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CAUSAL DETERMINANTS OF YOUTH NOT IN EMPLOYMENT, EDUCATION, OR TRAINING (NEET): A GLOBAL ANALYSIS WITH STRUCTURAL EQUATION MODELING

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ABSTRACT

This research aims to test a potential structural model that identifies the causal conditions affecting the rates of young people not in education, employment, or training (NEET). The study focuses on human capital and labor market policies (HCLM), innovation and economic integration (IEI), labor rights (LR), and unemployment rates (UER) that have the potential to affect NEET rates. For these variables, data from world-renowned organizations such as IMF, ILO, Labour Rights, etc. and data from a total of 46 countries in the Advanced-20 and OECD countries are considered. Structural equation modeling (via SmartPLS) analysis was conducted to determine the impact of causal conditions on the outcome and to map the importance-performance for policymakers. The study attempted to identify the conditions affecting NEET using regression analyses, structural model results, and importance and performance map analyses. According to the findings of the study, it was determined that the structural model of all variables predicted for NEET had a very good level of 73.6%. However, although the effect of all variables on NEET is significant, it was found that HCLM, IEI, and LR have an inverse relationship, while UER has a parallel relationship. According to the importance-performance results, the most short-term and high-impact factor to reduce the occurrence of NEET is determined as employee rights. Thus, the results of the research play a guiding role for policymakers regarding NEET, which is considered one of the factors that disrupt the sustainable socio-economic structure.

Keywords: Youth not in education or training in employment, NEET, Human Capital, Labor Market

İSTİHDAM, EĞİTİM VEYA ÖĞRETİMDE OLMAYAN GENÇLERİN (NEET) NEDENSEL BELİRLEYİCİLERİ: YAPISAL EŞİTLİK MODELLEMESİ İLE KÜRESEL BİR ANALİZ

ÖZ

Bu araştırma, eğitimde ve istihdamda olmayan gençlerin (NEET) oranlarını etkileyen nedensel koşulları belirlemek için potansiyel bir yapısal modeli test etmeyi amaçlamaktadır. Çalışma, NEET oranlarını etkileme potansiyeline sahip beşeri sermaye ve işgücü piyasası politikaları (HCLM), inovasyon ve ekonomik entegrasyon (IEI), işçi hakları (LR) ve işsizlik oranlarına (UER) odaklanmaktadır. Bu değişkenler için IMF, ILO, İşçi Hakları gibi dünyaca tanınmış kuruluşların verileri ile Gelişmiş 20 ve OECD ülkelerinden toplam 46 ülkenin verileri dikkate alınmıştır. Nedensel koşulların sonuç üzerindeki etkisini belirlemek ve politika yapıcılar için önem-performans haritasını çıkarmak için yapısal eşitlik modellemesi (SmartPLS aracılığıyla) analizi yapılmıştır. Araştırmada regresyon analizleri ile yapısal model sonuçları, önem ve performans haritası analizleri ile NEET üzerinde etkili olan koşullar tespit edilmeye çalışılmıştır. Çalışmanın bulgularına göre, NEET için öngörülen tüm değişkenlerin yapısal modelinin %73,6 gibi çok iyi bir düzeyde olduğu tespit edilmiştir. Bununla birlikte, tüm değişkenlerin NEET üzerindeki etkisi anlamlı olmakla birlikte, HCLM, IEI ve LR'nin ters yönlü bir ilişkiye sahip olduğu, UER'nin ise paralel bir ilişkiye sahip olduğu tespit edilmiştir. Önem-performans sonuçlarına göre, NEET oluşumunu azaltmak için en kısa vadeli ve yüksek etkili faktör çalışan hakları olarak belirlenmiştir. Dolayısıyla araştırma sonuçları, sürdürülebilir sosyo-ekonomik yapıyı bozan faktörlerden biri olarak kabul edilen NEET konusunda politika yapıcılar için yol gösterici bir rol oynamaktadır.

