their demands toward vocational fields are mostly related to employability.

Figure 3 indicates that adults aged 31 and above more likely prefer production-oriented fields. 80.74% of the adults prefer the plastic technology, 70.86% of those in the field of ceramics and glass technology, 64.44% of those in the chemical technology, and 50.29% in textile technology. On the other hand, adults between the ages of 19 and 30 are more highly clustered in the service sector and design-oriented fields such as fashion and design technologies (66.82%), beauty and hair care services (70.18%), and food and beverage services (56.62%).

The vocational field distribution of adults by education levels and gender is given in Figure 4.

**Figure 4.**  
*Education Level and Gender Distribution of Students in Skill Development Programs*



As seen in Figure 4, a significant share of students (80.9%) in skill development programs are high school graduates (59.8% general high schools, 21.1% VET high schools). On the other hand, these programs are also demanded highly by tertiary education graduates. The share of adults with associate degree, graduate degree or postgraduate degree in skill development programs is approximately 19%.

Figure 4 also indicates that students' gender distribution varies according to the education level. The widest gap is among VET high school students (63.67% for males, 36.33% for females), and the gender gap is mostly similar with other VET programs (MEB, 2019, 2020, 2021). The gender distribution of adults with tertiary education degrees is mostly balanced: almost no gender gap in associate degree (51.28% for males, 48.72% for females) and postgraduate students (52.42% for males, 47.58% for females).

Finally, the relationship between participants' field preference and their level of education is given in Figure 5.

**Figure 5.**  
*The Relationship between the Education Level and their Vocational Field\**

\*Vocational fields with a student number of 1,000 and above are considered.

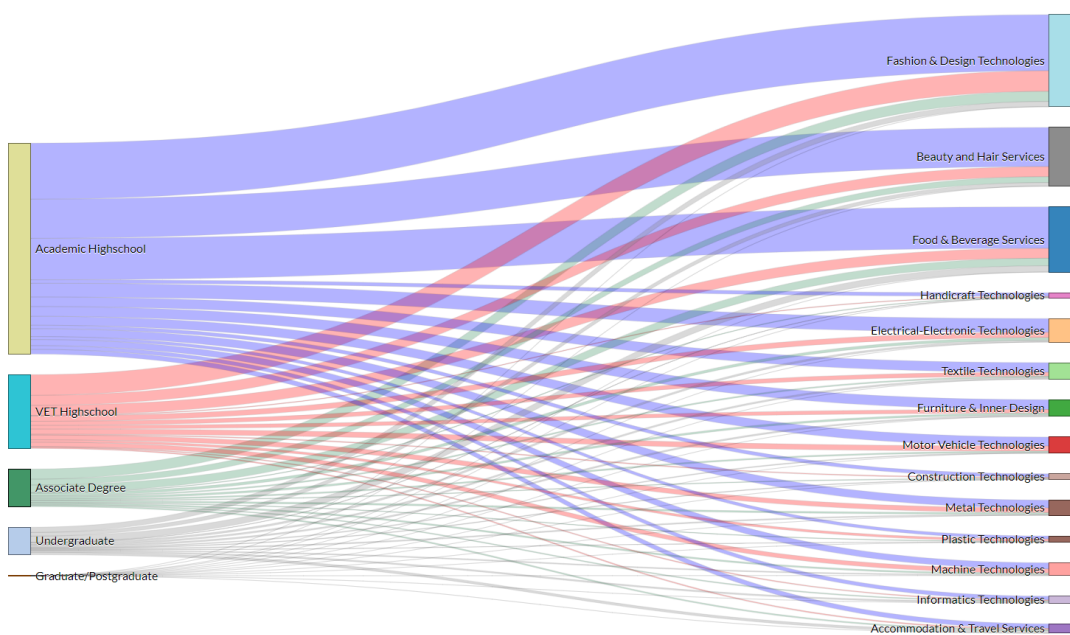




Figure 5 shows that the preference of adults in VTC skill development programs from different education levels are homogenous. The preference patterns of students from different education levels are quite similar. Particularly, fashion design technologies, food and beverage services, and beauty and hair care services were highly preferred by students from all education levels. Therefore, the level of education does not seem to be related with field preferences.

## DISCUSSION and CONCLUSION

While technological developments force the globe into economic and social changes, the role of human resources in managing this change is becoming more critical. Countries attach a great importance to raise qualified human resources to increase their competitiveness in this transformation. The major transformation and required human resources are the major reasons for restructuring of education systems after the 1990s.

