

Article

A network analysis of adult education and higher education topics within the Erasmus+ Programme

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Abstract

The aim of this study is to examine the partnership networks established in the projects under the titles of Adult Education and Higher Education within the scope of the Erasmus+ Programme. In this study, a topological examination of the networks formed by higher education and adult education projects coordinated by Türkiye, completed in the last five years (until 10.09.2024), was conducted. After the five-year partnership networks of the relevant projects were created, network analysis revealed which countries took a more active and central role in the education projects coordinated by Türkiye. In the results obtained, degree and closeness centrality values are correlated according to countries, their rankings are the same. The reason for the difference in betweenness centrality values may be that a country that has done more projects does not take part in projects between other countries much. The relevant analysis revealed that, among all partner countries, Türkiye cooperates the most in education projects with Italy, Spain, and Romania for higher education and with Italy, Spain, and Greece for adult education. The results also show that both Italy and Spain rank high in both project types and play a more active role in project partnerships with other countries.

Keywords network analysis; Erasmus+; partnership; adult education; higher education.

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1 Introduction

Globalization creates a serious competitive environment among countries in many areas such as trade, tourism, industry, and digitalization worldwide. When the number of people and age groups covered by the field of higher education are considered, the importance of achieving internationalization standards to survive in this competitive environment is understood. The Council of Higher Education (CoHE) is also of great importance. The “Target-oriented Internationalization in Higher Education” project it initiated reveals CoHE’s strategy for internationalization. In the booklet published in 2021, internationalization was stated as one of the priority goals of the presidency. Within the scope of these goals and policies, exchange programs were considered the most important component. Erasmus+ has an important place among these exchange programs (Council of

Higher Education, 2021).

The European Union (EU) Erasmus+ program provides support for institutions to create cooperation networks through youth activities by providing opportunities such as education, training, professional development, non-formal learning, and internships. Although the Erasmus+ program started in 1987 to support the exchange mobility of higher education students in the fall and spring semesters, the scope of the program has expanded over time. Until 2013, it was implemented under the titles of Socrates, Leonardo da Vinci, and Lifelong Learning, and between 2014-2020, it was gathered under the roof of Erasmus+ to cover the fields of education, youth, and sports. It was accepted that the name of the program will continue as Erasmus+ for the 2021-2027 period and a budget of 28.4 billion euros was allocated to the program (Directorate for EU Affairs, 2024). The National Agency (NA) announced 3 main action plans and 1 special action plan, Jean Monnet, as KA1, which supports the learning mobility of individuals within the scope of the Erasmus+ program between 2021-2027, KA2, which supports cooperation between institutions and organizations, and KA3, which aims to support policy development and cooperation (Turkish National Agency, 2024).

The higher education and adult education headings under the KA1 and KA2 action plans are important sections that emphasize the university period and beyond. Adult education supports lifelong learning processes. Within the scope of the Erasmus+ program, policies and strategies aimed at individuals' education are being developed, and efforts are being made to increase participation rates in this area. It particularly stands out as a strategy aimed at ensuring the integration of individuals into the low-skilled labor market and enhancing social participation (European Association for the Education of Adults, 2017).

The higher education heading within the scope of Erasmus+ supports the establishment of international collaborations and enables student mobility, thus supporting the existence of universities in the global arena. Through the activities carried out under the heading of higher education, both the dissemination of different and contemporary teaching strategies and the development of the competencies of the teaching staff are served. Thanks to these collaborations, information sharing is provided between universities, and it becomes easier to follow developments in entrepreneurship, innovation, and the business world (Fumasoli and Rossi, 2021).