Anahtar Kelimeler: İstihdamda eğitimde veya öğretimde olmayan gençler, NEET, Beşeri Sermaye, İşgücü Piyasası

1. Introduction

Youth not in education, employment or training (NEET) has emerged as an important socio-economic problem in both developing and developed countries in today's increasingly competitive environment. With the research by Furlong (2006), it has become a social problem for young people in line with many conditions such as education, social, economic, etc. Especially in recent years, it has gained and continues to gain popularity with the consideration of the vulnerability caused by widespread unemployment or lack of education among young people (Özdemir et al., 2023). The NEET factor prevents young people from using their potential productivity and can lead to socio-economic discontinuity in the long run through disruptions caused by possible non-integration in the labor market (OECD, 2024). NEET has a negative impact on the quality of life of young people, and it also has a number of negative consequences for governments, including high social expenditures and a gap in economic growth (Froy et al., 2012).

There are many causal factors for the lack of youth participation in education and employment. In addition to its relationship with macro indicators such as human capital level, labor market policies, economic integration, and unemployment rates, it is also directly linked to the social and political perspective of countries (Auer and Cazes, 2003; Bell and Blanchflower, 2010). On the other hand, the prolongation of this structural process as young people transition from student identity to employee identity, as well as the fact that young people's active education life has ended and they are not yet in the labor market, are seen as idle labor (Pastore et al., 2021). It is also observed that young people living in less developed regions create a socio-economic gap compared to those living in affluent regions, students are not able to fully enjoy their educational rights, benefit from technology and thus increase the NEET factor (Simões et al., 2022). In addition, young people may also transition to the NEET factor due to sectoral differences, mostly in rural areas with low quality, low human capital, temporary and precarious jobs, and recognition of the ruthlessness of competition (de Almeida and Simões, 2020). Finally, it is noted in the literature that NEET rates are directly affected by several indicators such as low education level, high unemployment rate, labor market policies, employee rights and economic integration process (Heckman, 2006; Kalleberg, 2009; Woetzel, 2015). NEET reduction has been the subject of research and practice in many developed countries in terms of socio-economic sustainable development. In Erdogan and Paabort's (2024) research in the European sample, it was shared that in order to reduce the NEET factor, it is necessary to understand the perspective of young people, education, human capital, job search, adaptation to economic conditions, taking into account the legal dimension, and developing and implementing policies for the labor market.

This research aims to identify the causal conditions affecting NEET, conduct structural model testing in a global context, and make inferences on the level of impact of variables and maturity-based performance outcomes. While the existing literature on the causal variables related to NEET usually focuses on single factors, this research tests the structural combination of multiple factors and examines their mutual influence. Moreover, in light of the theoretical developments that will emerge from the research findings, the study provides guidance for policymakers at the national and international levels to develop strategies that strengthen the socio-economic structure.

2. Literature Review and Hypotheses

Young people not in education and employment (NEET) are nowadays considered as a critical problem affecting both the living standards of young people and the socio-economic sustainability of their countries. Research on NEET emphasizes the multifactorial nature of the phenomenon and discusses the involvement of various factors at the micro and macro levels. When the literature is evaluated, economic, technological, and legal conditions, which are the main components of NEET, are considered to be important for assessing policy recommendations on the phenomenon. Within the framework of the literature, factors such as human capital and labor market policies, innovation and economic integration, employee rights and unemployment rates, which are in the subset of these basic conditions, are predicted to be highly related to NEET rates.

