

DO ATTITUDES TOWARDS, AND KNOWLEDGE OF THE EUROPEAN UNION CHANGE AFTER PARTICIPATION IN THE ERASMUS+ PROGRAM?

A PRETEST-POSTTEST QUANTITATIVE STUDY AMONG BELGIAN
STUDENTS

Scientific Article
Word Count: 8.291

Alexander Spriet

Student Number: 01608241

Promotor: Prof. Dr. Tom Verhelst

Master's thesis submitted for the degree of master in EU Studies

Academic year: 2022-2023

Abstract (EN)

This study investigates the attitudes towards and knowledge of the European Union (EU) among Erasmus students. Through a quantitative pretest-posttest research design, the authors examine whether attitudes towards, and political knowledge of the EU change after participation in the Erasmus+ program. Two hypotheses were formulated based on the European Commission's objectives. The first hypothesis suggests that EU attitudes will change into a more favorable direction after participation in the Erasmus+ program, while hypothesis 2 suggests that political knowledge of the EU will improve. The sample consists of 108 Erasmus students from three Flemish universities and data was collected through online surveys facilitated by international officers employed at the universities. Paired sample t-tests were conducted to analyze the data. The results indicate that attitudes towards the EU did not show significant changes after participation in the Erasmus+ program, and students' initial knowledge of the EU was found to be low with no significant improvement observed. These findings have important societal implications and contribute to the ongoing dialogue on the democratic deficit within the EU. They highlight the need to address the limited knowledge and understanding of the EU to promote active citizenship and democratic participation. The discussion section includes a thorough examination of the strengths and limitations of the study.

Keywords: Erasmus+ Program, European Union, Attitudes, Political Knowledge

Abstract (NL)

Deze studie onderzoekt de attitudes ten opzichte van, en kennis van de Europese Unie (EU) onder Erasmus studenten. Met behulp van een kwantitatieve voor- en nameting bestuderen de auteurs of de attitudes ten opzichte van en politieke kennis van de EU veranderen na deelname aan het Erasmus+ programma. Op basis van de doelstellingen van de Europese Commissie zijn twee hypothesen geformuleerd. De eerste hypothese suggereert dat attitudes ten opzichte van de EU in een positievere richting zullen veranderen na deelname aan het Erasmus+ programma, terwijl hypothese 2 suggereert dat politieke kennis van de EU zal verbeteren. De steekproef bestaat uit 108 Erasmus studenten van drie Vlaamse universiteiten en de gegevens zijn verzameld via online enquêtes, die werden gefaciliteerd door internationale medewerkers tewerkgesteld aan de universiteiten. Er werd gebruik gemaakt van gepaarde t-toetsen om de gegevens te analyseren. De resultaten geven aan dat attitudes ten opzichte van de EU geen significante veranderingen vertoonden na deelname aan het Erasmus+ programma. Bovendien bleek de initiële kennis van de EU onder studenten laag te zijn, zonder significante verbetering. Deze bevindingen hebben belangrijke maatschappelijke implicaties en dragen bij aan het lopende dialoog over het democratisch deficit binnen de EU. Ze benadrukken de noodzaak om de beperkte kennis en het begrip van de EU aan te pakken om actief burgerschap en democratische participatie te bevorderen. De discussiesectie omvat een grondige bespreking van de sterke en zwakke punten van het onderzoek.

Sleutelwoorden: Erasmus+ programma, Europese Unie, Attitudes, Politieke Kennis

Do Attitudes Towards, and Knowledge of the European Union Change After Taking Part in Erasmus+ program?

The European Union (EU) has been instrumental in shaping the political and economic landscape of Europe, holding considerable power to influence policies and decisions that impact its member states and citizens (Windhoff-Héritier et al., 2001). However, the EU has recently encountered challenges such as disinformation, fake news, and Euroscepticism, which have led to misunderstandings and misconceptions among its citizens (De Wilde et al., 2014). Scholars have highlighted that uninformed or misinformed citizens on a large scale are incompatible with a functioning democracy (Galston, 2001). As such, there exists a crucial need to study attitudes and knowledge of the EU among different groups, particularly Erasmus students. The Erasmus+ program is a European Commission-funded initiative that allows students to study abroad in other EU member states. Since its beginning in 1987, the core objectives have been the development of a sense of European identity, improving competences, and stimulate cross-national collaboration. Since 2006, also knowledge of the EU was emphasized as a key competence, more specifically:

“The Erasmus+ Program addresses the citizens’ limited participation in its democratic processes and their lack of knowledge about the European Union, and tries to help them overcome the difficulties in actively engaging and participating in their communities or in the Union's political and social life. Strengthening citizens’ understanding of the European Union from an early age is crucial for the Union’s future.” (European Commission, 2022a)

Previous studies have predominantly focused on the impact of the Erasmus program on European identity, language skills, employability, cross-border friendships, and attitudes towards Europe. However, limited attention has been given to studying attitudes towards and knowledge of the EU specifically among Erasmus students. Existing academic studies have primarily concentrated on identity, which aligns with one of the original key objectives of the Erasmus+ program (Sigalas, 2010; Mitchell, 2012). Although research on attitudes towards the EU exists, it often adopts a unidimensional or retrospective design (Wilson, 2011; Mitchell, 2012). Furthermore, despite the explicit objective of the Commission to enhance EU knowledge, research on this specific topic remains limited or non-existent, resulting in a notable gap in the literature, where certain goals of the Erasmus+ have received significant attention while others have been overlooked. For instance, we only found one study that measured EU knowledge but did not report the results (Golubeva et al., 2018).

This present study aims to address these gaps through a two-fold approach. First, it seeks to expand the existing literature by adopting a multidimensional and pretest-posttest research design to examine EU attitudes. This approach differs from previous research, which either used unidimensional approaches (e.g.,

pro vs. contra European integration) or employed retrospective designs that do not allow for reliable assessment of attitude changes. By employing this design, the study aims to provide insights into whether and which attitudes among Erasmus students undergo significant changes after participating in an Erasmus+ program. Secondly, this study contributes to the research field by measuring EU knowledge among Erasmus participants both before and after their Erasmus experience. This has not been adequately explored in previous research. By assessing the initial level of EU knowledge and examining whether it changes over time, the study aims to shed light on the EU knowledge levels of Erasmus students.

To achieve these objectives, this research paper begins with a review of the literature on the Erasmus+ program, EU attitudes, and EU knowledge. The subsequent sections provide a detailed description of the methodology, followed by the presentation of data and results. Finally, the findings and their implications are discussed.