In this sense, the importance of cooperation established between countries through international programs and projects cannot be denied. It will be meaningful for countries to see how these cooperations are formed and their distribution. In this study, the adult education and higher education titles within the scope of Erasmus+ were examined through network analysis. Every system where there are interactions between multiple elements can be shown as a network, which forms the basis of graph theory (Van Steen, 2010). Like most interactive systems, natural or artificial, partnerships in projects can also be shown as networks (Garcia et al., 2008; O'malley and Marsden, 2008; Newman, 2018). In the study, a topological examination of the networks formed by higher education and adult education projects coordinated by Türkiye, which were completed in the last five years (until 10.09.2024), was conducted. After the five-year partnership networks of the relevant higher education and adult education projects were created, the network analysis revealed which countries played a more active and central role in the education projects coordinated by Türkiye.

In this context, the following research questions were tried to be answered.

1. What are the network structures of adult education projects completed in the last five years under the coordination of Türkiye and affiliated with the Turkish national agency?
2. What are the network structures of higher education projects completed in the last five years under the coordination of Türkiye and affiliated with the Turkish national agency?
3. What are the degree, closeness, and betweenness centralities of adult education projects completed in the last five years under the coordination of Türkiye and affiliated with the Turkish national agency?
4. What are the degree, closeness and betweenness centralities of higher education projects completed in

the last five years under the coordination of Türkiye and affiliated with the Turkish national agency?

2 Materials and Methods

In the research, the partnerships formed by the countries in the applications made under the titles of Erasmus+ Adult Education and Higher Education were examined with social network analysis. Social network analysis is a method applied to reveal the relationships between institutions, authors or research topics (Scott, 2000). To use the data, first, the official website of the Turkish National Agency was entered and data usage permission was provided through the e-government channel from the information page. Information was obtained on how to access the data.

2.1 Obtaining data

First, completed Erasmus+ projects from the last five years were filtered, and since strategic partnerships in education were targeted, KA2: partnerships for and exchanges of practices action were selected. Subsequently, after including all the countries that worked with the coordinating country, lists of one HED and one ADU project were compiled in the fields section. The project lists have also been submitted as supplementary files. The HED project list includes 32 countries, while the ADU list includes 33 countries. From these, an adjacency matrix was first created, followed by a Boolean-type network (Valverde et al., 2020). Specifically, countries that participated in the same project as the coordinator, Türkiye, are considered to have collaborated with each other, which corresponds to an interaction link (matrix element) with a value of 1. If two countries have never been involved in the same project, the corresponding row and column values will be 0. This means that an adjacency matrix is a square matrix used to represent an undirected network, where each element A_{ij} represents the presence (1) or absence (0) of an edge between node i and node j . Since the network is undirected, the adjacency matrix is symmetric, meaning $A_{ij} = A_{ji}$. Adjacency matrices for both HED and ADU project lists are shown in Tables 1 and 2.

Table 1 The adjacency matrix of HED projects.

	TR	LU	IT	ES	PT	EL	DE	UK	AT	SI	HR	RO	RS	BG	FR	BE	LT	PL	FI	NL	HU	LV	CZ	IE	SK	EE	MT	NO	MK	DK	SE	KR		
TR	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
LU	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
IT	1	1	0	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	
ES	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	1	0	0	
PT	1	0	1	1	0	1	1	1	1	0	1	1	1	0	1	0	1	1	0	1	0	1	1	1	1	0	0	1	1	0	0	0	0	
EL	1	0	1	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	0	0	0	0	1	0	0	0	
DE	1	0	1	1	1	1	0	1	1	0	1	1	0	1	1	0	1	1	1	0	1	1	1	1	1	0	0	0	0	0	1	0	0	
UK	1	0	1	1	1	1	1	0	0	1	1	1	0	1	0	1	0	1	1	1	1	0	1	0	0	0	0	0	0	0	1	0	1	
AT	1	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SI	1	0	1	1	1	0	0	1	0	0	1	1	0	1	1	1	1	1	0	1	1	0	1	0	0	1	0	0	0	1	0	0	0	
HR	1	0	1	1	1	1	1	1	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
RO	1	0	1	1	1	1	1	1	0	1	1	0	0	1	1	1	1	1	1	0	1	1	1	1	1	0	0	1	0	1	0	0	0	
RS	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BG	1	0	1	1	1	1	1	1	0	1	0	1	1	0	1	1	1	1	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	
FR	1	0	1	1	0	1	1	0	1	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	
BE	1	0	1	1	0	1	1	1	0	1	1	1	0	1	0	0	1	1	0	1	1	0	1	1	0	1	0	0	0	0	0	0	1	
LT	1	0	1	1	1	1	0	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	1	1	0	0	0	0	1	1	0	0
PL	1	0	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	
FI	1	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
NL	1	0	1	1	1	1	1	1	0	1	0	0	0	0	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	
HU	1	0	1	1	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	
LV	1	0	1	1	1	1	1	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
CZ	1	0	1	1	1	0	1	0	0	1	0	1	0	1	0	1	1	1	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	
IE	1	0	1	1	1	1	1	0	0	0	1	1	0	0	1	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	
SK	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
EE	1	0	1	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MT	1	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	
NO	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
MK	1	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DK	1	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SE	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
KR	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 2 The adjacency matrix of ADU projects.