First of all, it is discussed that possible theoretical and practical developments regarding human capital and labor market policies can potentially have a direct impact on NEET. As a matter of fact, it is obvious that young people's educational level, professional experiences and skills, and qualitative gains are the only factors that directly affect economic growth and development. A. Smith, who was the first to draw attention to human capital investments, states in his research that each qualitative gain for employees directly affects the country's economy (Spengler, 1977). Although it is difficult to observe the direct full effects of human capital, it is considered vital in terms of the productivity of the invested individual, the creation of new knowledge and its return to economic output (Schultz, 1993). Moreover, since human capital investments are the key to productivity, they play a vital role in the employability and income growth of individuals (Becker, 2009). Increased education, experience, and knowledge facilitate the integration of young people into the labor market, while low levels of education are often associated with NEET (Lutz and Kc, 2011). Bryant and Javalgi (2016) found that human capital and global economic integration are significantly associated with developing countries. van Vugt et al. (2024) surveyed 34,000 young people from 25 countries and found that low literacy, education process is more likely to move young people to NEET. Avanesian et al. (2024), who conducted a grit analysis based on five different personality traits and included the Russia longitudinal follow-up survey of 2016, found that young people who are included in NEET also lag behind in non-cognitive abilities. Masych (2024), who evaluated a wide range of countries, made recommendations for creating an educational ecosystem that can help NEET youth to enter the labor market and thus ensure sustainable education and transition to employment. Therefore, human capital and labor market policies have a significant impact on NEET rates. Active labor market policies such as vocational training programs, employment incentives, etc. are known to facilitate the entry of young people into the labor market and reduce NEET rates (McGuinness et al., 2018). However, it should be noted that there are important question marks about whether unemployment allowances among passive labor market policies reverse NEET rates (Scarpetta et al., 2010). Finally, the first hypothesis of the study was formulated based on the literature;

H1: Human capital and labor market policies significantly and negatively affect the proportion of youth not in education and employment.

With the intensification of innovation, technological developments, and globalization, economic integration is among the basic building blocks of the current socio-economic structure. Economic integration can be defined as the structure that ensures the level of integration of countries in the global context and the opportunities for international economic activity. Economic integration is recognized to have the potential to reduce NEET rates by increasing employment levels through new entrepreneurial activities (Baldwin, 2006). Çolak and Koç (2024), who conducted a panel data analysis on a sample of developing and developed countries, concluded that economic growth and its reflections have a significant impact on NEET rates. Ripamonti and Barberis (2021), who conducted a structural model test within the framework of data from 103 Italian provinces, found that economic capital and its integration have a significant regulatory effect on the NEET rate in the short and medium term, although it varies by province. Dluhopolskyi and Dluhopolska (2024) share the need to consider social entrepreneurship, green jobs and environmentally friendly initiatives to actively integrate into the economy in order to reduce NEET youth, who are seen as a threat to sustainable development goals. Economic integration and social innovation, on the other hand, influence societies to respond to local problems and enable sustainable socio-economic structure (Kirwan et al., 2013). Haug et al. (2023) found that service innovations help NEET youth to return to education or work, as they help to promote service development, new pedagogical approaches, and entrepreneurial activity. Erdogan et al.'s (2021) study of 51 participants found that regions that are more innovatively developed will be sustainable in providing improved education, employment, and training resources. Ospina and Lorena (2018) comparatively analyzed Colombia and Turkey, concluding that NEET youth can create strategies to connect

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science, technology, and innovation policies. In Matli and Ngoepe's (2021) research, it was determined that innovative developments provide opportunities for NEETs to find jobs, employment and income in the context of online infrastructure and platform economy, which is inversely related to NEET rates. Finally, the research hypothesis was formulated within the existing literature framework.

H2: Innovation and economic integration significantly and negatively affect the share of young people not in education and employment.