The Erasmus+ Program

The Erasmus+ program, established in 1987, serves as the official international mobility program for students, teachers, and volunteers, coordinated by the European Commission and national agencies. The program started with 3244 participants, and has grown since then. Currently, there are nearly 400,000 yearly participants out of the 27 member states, and six other European countries (European Commission, 2019). The budget for the Erasmus+ program for the period of 2021-2027 is estimated at 26.2 billion euros, representing a substantial portion of the EU budget (Directorate-General for Education, Youth, Sport and Culture, 2021). This growth and financial investment demonstrate the program's success as a significant initiative of the EU. By participating in the program, it is often mentioned that students can broaden their horizons, develop their language skills, and gain intercultural competencies.

Initially, the program had five primary objectives: enhancing competitiveness, strengthening European identity, promoting knowledge and experience of other member states, fostering cooperation between universities, and improving the quality of training and education¹. Over the years, the objectives of the Erasmus+ program have undergone revisions and amendments. In 2006, the Council and the Parliament recommended incorporating civic competence, including knowledge about the EU, as an objective of the program². This recommendation was subsequently included in the program's regulation in 2013³. Moreover, the most recent revision in 2021, emphasized objectives such as active citizenship and

¹ Council decision 1987/327/EEC of 15 June 1987 adopting the European Community Action Scheme for the Mobility of University Students (Erasmus), *OJ L 166*, 25 June 1987, 20-24.

² Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning. (2006). *Official Journal*, L 394, 10-18. ELI: <http://data.europa.eu/eli/reco/2006/962/oj>

³ Regulation (EU) 2013/1288 of the European Parliament and of the Council of 11 December 2013 establishing 'Erasmus': the Union programme for education, training, youth and sport and repealing Decisions No 1719/2006 EC, No 1720/2006/EC and No 1298/2008/EC, *OJ L 347*, 20 December 2013, 50-73.

participation in democratic life. For example, the program explicitly aims to encourage the participation of young people in Europe's democratic life which includes supporting activities that contribute to citizenship education⁴. Despite the fact that enhancing supportive attitudes towards the EU is not explicitly stated as an objective in EU regulation, there are indications that the Erasmus+ program also serves this purpose. For instance, the European Commission's communication states that funded projects under the Erasmus+ program can lead to 'more positive attitudes towards the European project and the EU values' (European Commission, n.d.). Furthermore, European Parliament documents highlight the importance of the Erasmus+ program in fostering positive attitudes towards the EU (e.g., European Parliamentary Research Service, 2020, p. 1).

Numerous studies have shown that the Erasmus+ program has a positive impact on participants' academic and personal development. Participants experience higher academic achievement, improved communication and problem-solving skills, and increased confidence and independence (European Commission, 2019). Moreover, participation in the program has been linked to enhanced employability prospects, as employers value the skills and experiences gained through Erasmus+ (Hadfield & Summerby-Murray, 2016; Iriondo, 2020). However, research on whether Erasmus+ leads to a strengthened European identity has yielded inconsistent results. Some studies suggest a self-selection effect, indicating that students who already identify more strongly as European are more likely to participate in Erasmus+ (Sigalas, 2010; Mitchell, 2012; Van Mol, 2018).

To be eligible for the Erasmus+ program, specific conditions must be met. However, it is important to note that the criteria vary depending on the type of project (European Commission, 2023a). In this study, the focus lays on students who participate in Erasmus+ as a part of their studies. The requirements primarily focus on higher education institutions, with less emphasis on individual participants. Eligibility criteria include being enrolled in studies leading to a recognized degree or tertiary level qualification and being at least in the second year of studies (European Commission, n.d.-b). Participants are also required to sign a grant agreement and a learning agreement, complete an online language assessment, and have health insurance. Additionally, participants must provide a feedback report after the mobility period and are encouraged to actively engage in the local society through intercultural or civic engagement activities or projects (European Commission, 2022c).

Overall, the aim of Erasmus has been expanding and is not solely only for students anymore. It now covers a wide area of aims and priorities, with a particular shift to include civic competences. However, in the light of this study we focus on students in an higher education setting, their attitudes and knowledge of the European Union.

⁴ Regulation (EU) 2021/817 of the European Parliament and the Council of 20 May 2021 establishing Erasmus+: the Union Programme for education and training, youth and sport and repealing Regulation (EU) No 1288/2013, *OJ L* 189, 28 May 2021, 1-33.

EU Attitudes

Research on the attitudes towards the EU received increased attention in recent decades, particularly since the 1990s. Initially, the public opinion towards the European Economic Community and later the EU was characterized by a period of permissive consensus, where citizens generally held positive views without much interest or critique. However, this shifted to a period of constraining dissensus marked by a general sense of Euroscepticism (Sangiovanni, 2019, p. 13). Academic scholarship has also witnessed a growing focus on negative opinions and attitudes towards the EU, as Euroscepticism continues to rise (Kuhn et al., 2016). These trends signify a dynamic of decreasing legitimacy of the EU and correspond to the notion of democratic deficit, which refers to the perceived shortcomings of the EU in upholding democratic principles. In the subsequent paragraphs, we delve into the definition of EU attitudes, their operationalization, examine research on the development of these attitudes, and their stability over time.

Historically, EU attitudes were perceived as unidimensional, representing a continuum ranging from negative to positive evaluations of European integration and the EU. This understanding aligns with the general definition of attitude in social psychology as a psychological tendency expressed through favor or disfavor towards a particular entity, in this case, the EU (Eagly & Chaiken, 1993, p. 1). However, scholars have raised concerns about the reductive nature of this unidimensional approach, considering it too simplistic (Hobolt & Brouard, 2011, p. 313) and possibly naive (Boomgaarden et al., 2011, p. 244). In response to this debate, Boomgaarden et al. (2011, pp. 243 - 245) proposed a multidimensional alternative approach to EU attitudes by integrating multiple conceptual frameworks. Their comprehensive framework considers various dimensions of EU attitudes, including forms of Euroscepticism, national pragmatic attitudes, pro-European sentiments and EU enlargement support. By incorporating these perspectives, the multidimensional approach aims to provide a more nuanced and comprehensive understanding of EU attitudes, acknowledging the complex nature of the European integration project (Boomgaarden et al., 2011). This study follows this multidimensional approach.