	TR	IS	IT	ES	PT	EL	DE	UK	AT	SI	HR	RO	RS	BG	FR	BE	LT	PL	FI	NL	HU	LV	CZ	IE	SK	EE	MT	NO	MK	DK	SE	CY	XK
TR	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
IS	1	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IT	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1
ES	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	1	1	1
PT	1	0	1	1	0	1	1	1	1	1	0	1	0	1	1	0	1	1	0	1	0	0	0	0	1	1	1	0	0	1	1	1	0
EL	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	0	0	1	1	0
DE	1	0	1	1	1	1	0	1	1	0	1	1	0	1	0	1	1	1	0	1	1	0	1	0	1	0	0	1	0	0	1	0	0
UK	1	1	1	1	1	1	1	0	0	0	1	1	0	1	1	1	1	1	0	1	1	0	1	1	0	0	0	1	0	0	1	0	0
AT	1	0	1	1	1	1	1	0	0	0	0	1	1	1	1	1	0	1	1	0	1	0	1	0	1	0	0	1	0	1	1	1	0
SI	1	0	1	1	1	1	0	0	0	0	1	1	0	1	1	1	0	1	0	0	0	1	0	0	1	0	0	0	1	1	0	0	0
HR	1	0	1	1	0	1	1	1	0	1	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0
RO	1	0	1	1	1	1	1	1	1	0	0	1	0	0	1	1	0	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0
RS	1	0	1	1	0	1	1	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
BG	1	1	1	1	1	1	0	1	1	1	0	1	0	0	1	1	1	1	0	0	1	1	1	1	0	0	1	1	0	1	0	1	0
FR	1	0	1	1	1	1	1	1	1	1	0	1	0	1	0	1	0	1	0	1	0	0	0	1	0	1	0	0	1	0	0	1	0
BE	1	0	1	1	0	1	1	1	1	1	0	1	1	1	0	1	0	1	0	1	0	1	1	0	0	0	0	0	1	0	0	1	0
LT	1	0	1	1	1	1	1	0	0	1	1	0	1	0	1	0	1	0	1	0	1	1	0	1	0	1	0	1	1	0	0	0	0
PL	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0
FI	1	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
NL	1	0	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
HU	1	0	1	1	0	1	1	1	1	0	0	0	1	1	0	0	1	1	0	0	0	0	0	1	1	1	1	0	0	0	1	0	0
LV	1	0	1	1	0	1	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CZ	1	0	1	1	0	1	1	1	1	0	1	0	1	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
IE	1	0	1	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0
SK	1	0	1	1	1	0	1	0	1	1	0	1	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	1	1	1	0	0
EE	1	0	0	1	1	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
MT	1	0	1	0	1	1	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
NO	1	0	1	0	0	1	1	1	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
MK	1	0	1	1	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1
DK	1	0	1	1	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
SE	1	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	1	1	1	0	1	0
CY	1	0	1	1	1	1	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
XK	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

2.2 Building the networks

In this section, networks were first created from the adjacency matrices in an undirected manner. Undirected networks are networks where the edges between nodes have no direction. In other words, if country A is involved in a project with country B, then country B is also connected to the A. This is typically represented by an undirected graph, where edges can be shown as lines without arrows. Each country is represented as a node (or vertex), and their connections to other countries with which they collaborated on projects form the edges. The size of the nodes is drawn according to their degree, which refers to the number of connections they have. Since the coordinator country is connected to all other countries, it has the largest node.