One of the potential phenomena that can affect NEET is the role of employee rights. Employee rights have a protective role for workers in situations where inequality, injustice, economic and social problems coexist in the labor market. The importance of employee rights for maintaining continuity of income, work, and employment is vital for the concept of decent work, which is essential for the construction of a sustainable society by the International Labor Organization (ILO) (ILO, 2019). In the report shared by ILO (2024), it is stated that young people have the opportunity to influence policies and advocate for decent work, and that they need to be informed about their fundamental rights. In Goal 8 shared by the United Nations (2024), ensuring decent work in favorable conditions and securing the rights of workers for the implementation of sustainable economic policies are important means of ensuring inclusive employment opportunities for young people. According to Standing (2016), the new society is characterized by precariousness in work, employment, and income, with a mass of unemployed young people facing instability. In countries where employee rights and security are weak, there is instability in participation in the labor market in general, as well as causing young people, especially among the weakest segments, to approach NEET (Kalleberg, 2009). This situation is particularly acute in times of crisis. Bruno et al. (2014) conducted an analysis for various years covering EU countries and found that NEET increases during periods of instability such as a crisis. Maguire (2014), taking the United Kingdom as a sample, shared the necessity of conducting active employment policies in order to prevent NEET, which is one of the groups most exposed to unemployment, and to keep young people away from it. Carcillo and Königs (2015), covering OECD countries, share the necessity of focusing on income support programs for young people and improving their social, educational and employment status in order to reduce the NEET rate. They suggest thatthat future research may be very important for in-depth research on the subject. Finally, a hypothesis was formulated within the framework of the literature.

H3: Workers' rights are significantly and negatively related to the proportion of young people not in education and employment.

Unemployment rates are macroeconomic indicators that play a decisive role in determining the likelihood of the young labor force finding a job. By definition, unemployment refers to the period when individuals are not in education and are actively seeking employment. On the other hand, individuals with long-term unemployment cause a discouraged labor force and those who work with voluntary unemployment are excluded from the unemployed category (Özdemir, 2022). In addition to the fact that young people are not in education, the NEET rate is rapidly inflating with the exit from the unemployed category. For this reason, it is accepted in the literature that high unemployment rates increase NEET rates as they make it difficult for young people to enter the labor market (Scarpetta et al., 2010). Bostancı et al. (2024), who investigated the causality relationship between youth unemployment and NEET rates for Baltic and Mediterranean countries, found that while males experience a transition from NEET to unemployment, females experience a transition from unemployment to NEET. Therefore, the concepts support each other in both cases. According to Kelly and McGuinness (2015), who conducted a study on the Great Recession in Ireland, recessionary periods lead to an increase in NEET rates as young people experience problems in finding a job or participating in education and this has a devastating impact on unemployment. According to Bradley et al. (2020), who analyzed the labor force surveys of Italy, Spain, and the United Kingdom for the years 1993-2018, NEET rates may increase due to the fact that young people are directly affected by labor market conditions and are also susceptible to the discouraged worker effect. According to Caroleo et al. (2020), which covers the data of a number of European countries

for the years 2007-2016, it is concluded that the process of young people's transition from the end of the education period to work and the discouraged labor force caused by long-term unemployment increases NEET rates extraordinarily. Finally, the final hypothesis of the research is formed within this framework.

H4: Unemployment rates significantly and positively affect the proportion of young people not in education and employment.

3. Research Methodology

Philosophy and paradigm are definitely involved in the infrastructure of scientific research conducted in the social sciences, and research is shaped accordingly (Günbayı & Sorm, 2018). The philosophical framework of this research is shaped by the functionalist paradigm, grounded in realism. The philosophy of realism is based on the assumption that the social world is an observable reality with structures outside of individuals (Bhaskar, 1975). This philosophical structure allows the discovery of cause-and-effect relationships for the exploration of social phenomena and events. Under the influence of the functionalist paradigm, theoretical approaches based on cause-and-effect relationships are presented to explain complex phenomena for the continuity of social order by considering society as a system (Parsons, 1991). The research aims to determine the latent variables and causal relationships that are effective in the NEET factor, which has the potential to negatively impact the continuity of social sustainability, and to provide theoretical and practical implications for development. Quantitative research method was adopted to determine the factors affecting NEET.