The measurement of attitudes has been a subject of ongoing research and debate for several decades, with various approaches emerging since the 1920s (Thurstone, 1929). Over the years, various approaches have emerged such as direct, indirect, physiological, and behavioral indicators of attitudes (for an overview see Petty, 2018, pp. 9–22). Among these approaches, direct measures have gained significant popularity and are commonly used in survey research to assess attitudes towards specific entities such as the EU. Examples of direct measures include single-item measures, Likert scales, and semantic differential scales. Single-item measures are brief and capture attitudes using a single question or statement. Likert scales involve respondents rating their agreement or disagreement with statements related to the EU on a predetermined scale, while semantic differential scales capture evaluative dimensions by asking

participants to rate the EU on bipolar adjective pairs (e.g., good-bad, favorable-unfavorable). The specific approach employed in this study will be further detailed in the method section.

Numerous factors influence or account for citizens' opinions towards the EU. Boomgaarden et al (2011) summarized several antecedents of EU attitudes including economic evaluations, governmental approval, anti-immigration attitudes and national identity. Economic evaluations commonly known as the utilitarian approach, were among the earliest factors examined. According to this perspective, citizens' perceptions of economic benefits provided by the EU would influence their attitudes. Favorable attitudes would emerge if the EU was perceived as beneficial whereas unfavorable attitudes would arise if it was seen as economically disadvantageous. In terms of governmental approval, studies show that support for incumbent parties, provided these are supportive of the EU, is related to also being more in favor of the EU (Boomgaarden et al., 2011, p. 251). Although this finding remains conditional (Ray, 2003). On the contrary, citizens who hold stronger anti-immigration attitudes and who have a strong national identity are generally more against the EU (Boomgaarden et al., 2011, p. 251). Another influential factor is news and media coverage, with studies indicating that EU coverage in the media can significantly impact EU attitudes (De Vreese & Boomgaarden, 2016, p. 78; van Klingeren et al., 2017). For example, research has shown that Dutch news coverage of the EU tends to be meager and predominantly neutral or slightly negative, providing little positive news about the EU (De Vreese & Boomgaarden, 2006b). Also political efficacy, defined as a person's belief in the responsiveness of governing institutions to their interests and their perception of having knowledge and influence in the political process, plays a role in shaping EU attitudes (McEvoy, 2016, p. 1161). They showed that even during times of economic difficulties, citizens who feel their interests are heard and can make a difference in the political process are more likely to maintain favorable attitudes towards the EU. The role of political efficacy highlights the limits of the utilitarian approach. Thus, previous research shows that EU attitudes are affected by a wide range of factors.

Understanding the stability of EU attitudes is another important aspect of research in this field. While on general Eurobarometer surveys suggest that attitudes towards the EU remain broadly positive and stable (European Commission, 2023a, p. 11), there can exist substantial attitudinal changes (Goldberg & de Vreese, 2018; European Commission, 2022b). Moreover, research has explored generational differences in EU attitudes, with some studies suggesting stability in support for the EU across different age groups (Ringleova, 2019), others find substantial generational differences (Down & Wilson, 2013). However, personality research shows that attitudes are partially dispositional with specific personality traits relating to certain attitudes (Nielsen, 2016, p. 1193).

In conclusion, the study of EU attitudes has gained significant attention in recent decades. Scholars have moved beyond the unidimensional perspective to adopt a multidimensional approach that considers various dimensions of EU attitudes. Direct measures, such as single-item measures, Likert scales, and semantic differential scales, are commonly used to assess EU attitudes. Factors such as economic

evaluations, governmental approval, anti-immigration attitudes, national identity, news and media coverage, and political efficacy have been identified as influential in shaping EU attitudes. Furthermore, research has explored the stability of these attitudes and highlighted the role of generational differences and personality traits. Understanding EU attitudes is crucial in light of rising Euroscepticism and concerns about the democratic deficit, particularly for the Erasmus+ program which aims to shape these attitudes towards a favorable direction.

EU Knowledge

The concept of political knowledge, in broad terms, is what people know about politics, where EU knowledge specifically refers to the political knowledge of the EU. However this conceptualization has faced criticism for being too simplistic and subject to debate. For instance, Galston (2001) argued that political knowledge includes a normative layer, raising questions about the knowledge citizens should possess to be competent democratic participants. There is extensive literature on the normative aspects of citizens' knowledge (for an overview see Bennett, 2003). To illustrate this debate, consider the following two questions: 'What is the name of the current president of the European Commission?', and 'What are the competences of the European Commission?'. These questions highlight the central idea that EU knowledge depends on how the concept is operationalized. Scholars continue to discuss the nature of political knowledge, acknowledging the existence of different types of political knowledge (Elo & Rapeli, 2010; Cohen & Luttig, 2020). To address the normative aspect of political knowledge, we formulated our own definition of EU knowledge. This definition aims to assist researchers in determining the relevance of this conceptualization of EU knowledge to their studies. More specifically, this study defines EU knowledge as: 'the factual knowledge of the European Union's main institutions, main competencies, financing, and electoral procedures.' This definition encompasses four interrelated topics focused on factual knowledge of the EU. Traditional measures of EU knowledge such as knowledge about names or current events are explicitly excluded, as one can understand how the EU functions without necessarily remembering the names of temporary officeholders.

Political knowledge is typically measured by using open-ended or multiple-choice question formats, revealing generally low levels of political knowledge among the general public (Carpini & Keeter, 1996). This finding is widely recognized and is best illustrated by the following quote: "the widespread ignorance of the general public about all but the most highly salient political events and actors is one of the best documented facts in all of the social sciences" (Lau & Redlawsk, 2001, p.951). While most studies have focused on American samples, research in the European context has shown that EU political knowledge is lower than political knowledge of the national level (Pannico, 2017, p.426). This finding indicates that low political knowledge, especially about the EU, is also prevalent across Europe.

Studies exploring the factors influencing knowledge have examined the role of civic education, finding a positive relationship between education and political knowledge (Galston, 2001; Rasmussen, 2016). The media and news coverage have also received research attention as influences on political knowledge, where media exposure leads to knowledge gains (De Vreese & Boomgaarden, 2006a; Marquart et al., 2019, p. 651). Similar to EU attitudes, the EU aims to improve EU knowledge with the Erasmus+ program, however there have not yet been studies that investigate if and how participation in the program is related to EU knowledge.

In conclusion, considering the normative dimension of political knowledge and its implications for measurement, we have established a definition of EU knowledge. Existing research highlights the overall low levels of political knowledge, with a particular focus on the influences of civic education and news coverage. Despite the European Commission's explicit emphasis on civic competences, there is a notable lack of studies examining the EU knowledge of Erasmus students.