The networks of the HED and ADU projects from the last five years, coordinated by Türkiye, are shown in Figures 1 and 2. While comparing the sizes of the nodes demonstrates the countries that participated the most and the least in these projects, this is mathematically proven in the next section.

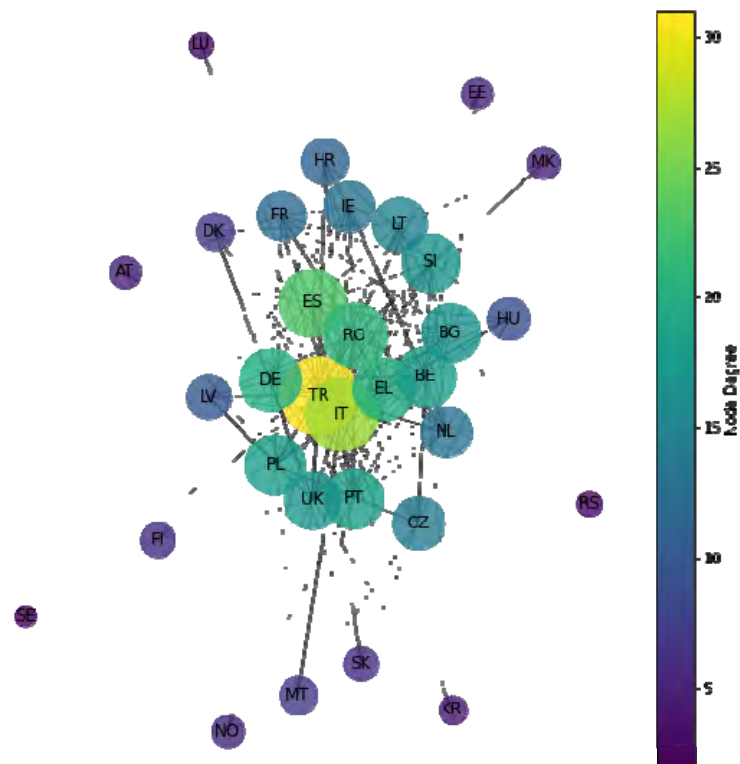


Fig. 1 HED project network. Node sizes are proportional to their degree, and the color map on the right shows the values of their degrees.