3.1. Research Data

In order to determine the factors underlying the NEET factor in the research, data on the subject were first obtained. While determining the scope of data in the research, it was obtained from both developing and developed countries and countries that carry out economic cooperation for development. In this regard, a total of 46 countries, the majority of which are developing and developed countries, which are a combination of developed-20 countries and OECD countries, were included in the scope. The reason for selecting these countries was the need to identify the factors of the condition that may disrupt the importance and sensitivity of the selected countries to a sustainable society. For the selected countries, the first dependent variable of the research is the NEET factor, and the percentage data on this is compiled from OECD (2024) and World Bank (2024) data. On the other hand, the data of the research regarding the independent variables are of various types (percentage, numerical, etc.) and both their sources and descriptive statistics are defined in Table 1.

TABLE 1 | Data Source and descriptive statistics

Factor	Indicator	Description	Source	Mean	Std. Dev.	Min.	Max.
Youth not in employment, education or training (NEET)	Human Capital and Labor Market Policies (HCLM)	Human capital and labor market policies that are potentially important for NEET are based on data released by the IMF in 2024. It consists of an index ranging from 0-1 for all countries, with a value closer to 1 indicating that human capital is policyized in favorable conditions.	(IMF, 2025a)	0.156	0.019	0.115	0.187
	Innovation and Economic Integration (IEI)	For innovation and cross-country economic integration, which are of potential importance for NEET, IMF data for 2024 is used. It consists of an index in the range of 0-1 for all countries, with a value closer to 1 representing improved innovation and economic integration.	(IMF, 2025b)	0.151	0.025	0.088	0.190
	Labor Rights (LR)	The employee rights data, scored according to labor laws, reflects the year 2024 and ranges from 0-100, with a score of 100 indicating that the country has decent work.	(LRI, 2025)	84.847	10.049	62.5	96
	Unemployment Rate (UER)	Based on the data shared by the ILO for the year 2024, it is effective in providing a proportional view of the unemployment of the country's citizens.	(ILO, 2025)	6.1	4.647	2.5	33.2

3.2. Research Data

In determining the variables in the research; a framework was created by evaluating databases such as Web of Science, Google Scholar, Scopus. Symmetric analysis technique was adopted for the empirical analysis of the variables that are considered as causal factors for NEET. Structural equation modeling was used to determine the causal latent variables related to NEET and the hypothetical model proposal was tested. Structural equation modeling is a combination of factor analysis and multiple regression; it is a multivariate statistical method to analyze causal relationships between latent constructs measured through observed variables (Kline, 2023). However, the partial least squares method (PLS-SEM) has been adopted, allowing for the analysis of complex relationships with small sample sizes, and has gained popularity, especially in the social sciences (Sarstedt et al., 2021). It was chosen as the analysis technique due to certain advantages of covariance-based SEM, which involves exploratory research in the relationships between variables. In this study, Smart-PLS was selected as a highly effective heuristic analysis tool for conducting partial least squares analysis, model estimation, path analysis, and hypothesis testing (Ringle et al., 2015). SmartPLS 4.0 was deemed appropriate for the research analysis because it is an important tool that can overcome the complex nature of variables and the problem of relating theoretical development to empirical findings (Richter et al., 2022).

4. Structural Model Findings

First of all, the Variance Inflation Factor (VIF) value is examined to determine whether there is a problem regarding the internal relationship between the latent variables in the proposed structural model. In the research model, before conducting path analysis and hypothesis testing, it allows for questioning the collinearity in the internal structure between the variables. If the VIF value exceeds 5, it indicates that there is a common method bias within the multicollinearity between the latent variables (Hair et al., 2016). According to the findings shared in Table 2, it was found that the VIF values of the variables ranged from 1.202 to 2.355, indicated that there was no collinearity problem and no common method bias in the study. On the other hand, effect size (f^2) measures the contribution of the exogenous variables to the endogenous structure, $0.02 < f^2 < 0.15$: small effect, $0.15 < f^2 < 0.35$: moderate effect, approaching and exceeding the value of 0.35 indicates that there is a strong effect in the model (Chin, 1998). According to the findings shared in Table 2;

- HCLM -> NEET ($f^2 = 0.131$): Small effect, but the effect is not negligible.
- IEI -> NEET ($f^2 = 0.098$): It has a small effect and its explanatory power on the model is limited.
- LR -> NEET ($f^2 = 0.692$): It has a large effect and is the variable with the strongest effect in explaining the NEET variable.
- UER -> NEET ($f^2 = 0.163$): There is a moderate effect, and it explained the model significantly.