Link Between the Erasmus+ Program, EU Attitudes and EU Knowledge

The aim of this section is to explore the relationship between the Erasmus+ program, attitudes towards the EU, and knowledge of the EU. As mentioned previously, the Erasmus+ program aims to influence attitudes towards the EU in a more favorable direction and enhance individuals' understanding of how it operates. In what follows, we discuss the significance of EU attitudes and knowledge, present an overview of the current literature on the links between the concepts of interest, and formulate concrete hypotheses to guide our research on attitudes and knowledge of the EU among Erasmus participants. This research aims to contribute by addressing existing research gaps, particularly the lack of a pretest-posttest design and a multidimensional approach to measuring changes in EU attitudes among Erasmus students, while also investigating their knowledge of the EU.

EU attitudes play a crucial role in voting behavior and indirectly influence policy-making. Numerous studies have shown that EU attitudes affect EU voting intentions (Evans & Butt, 2007), voting motivations (van Elsas et al., 2019), voting behavior in national elections (de Vries, 2007) and preferences for political parties across the political spectrum (Lubbers & Scheepers, 2007). For instance, preferences for more extreme parties have been found to be associated with Eurosceptic attitudes (Lubbers & Scheepers, 2007). Implicit attitudes have also been shown to have an impact on voting behavior (Maier et al., 2015, p.381). These findings highlight the relevance of attitudes in understanding political behavior and provide insights into why the EU aims to influence EU attitudes among Erasmus students.

Despite the EU's aim to shape Erasmus student's attitudes, there is limited research that has specifically investigated the change in EU attitudes. The research that does exist, is limited due to two

aspects: an unidimensional approach and the use of a retrospective cross-sectional research design which does not allow to assess the actual change over time.

For instance, Mitchell (2012, pp. 510 - 511) found that participation in the Erasmus+ program increased participants' interest in the EU and their sense of European identity. However, a limitation of this study is that it relied on retrospective data collection, meaning that the participants were only questioned after their Erasmus already took place which does not measure the actual change in attitudes. Wilson (2011, pp. 12-13), on the other hand, employed a pretest-posttest design with a control group (N = 99 Erasmus students, N = 145 controls), and measured various concepts of which some can be categorized as dimensions of attitudes. These include European identity, attachment to Europe, voting intentions, and support for a more political Union. The results show no support that the Erasmus+ program leads to a more favorable attitudes such as support for a more political union, however Erasmus students were more in favor of a political union compared to the control group. Additionally, a final study investigated the link between Erasmus participation and a unidimensional pro/contra EU attitude, revealing significantly more positive views among students from new member states (Öz & Van Praag, 2022). Thus, the existing studies provide inconclusive results, are limited by their research designs to assess change, and suggest that there might also exist a self-selection effect in terms of favorability towards the EU (similarly to European identity).

To address these research gaps, we use the multidimensional approach by Boomgaarden et al. (2011) because it makes it possible to go beyond the unidimensional approach and look at specific changes for multiple attitude dimensions. We formulate a general hypothesis regarding attitudes (hypothesis 1) and additionally also specify sub hypotheses, one for each dimension. More specifically, based on the Erasmus+ objectives, therefore we formulate hypothesis 1a. Second, we expect negative affection towards the EU to decrease (hypothesis 1b). Third, taking part in the Erasmus+ program could lead to increased perceptions of performance (see hypothesis 1c). Fourth, from a utility perspective, receiving grants from the EU should increase utilitarianism and idealism (see hypothesis 1d). Finally, participants should become more in favor of the EU (see hypothesis 1e).

Hypothesis 1: Attitudes towards the European Union will significantly change towards a more favorable direction after participation in the Erasmus+ program.

Hypothesis 1a: There will be a significant enhancement of EU identity after participation in the Erasmus+ program⁵.

Hypothesis 1b: There will be a significant decrease in negative affection towards the EU before and after participation in the Erasmus+ program.

⁵ Because of how Boomgaarden et al. (2011) formulated the questions to measure the identity dimension, we argue it is more appropriate to speak of EU identity than European identity. In this study these are used interchangeably.

Hypothesis 1c: There will be an increase in perceived performance of the EU before and after participation in the Erasmus+ program.

Hypothesis 1d: There will be a significant increase in utilitarianism and idealism before and after participation in the Erasmus+ program.

Hypothesis 1e: There will be an increase in support to strengthen the EU before and after participation in the Erasmus+ program.

Similarly to EU attitudes, EU knowledge is also related to voting behavior (Hobolt, 2005) and political participation (Reichert, 2016). Scholars argue that informed citizens with sufficient knowledge about political institutions and processes are crucial for a functioning democracy (Kenamer, 1994; Rahn, 1999; Anspach et al., 2019, p. 2). As far as our knowledge goes, there have been no studies that focused on EU knowledge among Erasmus students. However, one study did mention measuring it but did not report results (Golubeva et al., 2018)⁶. Nevertheless, this study does provide information about the perceptions of Erasmus students regarding the importance of learning about the EU to become an active European citizen (n = 174 Erasmus students). Specifically, the researchers found that 83.9% agreed or strongly agreed that learning about the EU is important for becoming an active European citizen while 12.4% remained neutral and only 3.8% disagreed (Golubeva et al., 2018, p.51). This finding suggests that a large number of Erasmus students do see merit of learning about how the EU works for civic purposes. Considering the European Commission's explicit aim of increasing EU knowledge through the Erasmus+ program, we propose hypothesis 2.

Hypothesis 2: There will be a significant improvement in EU knowledge after participation in the Erasmus+ program.

⁶ The lead author clarified that it was not the purpose of the paper to analyze what exactly students know about the EU although the data was collected.

Method

A pretest-posttest design was employed in this study to investigate changes in attitudes towards, and political knowledge of the EU among Erasmus students. This particular design refers to measuring the same concepts at two points in time, in this case once before and once after Erasmus+ participation. This method enables us to measure actual changes instead of relying on retrospective data which is prone to recall bias. The first survey was administered to participants in August and September of 2022, at the start of their exchange period, and the second survey was administered in March and April of 2023, towards the end of their exchange period⁷. The surveys were programmed in Qualtrics software that allows for randomization and were administered online. Content wise, the surveys consisted of questions about the main variables of interest EU attitudes and knowledge, as well as other variables of interest like age, sex, university, field of study, length of stay, political interest and certainty of EU knowledge. E-mails were used to match the participants' responses at both measurement times. All of the participants agreed to the Informed Consent.