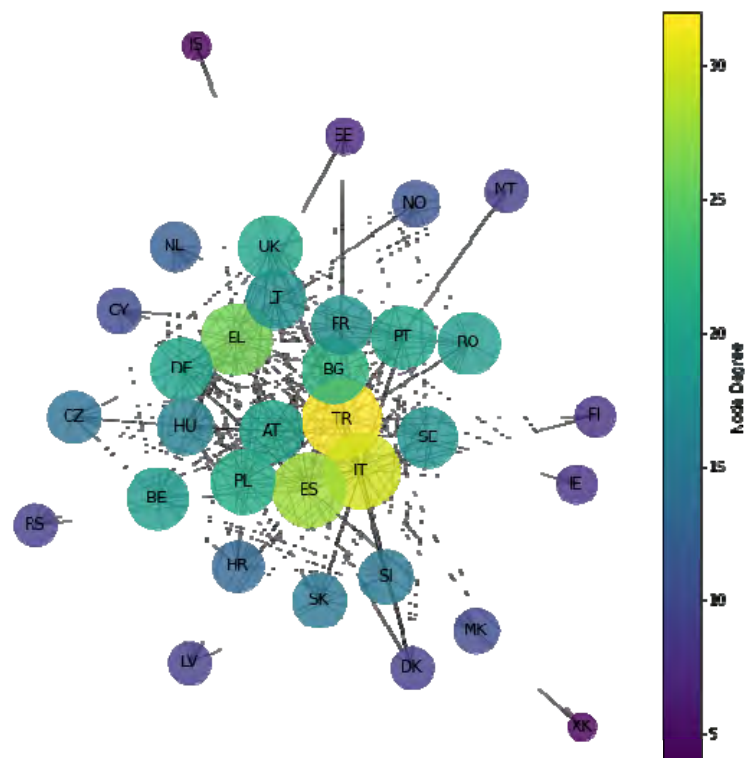


Fig. 2 ADU project network. Node sizes are proportional to their degree, and the color map on the right shows the values of their degrees.

2.3 Centrality measures

Determining the importance of nodes in a network depends on centrality measures. In other words, the number of connections of a node, its proximity to other nodes, and whether it forms a bridge between other ones determine the node's importance in the relevant network (Bloch et al, 2023; Zhang, 2016, 2018). These measures are degree, closeness, and betweenness centralities. Degree centrality is a measure of the importance of a node in a network, based on the number of direct connections it has to other nodes. In the context of undirected networks, degree centrality for a node v is defined as $C_D(v) = \text{deg}(v)$, representing the number of edges incident to v . To enable comparison across networks of varying sizes, degree centrality is often normalized by dividing by the maximum possible degree, which is $n-1$ for a network with n nodes

$$C_D(v) = \frac{\text{deg}(v)}{n-1}$$

In this context, a node's degree centrality can range from 0 (no connections) to 1 (connected to all other nodes).

Closeness centrality is a measure of how close a node is to all other nodes in an undirected network. It is based on the idea that a node is more central if it can reach other nodes more quickly, through shorter paths. In an undirected network, the closeness centrality $C_C(v)$ of a node v is defined as the inverse of the sum of the shortest path distances from node v to all other nodes in the network as

$$C_C(v) = \frac{n-1}{\sum_{u \neq v} d(v,u)}$$

where, n is the total number of nodes in the network, $d(v,u)$ is the shortest path distance between node v and node u . A higher closeness centrality value indicates that a node is, on average, closer to all other nodes, implying a more central position in the network. The formula is often normalized by $n-1$ to ensure values range between 0 and 1.

Betweenness centrality is a measure of the extent to which a node lies on the shortest paths between other pairs of nodes in an undirected network. It quantifies how often a node acts as a bridge in the communication between other nodes. For a node v , the betweenness centrality $C_B(v)$ is defined as

$$C_B(v) = \frac{\sigma_{st}(v)}{\sum_{s \neq v \neq t} \sigma_{st}}$$

where σ_{st} is the total number of shortest paths between nodes s and t , $\sigma_{st}(v)$ is the number of those shortest paths that pass through node v . A node with high betweenness centrality has greater control over the flow of information in the network since it frequently lies on the shortest paths between other nodes. Betweenness centrality helps identify nodes that act as key intermediaries in the network (Scardoni and Laudanna, 2012; Barthelemy, 2004; Zhang, 2016, 2018). Based on these definitions, the centrality measures of the countries in the HED and ADU project networks are presented in Tables 3 and 4.

Table 3 Degree, closeness and betweenness centralities of the nodes (countries) in HED projects.