TABLE 2 | Variance inflation factor (VIF) and f-square results

	VIF	f-square
"HCLM" -> "NEET"	2,355	0,131
"IEI" -> "NEET"	2,619	0,098
"LR" -> "NEET"	1,271	0,692
"UER" -> "NEET"	1,202	0,163

R^2, which is the coefficient of determination in structural equation modeling, represents the proportion of variance in the endogenous variable explained by the latent variables. A value close to or above 0.75 for the predicted model means that a structural model with significant explanatory power has been designed (Hair et al., 2016). According to the structural model findings in Figure 1, the explanatory value of the components designed for youth not in employment and education (NEET) was determined as 0.736. This value means that the model is well-designed and has a good predictive validity and its practical outputs are considered valuable (Ringle et al., 2012). Therefore, the modeling of the variables predicted for NEET was determined to have good explanatory power and proved effective for NEET.

FIGURE 1 | Structural model
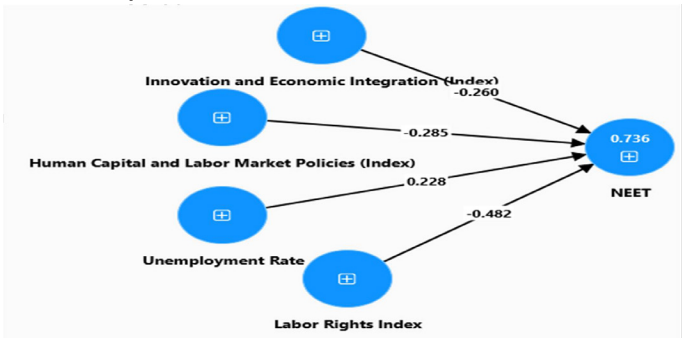
4.1. Path Analysis and Hypothesis Testing Findings

In PLS-SEM, a nonparametric resampling procedure was used to assess the significance of path coefficients (Efron and Tibshirani, 1993). The resulting path coefficients represent the strength of the relationship between the dependent and independent variables, and to the extent that it is greater than zero (as it approaches the threshold value of 1 and -1), the strong relationship becomes evident (Hair et al., 2021). The p-value in the path coefficients is used to test significance, and values below 0.05 and T-values higher than -1.960 and 1.960 are considered statistically significant, indicating that the hypothesized relationship is supported (Hair et al., 2017). Accordingly, as shown in Table 3, the path analysis results indicate that the relationships between all variables and NEET are significant, as evidenced by the T and P values. When examined in detail, it is determined that the effective implementation of human capital and labor market policies has an inverse relationship with the rate of young people who are not in education and employment. Similarly, there is an inverse relationship between innovation and economic integration and the rate of youth not in education and employment. On the other hand, the highest level of association (-0.482) lies in the inverse relationship between employee rights and the proportion of youth out of education and employment. Therefore, the effect of reversing the ratio of youth not in education and employment is significant in cases where employee rights are improved. Similarly, the variable with the highest significance value compared to the others is employee rights. The only factor that has a parallel relationship with youth not in education and employment is the unemployment rate. When unemployment rates increase/decrease, the proportion of young people not in education and employment also increases/decreases. Finally, all hypotheses proposed in the theoretical framework are supported.