Erasmus students were recruited indirectly through international officers from higher education institutions in Flanders (Belgium). The university administrators of 10 Flemish higher education institutions were contacted via e-mail and phone calls. We retrieved the contact details from the publicly available institutions' websites⁸. Relying on international officers is common in this type of research but increases the odds of selection bias (Mitchell, 2012, p. 513)⁹. In total 151 participants participated in the first survey, however 36 were excluded for almost immediately ending the survey, which leaves 115 students at time 1. The second survey was distributed from March to April 2023, with two reminders sent to increase the response rate. The final sample included 108 matched pairs of pre- and post-test responses with a mean age of 21.6 (see Table 1). Almost all students were Belgian, and in total, administrators from three institutions distributed the survey. In terms of field of study, the sample consisted of a wide variety of backgrounds, where political science and law students only accounted for a fraction of the total sample. This is important because this group most likely has higher EU knowledge due to their studies. Furthermore, the sample mainly consists of students who take courses in other European countries for four to six months¹⁰.

⁷ Because some participants had shorter and longer Erasmus stays, it is more accurate to speak of measurement time 1 (T1) and time 2 (T2) than pre-post. For pragmatic purposes, we use pre-post and T1 and T2 interchangeably.

⁸ Institutions differ in terms of available contact details. Some institutions provide contact details per field of study, others per faculty and some have one central point of contact.

⁹ Assistance with the survey's administration is mixed. Selection bias could have occurred based on the personal interest of international officers to distribute the survey. Additionally, the first survey was administered during holiday season which meant that many administrators took time off and therefore did not distribute the survey. This also relates to the choice to work without a control group because it was not feasible to collect data from a similar group.

¹⁰ Strictly speaking Erasmus+ only refers to mobility exchange with European countries, however Erasmus is commonly referred as a synonym for going abroad. Therefore, we also included students who went abroad to non-European countries.

Table 1. Descriptive Statistics of the Study's Sample

Variable	Category	Frequency	Percentage (%)
Sex	Female	81	75.0
	Male	15	13.89
	X	2	1.85
	NA	10	9.26
Nationality	Belgian	101	93.52
	Other (Dutch)	2	1.85
	NA	5	4.63
Higher education institution ¹¹	Ghent University	54	50.0
	Antwerp University	14	12.96
	KU Leuven	35	32.41
	NA	5	4.63
Field of study	Psychology and educational sciences	38	35.19
	Literature and philosophy	24	22.22
	Medicine, pharmacy & veterinary sciences	17	15.74
	Architecture	13	12.03
	Law & criminology	6	5.56
	Political & social sciences	5	4.63
	NA	5	4.63
Mobility exchange type	Courses	83	76.85
	Internship	19	17.59
	Other	1	0.93
	NA	5	4.63
Planned length of mobility	2-3 months	20	18.52
	4-6 months	81	75.0
	7-12 months	5	4.63
	NA	2	1.85
Exchange location	Europe	99	91.67
	Non-Europe	7	6.48
	NA	2	1.85

Note. NA refers to no answer.

In terms of materials used, we measured EU attitudes using the question items constructed by Boomgaarden et al. (2011). The authors integrated attitude dimensions from several studies and found the following factor structure. The five dimensions were: EU Identity, Negative Affection, Performance, Utilitarianism and Idealism, and Strengthening (see appendix A for a complete list of questions). EU Identity pertains to participants' identification with the European Union and was measured using five statements such as 'Being a citizen of the European Union means a lot to me', and 'I feel close to fellow Europeans'. Participants were asked to score each statement on a seven-point Likert scale ranging from 'totally disagree (1)' to 'totally agree (7)'. Negative Affection relates to the negative affect towards the EU and the perceived threat of European unification. This dimension was measured using five items, for example: 'I feel threatened by the European Union' and 'The European Union poses a threat to Flemish identity'. We

¹¹ Ghent University is the author's home university which potentially explains the higher participation rate.

adapted the latter statement to exclude 'culture' which would have created a double-barreled question, potentially lowering the reliability of the results. Performance pertains to the democratic and financial functioning of EU institutions and was measured using items such as 'The decision-making process in the European Union is transparent' and 'I trust the European Parliament'. Utilitarianism and Idealism reflect to what extent participants believed they and their country benefitted from the European Union and if it helped preserve peace, prosperity and the environment. Utilitarianism example items are: 'Belgium has benefited from being a member of the European Union' and 'I personally benefit from Belgium's EU membership', while an Idealism example item is: 'The European Union fosters peace and stability'. Finally, Strengthening pertains to participants' attitudes towards the future of European integration, including extended decision-making competencies, policy transfer, and the integration of more member states. It was measured using items such as 'The EU should be enlarged with other countries' and 'I support more decision-making at EU level'. The sum scores could then be calculated per dimension which ranges from 5-35 for the first four dimensions, while Strengthening only contains four items which causes the scores to range between 4-28.

Participants' EU knowledge was assessed using a battery of ten multiple-choice questions with five options each, which were a combination of adapted questions from previous research and newly developed questions (see appendix B for a complete list). The battery primarily focused on EU institutions, for instance, questions such as 'How does one become a member of the European Parliament?', 'Who sits on the European Council?' and 'What is NONE of the European Commission's competencies?'. In addition to these, other questions were included which did not focus on institutions but rather on knowledge of the EU's size in terms of population or budget. Examples of such questions are: 'Approximately how many inhabitants do you think live in the EU? For your information, about 8 billion people live in the world', and 'Which of the following statements is NOT correct? (Spending on EU officials' salaries is the biggest item in the EU budget)'. This allowed us to calculate a total score for EU knowledge which ranges from 0-10.

Results

The following section provides a summary of the results obtained from the analyses regarding EU attitudes and EU knowledge. The analysis were conducted using R-Studio. Each part commences with a descriptive analysis in which we describe the main aspects and highlight remarkable findings, followed by the analyses to test the formulated hypotheses.

Results for EU Attitudes

Table 2 presents the sum scores, standard deviations, minimum and maximum values of attitude dimension scores at T1 and T2 (see appendix C and D for a visual representation). Regarding EU identity,

most of the items are close or above the middle point of the scale meaning that on average the participants are neutral or slightly agree that being an EU citizens means a lot to them. However, there still remains about 25% of the participants who score below the middle point (score less than 20), showing that there exists variability in the sample in terms of EU identity. On average, they are quite neutral towards statements regarding the European flag and proudness of being a European citizen. Item 2 and 3 stand out here as being noticeably lower and higher than the others. More specifically, participants on average slightly disagree that Europeans share a common tradition, culture and history. While on average they agree on feeling close to fellow Europeans. Regarding negative affection, there is a strong skew where most of the participants strongly disagree with negative affections towards the EU including statement 5 which shows that the respondents do not agree that the EU poses a threat to Flemish identity. These findings thus show that the sample in general does not hold any negative affections towards the EU¹². In terms of performance, the results show that on average participants are quite neutral in terms of performance, although they do agree that the EU functions by democratic principles. In terms of utilitarianism and idealism, the scores lay higher indicating that the participants agree or even strongly agree that Belgian membership is a good thing, and that they benefit from EU membership. In terms of idealism specifically, the respondents strongly agree that the EU fosters peace and stability, however they are quite neutral when it comes to the role of the EU in preserving the environment. Finally, regarding strengthening, the participants report being neutral or slightly agree that the EU should be enlarged with other countries, however they strongly disagree that the EU should become one country.