Adult skills are important for this transformation because they still have a significant potential to contribute to the economy and raise their employability. However, the adults need suitable mechanisms to develop and update their skills in this new period. Türkiye is among the countries with an urgent need to prioritize upskilling and reskilling of adults. The large-scale studies show that a significant part of the adults in Türkiye has a need for improvement in basic literacy skills and digital technologies. Based on the clear need, a new systematic mechanism was established in Türkiye to ensure the upskilling and reskilling of adults other than public education courses and VET courses.

Since 2021, MoNE has led significant improvements in VTC skill development programs for upskilling and reskilling. These programs use the practice-based training of traditional VTC programs. Adults acquire new vocational skills (*upskilling and reskilling*) via development programs lasting six to eight months. The structure of skill development programs were similar with the mentioned international programs for adults' reskilling and upskilling. As mentioned practices in diverse countries, most skill development programs were developed based on the needs of labor market, they focus on the vocational skills through practice-intensive apprenticeship training. The skill development training programs were disseminated over Türkiye in less than four months, and started to provide training in 183 branches in 33 vocational fields. This study evaluates how these programs serve for upskilling and reskilling of adults in the first four months through participation and demographic characteristics.

Firstly, finding showed VTC skill development programs are in great demand from diverse adult groups. Consequently, the number of participants increased from 6000 to nearly 79000 in about four months. This demand from adults- the target group- is very important in terms of demonstrating the need for mechanisms to reskilling and upskilling. The results of the PIAAC cycles in which Türkiye participated, and the studies carried out by Eurydice (2021) and the UK Government (2014), clearly demonstrate the need for Türkiye to develop the skills of the adult population. The rapid increase in demand indicates that adults in the target group also think that these programs for skill development can fill a significant gap. In this manner, VTC skill development programs have become an important source for upskilling and reskilling as an addition to public education centers in Türkiye.

Secondly, the gender distribution of participants is highly balanced (44% female and 56% male) compared to VET standards. The relatively high participation rate of males in vocational education and training (VET) programs has become more gender-balanced in the VTC skill development programs. Policies that encourage females' employment are very important in Türkiye, where males have a significant advantage in terms of employment participation rate among adults (ages 25-64). This is an important development in the context of "providing equal opportunities for everyone in education and the business world", which is often emphasized by international organizations such as the International Labor Organization, OECD and the World Bank (ILO, 2020). The International Labor Organization, with its work in 2020, emphasized that while the employment rate of females is 34.5%, while it is 71.8% for males, it has determined the promotion of female employment as a priority in Türkiye (ILO, 2020; OECD, 2019; Pimkina & de la Flor, 2020). Programs developed in this context have the potential to increase female employment through short-term vocational training.

The analysis regarding the relationship between preference and educational level yield significant inferences about the diversity of demand. It is worth noting that approximately 19% of the adults graduated from higher education institutions (as associate degree, undergraduate and graduate). The results show that adults have a significant demand for reskilling and upskilling when appropriate mechanism are developed. On the other hand, the structuring of the developed programs to directly meet the demands of the labor market indicates the request of target group from by those diverse education levels to benefit from the high employment opportunities of VET. Another finding supports this implication is that programs for the service sector and various production areas, where employment rates are relatively high in Türkiye, are more demanded by target group. The fact that these vocational fields are preferred, regardless of education level, shows that adults who complete the program prioritize to fields with a high probability of rapid transition to the labor market and employment. It may be considered as an expected result, because the unemployment rate between the ages of 25-74 and the NEET rate between the ages of 15 and 24 are higher than OECD average (OECD, 2022a, 2022b). In this context, VTC skill development programs have the potential to contribute significantly to reducing the unemployment rates and NEET rates in Türkiye.

The diversity of participants, and the major increase in demand and participation in the first four months indicate that skill development programs have significant potential for adults' upskilling and reskilling. This rapid increase in diversity and participation also shows that there is a significant gap in the reskilling and upskilling mechanisms in Türkiye. In addition, the long-

term implementation of these programs over time will contribute to Türkiye to participate among the countries that set targets for the skill development of adults and act in line with these targets.

## LIMITATION and IMPLICATION

The evaluation of VTC skills development programs is limited with the participants' data from first 4-months of program announcement. The similarities of the programs with international practices is highlighted and recent statistics of participants are evaluated in consideration of target group. Further research is needed for the data-based examination of impact of VTC skill development programs. The findings and reviews represent the first reactions of target group and performance evaluation of VTC skill development programs in a short-term interval.

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## Statements of publication ethics

We hereby declare that the study has not unethical issues and that research and publication ethics have been observed carefully.

## Researchers' contribution rate

The study was conducted and reported with equal collaboration of the researchers.

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