**TABLE 3 |** Hypothesis testing with path findings

		Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	H	Results
HCLM->		-0,285	-0,283	0,104	2,749	0,006	H₁	Supported
IEI->	NEET	-0,260	-0,258	0,126	2,066	0,039	H₂	Supported
LR->		-0,482	-0,490	0,093	5,168	0,000	H₃	Supported
UER->		0,228	0,222	0,090	2,544	0,011	H₄	Supported

4.2. Importance-Performance Findings

Importance-performance maps are useful in extending the findings by providing an important perspective to make the model more comprehensive and to obtain additional findings (Uymaz and Arslan, 2022). Importance-Performance analysis is an effective tool for conducting in-depth analyses in PLS-SEM, helping both theoreticians and practitioners to identify which factors have a faster impact over a longer period of time and which are involved in higher performance (Ahmad and Afthanorhan, 2014). According to the importance-performance findings shared in Figure 2, the variables with the highest importance for the proportion of youth not in education and employment are determined to be employee rights (negative impact), human capital and labor market policies (negative impact), innovation and economic integration (negative impact), and unemployment rates (positive

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impact). The variables with the highest performance are employee rights, innovation and economic integration, human capital and labor market policies, and unemployment rate, respectively. Therefore, the variable with the highest potential impact on the proportion of young people not in education and employment in the short term is labor rights. In other words, labor rights have a very rapid impact on reversing the rate of young people not in education and employment. On the other hand, the variable with the most long-term impact is the unemployment rate. The increase/decrease in the unemployment rate has a long-term effect on the increase/decrease in the rate of youth not in education and employment. As a result, it will be important to consider the short- and long-term effects of policies regarding youth not in education and employment.

FIGURE 2 | Importance-performance map
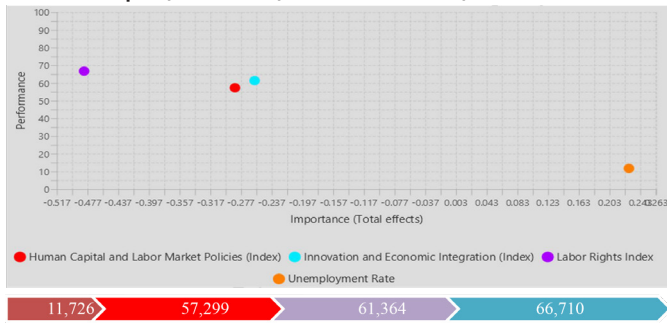
5. Conclusion and Discussion

This research includes a symmetric analysis of the factors affecting the proportion of young people not in education and employment, aiming to explain the causal relationship between the factors and rank them according to importance-performance. Hypothesis testing was conducted using the partial least squares method on a sample of G-20 and OECD countries combined. The impact of four main factors, human capital and labor market policies, economic integration and innovation, employee rights and unemployment rates, which are predicted to have an impact on NEET rates, on NEET is proved by structural model testing. One of the most striking findings of the research is that the predicted structural model proved to be a good predictor of NEET at a level of 73.6%. According to the results, all variables except unemployment have an inverse relationship with NEET. On the other hand, the unemployment rate was found to be a factor affecting NEET in parallel with NEET. According to the importance-performance results, the variable that has the fastest and highest impact on the NEET rate is determined as the provision of employee rights. This suggests that the factors considered in the study significantly affect NEET rates and offer a strong potential for reducing NEET rates if policies are designed effectively. The results are broadly in line with the existing findings in the literature.

First of all, according to the first hypothesis of the study, human capital and labor market policies were found to reverse NEET. Similarly, this finding is consistent with those of Heckman (2006), who suggest that education and skill levels enhance the employability of individuals. Considering that individuals with higher levels of education, skills and experience will be more stably employed, the potential of human capital to reverse NEET is quite clear. The NEET rate is expected to continue rising, particularly during periods of unemployment and when human capital is not effectively integrated into youth (Ripamonti and Barberis, 2021). In Fraumeni's (2024) study, which analyzed the data of selected world countries, including some Asian countries and the G20, for the years 1990-2019, it was stated that human capital is a globally important indicator in mobilizing the idle power of the country, such as some young people. As a result, human capital is a tool for the development of high employment and experience of individuals and is one of the important targets for a sustainable employment model (Flores-Crespo, 2007). Similarly, the effectiveness of labor market policies, combined with human capital, has played a significant role in reducing NEET rates. In particular, active labor market policies such as vocational training, skills seminars and temporary experiences