Comparing this study's sample to existing studies with Erasmus students as a group of interest, might yield interesting results as it makes it possible to compare samples in terms of attitudes. However, due to the difference in conceptualization and general lack of studies, we only identified one potential comparison. Here, we compared Wilson's (2011) results related to the attitudes of Erasmus students towards a strengthened political union with this present study's second item of the strengthening dimension. A one sample t-test was conducted to examine the differences in the second item strengthening between our study and a comparison study that reported a mean of 5.15 for the construct 'in favor of a more political union' ($M = 5.15$, $SD = 1.369$) (Wilson, 2011, p. 26). The results revealed a significant difference between the means of support for a more political union in our study and the comparison study ($t(79) = -8.5545$, $p < 0.001$, 95% $CI [3.78, 4.30]$). This indicates that this present study's participants differed significantly from the mean reported in the comparison study, suggesting they are more neutral towards more policy-making at EU level than the comparison study.

¹² There is a small, non-significant increase in negative affection. Although we do not delve into this finding in detail due to its non-significance, one possible explanation could be the restriction of range in participants' responses. Many of the participants scored close to the minimum score on the scale, which limited the ability to observe a significant decrease in negative affection due to the limited range of the scale.

Table 2. Sumscores, Means, Standard Deviations and N per Attitude Dimension at Time 1 and 2

	<i>M (SD)</i> T1	<i>M (SD)</i> T2	N T1	N T2
EU Identity	21.22 (4.21)	21.29 (3.89)	92	90
Q1. Being an EU Citizen means a lot	4.68 (1.21)	4.90 (1.12)	100	102
Q2. Common tradition, culture & history	3.34 (1.36)	3.26 (1.24)	102	103
Q3. Feel close to fellow Europeans	5.10 (1.03)	5.11 (0.94)	94	92
Q4. European flag means a lot	4.13 (1.33)	4.41 (1.20)	100	99
Q5. Proud to be European citizen	4.06 (1.26)	4.00 (1.27)	101	104
Negative Affection	8.42 (3.63)	9.00 (3.46)	103	106
Q1. Afraid of the EU	1.88 (0.97)	2.05 (0.93)	104	106
Q2. Threatened by the EU	1.69 (0.80)	1.73 (0.79)	104	106
Q3. Angry about the EU	1.88 (1.07)	1.94 (0.95)	103	106
Q4. Disgusted by the EU	1.53 (0.80)	1.64 (0.84)	103	106
Q5. EU poses threat to Flemish identity	1.52 (0.76)	1.64 (0.86)	104	106
Performance	22.56 (3.72)	22.64 (3.47)	71	70
Q1. Transparent decision-making	3.91 (1.15)	4.11 (0.99)	79	81
Q2. EU functions well as it is	4.51 (1.21)	4.51 (0.92)	94	94
Q3. Wasting a lot of tax money*	3.99 (1.20)	3.91 (1.26)	82	81
Q4. Functions by democratic principles	5.33 (1.03)	5.22 (0.95)	95	93
Q5. Trust the European Parliament	4.78 (1.00)	4.85 (0.92)	95	97
Utilitarianism & Idealism	27.20 (4.40)	27.57 (3.90)	79	83
Q1. EU fosters peace and stability	5.55 (1.03)	5.64 (0.91)	96	98
Q2. EU fosters the environment	4.28 (1.30)	4.51 (1.22)	90	90
Q3. Belgian membership is good	5.98 (1.09)	5.85 (1.06)	97	100
Q4. Belgium benefited from membership	5.80 (1.06)	5.90 (0.96)	95	94
Q5. Personal benefit from membership	5.50 (1.32)	5.55 (1.26)	90	98
Strengthening	15.12 (3.47)	15.44 (3.19)	73	77
Q1. EU should become one country	2.09 (1.25)	2.19 (1.20)	99	102
Q2. Support more policy-making at EU	4.04 (1.16)	4.21 (1.05)	80	80
Q3. More decision-making power at EU	4.30 (1.20)	4.63 (1.06)	94	97
Q4. EU should be enlarged	4.65 (1.20)	4.52 (1.13)	84	91

Note. Range 1 - 7 (totally disagree - totally agree) for every question. Q3 is a reversed item. See appendix B for the full list. A shortened worded version of the items was provided to enhance interpretation.

Hypothesis 1 stated that there would be a significant change in EU attitudes after participation in the Erasmus+ program towards a favorable direction. This hypothesis was tested by conducting paired samples t-tests for each EU attitude dimension. Table 3 presents the results, which indicate that none of the dimensions differ significantly between time 1 and time 2. Therefore, we fail to reject the null-hypothesis. In other words, there is no evidence that attitudes of Erasmus students towards the EU significantly change after participation in the Erasmus+ program.

Table 3. Output of Paired Sample T-tests per Attitude Dimension

Attitude Dimension	<i>t</i> -statistic	Df	<i>p</i> -value	Confidence interval	Mean difference
EU Identity	-1.41	81	.16	[-1.35; 0.23]	-0.56
Negative Affection	-1.80	100	.08	[-1.25; 0.06]	-0.60
Performance	1.24	56	.22	[-0.30; 1.28]	0.49
Utilitarianism & Idealism	-0.04	71	.97	[-0.72; 0.70]	-0.01
Strengthening	-1.21	63	.23	[-0.87; 0.22]	-0.33

Results for EU Knowledge

The objective of this study was to evaluate changes in participants' EU knowledge by administering the same set of 10 questions about the EU twice, once before and once after their participation in the Erasmus+ program. Prior to presenting the results, it is noteworthy that we took measures to enhance the reliability of the findings by emphasizing honest responses from participants¹³. Consequently, a total of 81 participants were deemed eligible for analysis, comprising 64 women, 14 men, and 3 participants who did not specify their gender. In the subsequent sections, we provide descriptive and statistical results, examining the relationships between EU knowledge and variables such as political interest, education, individual knowledge questions, and general EU knowledge, thereby addressing hypothesis 2.