Country	$C_D(v)$	$C_C(v)$	$C_B(v)$
TR	1.00	1.00	108.13
IT	0.87	0.89	46.72
ES	0.74	0.79	21.52
RO	0.68	0.76	15.38
EL	0.65	0.74	15.03
DE	0.65	0.74	13.93
PT	0.58	0.70	8.33
BE	0.58	0.70	9.50
PL	0.58	0.70	10.40
UK	0.55	0.69	8.70
SI	0.55	0.69	8.17
BG	0.54	0.69	11.22
LT	0.48	0.66	5.05
CZ	0.45	0.65	3.93
NL	0.42	0.63	1.72
IE	0.42	0.63	1.43
FR	0.39	0.62	2.25
HR	0.35	0.61	0.41
LV	0.32	0.60	0.18
HU	0.29	0.58	0.34
MT	0.23	0.56	0.40
DK	0.23	0.56	0.16
FI	0.19	0.55	2.00
SK	0.19	0.55	0.08
AT	0.16	0.54	0.00
EE	0.16	0.54	0.00
NO	0.16	0.54	0.00
MK	0.16	0.54	0.00
KR	0.13	0.53	0.00
LU	0.10	0.53	0.00
RS	0.10	0.53	0.00
SE	0.06	0.52	0.00

Table 4 Degree, closeness and betweenness centralities of the nodes (countries) in ADU projects.

Country	$C_D(v)$	$C_C(v)$	$C_B(v)$
TR	1.00	1.00	55.98
IT	0.94	0.94	38.57
ES	0.88	0.89	33.77
EL	0.81	0.84	23.94
BG	0.69	0.76	17.14
PL	0.66	0.74	8.01
PT	0.63	0.73	8.82
DE	0.63	0.73	6.19
UK	0.63	0.73	9.54
AT	0.63	0.73	9.16
RO	0.59	0.71	9.38
BE	0.59	0.71	7.48
FR	0.56	0.70	7.58
LT	0.56	0.70	4.85
SE	0.56	0.70	10.61
HU	0.50	0.67	5.74
SI	0.47	0.65	3.67
SK	0.47	0.65	4.25
CZ	0.44	0.64	1.23
HR	0.41	0.63	1.76
NL	0.38	0.62	0.49
NO	0.34	0.60	0.89
MK	0.31	0.59	2.20
CY	0.31	0.59	1.75
RS	0.28	0.58	0.08
LV	0.28	0.58	0.36
MT	0.28	0.58	0.09
DK	0.28	0.58	0.36
FI	0.25	0.57	0.55
IE	0.25	0.57	0.85
EE	0.22	0.56	0.00
IS	0.13	0.53	0.00
XK	0.13	0.53	0.00

3 Discussion

As seen in the study, network analysis can be applied to many areas, especially social and biological areas, as well as project partnerships. This network analysis was carried out to examine Erasmus+ projects coordinated by Türkiye in the fields of higher education and adult education.

As a result of the research, degree, and closeness centrality values were found to be related to countries. It is thought that the reason for the difference in betweenness centrality values may be that a country that carries out more projects does not take part in projects between other countries much. However, that measure also initially progresses from large to small, in correlation with degree and closeness. The relevant analysis revealed that among all partner countries, Türkiye cooperates the most in education projects with Italy, Spain, and Romania for higher education and with Italy, Spain, and Greece for adult education. It is also seen in the results that both Italy and Spain are in the top ranks in both project types and play a more active role in project partnerships with other countries.

When these results are examined, it is seen that some countries have managed to establish more active partnership networks in some projects. Erasmus+ projects are very valuable because they support cooperation between different cultures. These projects can help individuals understand different cultural textures and get rid of their prejudices. In order for countries to achieve successful partnerships, it is important for them to complete the projects they have started in cooperation. From the results of the analysis, it can be concluded that countries are open to cooperation and have strong coordination.

It is known that these partnerships provide significant contributions to the workforce and economy on a country basis. In this sense, it is thought that it would be useful to determine the partnership networks formed and to examine the projects that are accepted. This network analysis was carried out to examine the Erasmus+ projects coordinated by Türkiye in the fields of higher education and adult education. All national agency data can be examined by taking into account the distribution of grants. Priorities can be determined in new projects by considering the partnership networks obtained. The participation levels of different countries can be increased by examining the strategies of mobility and grant programs. Türkiye's cultural and cooperation stance within these partnerships can be examined.

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