facilitate the integration of young people into the labor market (Auer and Cazes, 2003). However, it should be noted that passive employment policies such as social assistance and unemployment allowances may reduce the motivation of individuals to become labor force instead of encouraging their participation in the labor market (Scarpetta et al., 2010). In line with the findings in the literature, policymakers need to harmonize education systems and experiences with labor force policies in order to encourage young people to transition into the labor force. On the other hand, the findings on innovation and economic integration, the other hypothesis of the study, are largely in line with the literature. According to the research results, innovation and economic integration play an important role in reducing NEET rates. According to the Nieuwenhuizen (2023) study, which covers the years 2015-2019 of the European Union and various regions, innovation is found to reverse the disadvantage of youth unemployment and is the main determinant. Berigel et al. (2023), analyzing data from European Union member countries for the years 2005-2020, concluded that the main determinants of NEET are economic, social, and innovative conditions. Similarly, Baldwin (2006) concludes that economic integration and integration in the global sense has an employment-creating effect. However, the idea that economic integration may also cause job losses in some sectors and negatively affect young people should not be ignored (Standing, 2016). In another hypothesis, it was predicted that the effect of employee rights on NEET would be inversely related. In the research findings, it was found to be the variable with the highest and fastest effect, along with its inverse relationship. The relationship between labor rights and NEET has started to be discussed in the literature and, it is seen in a structure that addresses different economic and social contexts. In Freeman and Medoff's (1984) theory of the "collective voice" of trade unions, it is thought that unions seek ways to support young workers to find more reliable and sustainable jobs and have the potential to reduce youth unemployment. In Acemoglu and Robinson's (2012) study, the strengthening of employee rights is considered as a factor that increases youth participation in the labor market. Employee rights not only provide job security but also offer a safe transition environment for new entrants to the labor force. Choudhry et al. (2021) argue that employee rights have an impact on the integration of young people into the labor market, but overly strict regulations also limit flexibility and disadvantage young people. De Stefano and Wouters (2023) predict that the risk of transition to NEET status may increase due to the lack of social protection due to the nature of platform economies within digitalized labor markets. In the last hypothesis, it is predicted that unemployment rates have a direct parallel relationship with NEET. According to the result, the unemployment rate is the only factor with a positive relationship between the variables. The literature supports this hypothesis and reveals the direct effects and indirect consequences of unemployment rates on the young population. According to Bell and Blanchflower (2011), high unemployment rates are a condition that prevents the integration of young people into the labor market and causes social exclusion. Scarpetta et al. (2010) found that unemployment rates increase NEET rates not only because of economic consequences, but also because individuals who have been unemployed for a long time, who have lost hope, are in search of social identity and this accelerates NEET. Unemployment rates are thought to create a serious psychological and economic pressure on young people with NEET status (İnce, 2022). Eichhorst and Rinne (2018), in their study examining the relationship between youth unemployment and NEET rates in European Union countries, revealed that high unemployment rates further deepen social and economic inequalities between countries.

As a result, this research makes a significant contribution to the literature by addressing the impact of multidimensional factors on NEET, one of the obstacles to sustainable socio-economic development, through structural model testing. Along with the theoretical development, it also develops practical implications and practical strategy recommendations for policy makers. First of all, the importance given to employee rights in order to reduce NEET rates guides policy implementers as the fastest and most effective phenomenon. In addition, human capital policies that increase education and skills development, active labor market policies, innovation and economic integration, and policies that prevent youth

unemployment are all important practical implications for reducing NEET rates. In the research, the study was limited to developing or developed countries that generally attach importance to sustainable socio-economic development and cross-sectional data. Testing different country groups and longer time periods in future research will provide a broader perspective on the relationships between the factors affecting NEET rates.

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