In terms of political interest, the participants were classified into three groups based on their original scores: 51.3% indicated being uninterested, 13.7% remained neutral, and 35% expressed an interest in politics. Subsequently, a correlation analysis was conducted to examine the association between political interest and EU knowledge. The results indicated a small but positive correlation between the two variables, $t(78) = 2.1$, $p = 0.04$, $r = .23$. These findings suggest a significant relationship between interest in politics and EU knowledge.

In terms of previous civic education on the EU, the findings reveal that 61.25% of participants reported having learned about the EU in high school, while 13.75% reported learning about it in higher education. When considering both forms of education, it was found that 27.5% of the sample did not receive any civic education on the EU either in high school or higher education. Descriptively, the means indicate a difference in EU knowledge scores, with those who previously learned about the EU in civic education obtaining higher scores ($M = 3.5$ vs 2.9). To statistically compare the two groups, the non-parametric Mann-Whitney U Test was employed¹⁴, to compare the ones who previously learned about the EU with those who have not. The results indicate no significant difference in the medians of EU knowledge

¹³ Of the 108 participants, 96 fully participated in the knowledge test battery and 15 of them self-reported on looking up answers. This leaves 81 participants.

¹⁴ A t-test could not be used due to violations of the required assumptions. 'M' stands for mean, while the respective medians are 4 for those who previously did learn about the EU in civic education, and 3 for those who did not.

($W = 758$, $p = .20$). This suggests that although participants who received previous civic education on the EU may have scored higher on average, the difference is not statistically significant.

Next, McNemar's chi-squared tests were conducted for each knowledge question individually (see Table 4). This statistical test is commonly used to examine significant differences in dichotomous variables (1 = correct, 0 = false/I don't know) within a paired sample, allowing us to determine whether there were significant changes over time for each knowledge question. The results of the analysis reveal no significant increase in knowledge for each question. In what follows we highlight some of the remarkable findings.

Table 4. EU Knowledge Questions, Correct Answers in %, Output McNemar's Chi-squared test & p -values (N = 81)

EU Knowledge Question	Correct Time 1 (%)	Correct Time 2 (%)	McNemar's chi-squared test	p -value
Q1. Commission President	43.21	34.57	1.44	.23
Q2. Members European Parliament	37.04	30.86	1.78	.18
Q3. Budget	35.80	32.10	0.15	.70
Q4. Members European Council	56.79	51.85	0.38	.54
Q5. Population EU	18.52	20.99	0.10	.75
Q6. Members Council of EU	37.04	27.16	2.04	.15
Q7. Main task Council of EU	14.81	17.28	0.06	.80
Q8. Amount of Commissioners	33.33	28.40	0.32	.57
Q9. Amount of Judges (CJEU)	34.57	27.16	0.74	.39
Q10. Competency Commission	20.99	22.22	0.00	1.00

A noteworthy finding in this study is that, except for the question about the members of the European Council, the percentage of correct answers for each question was below 50%. This indicates a generally low level of political knowledge among participants. Particularly, question 7, which pertains to the main task of the Council of the EU, had the lowest proportion of correct answers. Interestingly, comparing this with question 6, the results suggest that knowing who the members of the Council of the EU are, does not necessarily imply understanding its competencies. Many participants mistakenly believed that the main task of the Council of the EU is to set the general political direction of the EU, which is the main task of the European Council.

Furthermore, question 5, which asked about the EU population, received the second lowest score among all the questions. The most common response was 1.4 billion, indicating a lack of knowledge among participants. Notably, since the correct answer to this question is readily available online, this finding suggests that the participants did not systematically cheat on the knowledge questions. Moreover, the

question regarding the competencies of the European Commission (Q10) was frequently answered incorrectly, indicating a lack of knowledge about the Commission's role in enforcing EU laws. Finally, question 2 revealed that approximately one-third of the participants were aware that EU citizens directly vote for Members of the European Parliament, and this knowledge did not significantly increase over time. We discuss these findings in the discussion section.

To test hypothesis 2, which posited a significant increase in EU knowledge after participation in the Erasmus+ program, a paired samples t-test was conducted. The results of our analysis revealed a non-significant difference in mean EU knowledge scores between time 1 and time 2, $t(80) = 1.7418$, $p = 0.085$ [$CI = -0.06; 0.85$]. The mean difference in scores was 0.40 ($T1 = 3.32$, $T2 = 2.93$)¹⁵. Therefore, we failed to reject the null hypothesis, indicating no significant difference in EU knowledge scores between time 1 and time 2 (see Appendix E). This finding does not support hypothesis 2, suggesting that participants' political knowledge about the EU did not undergo a significant change during their time abroad¹⁶.

Additionally, we explored the level of certainty among respondents regarding their answers to the political knowledge questions. Prior to their Erasmus participation, 75% of participants indicated being totally unsure or unsure, while only 3.75% expressed being sure or totally sure. This indicates that approximately 21.25% had a neutral or slight level of (un)certainty. Following their Erasmus experience, 66.25% reported being totally unsure or unsure, 2.5% reported being sure or totally sure, and 31.25% reported a neutral or slight level of certainty. Correlations analyses show that there exists a positive relationship between certainty and EU knowledge. At time 1, the analysis reveals a mild positive correlation, $t(78) = 2.47$, $p = .02$, $r = .27$. While at time 2, the analysis reveals a moderate positive correlation, $t(78) = 4.58$, $p < .001$, $r = .46$. These analyses suggest that the relation between certainty and knowledge increased. Furthermore, a Mann-Whitney U Test was used to examine whether there was a significant difference in participants' certainty scores between time points 1 ($M = 2.18$, $SD = 1.45$) and 2 ($M = 2.28$, $SD = 1.44$). The results suggest that there was no significant difference in the median certainty scores between time points 1 and 2 ($V = 3071$, $p = 0.6391$). In other words, the participants did not become more certain of their answers to the political knowledge questions. This finding shows that a majority of the participants are totally unsure about their political knowledge and that this did not statistically improve after Erasmus+ participation.

Finally, we investigated whether there exist significant relationships between EU knowledge and EU attitudes. The results showed no significant correlations for the dimensions EU identity, negative affection, performance or strengthening. However, the sole significant result shows a positive correlation

¹⁵ We do not report further on the results because they are not significant, however it was close and surprisingly there is a downwards trend. A possible explanation is the fact that respondents were encouraged to guess if they did not know the answer.

¹⁶ When including participants who reported cheating on at least one question, the paired t-test yielded a significant result, $t(95) = 2.238$, $p = 0.028$ [$CI = .059; 0.983$]. This finding shows that asking about cheating behavior can increase the reliability of the results.

between EU knowledge and Utilitarianism and Idealism at T1 [$t(62) = 3.42, p = .001, r = .40$] at T1, although this relationship disappeared at T2 [$t(62) = 1.11, p = .28, r = .14$]. These results provide no evidence for significant relationships between EU knowledge and EU attitudes in this sample.

Overall, the results show a general lack of knowledge about the EU among Erasmus students. Furthermore, this study does not find evidence for significant changes in EU knowledge among Erasmus students after participation in Erasmus+.

Discussion and Conclusion

This study aimed to examine whether attitudes towards and knowledge of the EU among students changed following their participation in the Erasmus+ mobility program. Using a quantitative pretest-posttest research design, the results indicate that attitudes towards the EU did not show significant changes after Erasmus+ participation. Additionally, the findings reveal that students' initial knowledge of the EU was low and did not demonstrate significant improvement after participation in the program. These findings are in contrast to the objectives set forth by the European Commission to foster favorable attitudes towards the EU, and address the lack of EU knowledge to promote democratic participation. Therefore, these outcomes have societal implications and contribute to the ongoing dialogue on the democratic deficit.

In terms of EU attitudes, a multidimensional approach was employed to analyze multiple dimensions. Although the results did not indicate significant changes in any of the dimensions, it is still relevant to discuss the findings. Across the various dimensions, neutral to favorable attitudes towards the EU were observed in terms of identity, performance perception, and strengthening attitudes. Additionally, the results demonstrated that Erasmus students did not hold negative emotions towards the EU and had relatively positive perceptions regarding the utility of EU membership. These findings support the concept of the self-selection effect, whereby individuals with a strong European or EU identity are more likely to participate in the Erasmus+ program (Sigalas, 2010; Wilson, 2011; Van Mol, 2018). Moreover, it suggests that the self-selection effect extends beyond identity and also encompasses other attitudes towards the EU. This finding aligns with previous research indicating that young and highly educated individuals tend to hold more favorable attitudes towards the EU (Down & Wilson, 2013, pp. 432–433).

Notably, there were interesting differences observed among the dimensions, with utilitarianism and idealism dimensions yielding higher scores compared to performance or strengthening dimensions. These results suggest that Erasmus students perceive Belgian membership in the EU as beneficial and recognize personal benefits from EU membership. However, this does not necessarily imply that they hold similar levels of agreement regarding the EU's performance or the need for its strengthening, as their attitudes towards these latter dimensions remained more neutral. This indicates that the multidimensional approach offers unique insights beyond the traditional unidimensional conceptualization.

Nevertheless, there are opportunities for methodological improvements regarding the specific questions used, as exemplified by the notable difference observed in question two of the EU identity dimension. It is plausible that individuals can have an enhanced EU identity while simultaneously recognizing differences in tradition, history or culture among member states. Hence, we recommend that future studies should carefully consider the specific wording and content of the questions employed. Furthermore, given the substantial variability in scores observed for certain items within a dimension, it is advisable to report both the dimensions results and the results of individual items as a good practice.

Regarding EU knowledge, examining the specific results, it is evident that there was no improvement in knowledge across any of the questions. Particularly concerning is the finding that only 30-37% of participants were aware that EU citizens directly vote for Members of Parliament, only slightly higher than the probability of 25%. Interestingly, this score aligns with the average political knowledge score of 33.6% found in previous studies conducted in older American populations (Bennett, 2003, p.320). It is important to consider that the sample in this study comprises predominantly young individuals who may not have yet had the opportunity to vote. However, given that the Erasmus+ program aims to address citizens' limited participation in democratic processes and their lack of knowledge about the European Union, it seems reasonable to prioritize the explanation of basic democratic processes, such as voting. This brings us to the concept of democratic deficit. Previous research has indicated an increase in Euroscepticism and a shift from permissive consensus to constraining dissensus. To increase support for the EU and address the perception of democratic deficit, it is crucial to provide citizens with basic civic education. This is particularly relevant for Erasmus students who are young, highly educated, and, as this study demonstrates, not Eurosceptic (showing moderately high performance and low negative affection). As former President of the European Council, Herman Van Rompuy, remarked in response to rising Euroscepticism and populism, "the EU also needs defenders" (Van Rompuy, 2015, p.19). In line with this call, we argue that the European Commission should prioritize increasing factual knowledge about the EU's democratic processes among Erasmus students, as outlined in their own explicit priorities. How can one expect meaningful participation in democratic processes without the basic knowledge that they have the right to vote? For instance, the Eurobarometer data reveals a notable shift in Belgians' perspectives regarding their country's EU membership. While the majority of Belgians still recognize the value of Belgium being an EU member, there has been a significant change. Specifically, according to the Eurobarometer, the percentage of Belgians who believe that Belgium could have a better future outside the EU nearly doubled, increasing from 17% to 32% (European Commission, 2022b, p. 93). Conversely, the percentage of those who disagree with this statement decreased by 18% (from 83% to 65%). This highlights the importance of enhancing political knowledge about the EU to foster informed and active citizenship. To address questions of democratic deficit and the EU's democratic nature, a foundational understanding of the EU's legislative processes is essential. However, it is important to acknowledge that knowledge is only one of the objectives

of the Erasmus+ program, and this study does not diminish the role of Erasmus in developing other skills, providing valuable experiences, and enhancing employability.

The present study exhibits several strengths. Firstly, it contributes to the existing literature by adopting a multidimensional approach to analyzing EU attitudes among Erasmus participants using a pretest-posttest design. This approach enables a nuanced understanding of the participants' attitudes across different dimensions, offering valuable insights into their perceptions of the EU. Secondly, this study addresses the research gap concerning the examination of EU knowledge among Erasmus participants. By examining their political knowledge of the EU, the study provides valuable insights into areas where students may have misconceptions that prevent them becoming democratic competent citizens. It serves as an initial benchmark for future studies in this domain. Lastly, this study is one of the first to simultaneously investigate both EU attitudes and EU knowledge. The main contribution of this study lies in its pre-post measurement design, allowing for an assessment of changes in attitudes and knowledge over time. This design facilitates an evaluation of the European Commission's explicit objective of enhancing EU knowledge among Erasmus+ participants.

The present study has several limitations that should be acknowledged. Firstly, the generalizability of the results is limited due to the small sample size and the overrepresentation of certain fields of study, making it difficult to generalize the findings to all students. The sample size may be attributed to low engagement from both international officers and Erasmus students. Future research should explore alternative methods to collect contact details of Erasmus students, reducing reliance on the willingness of international officers. Additionally, calculating the response rate and ensuring questionnaire distribution to all eligible students would provide a clearer understanding of the sample. The self-selection bias related to the topic of the EU should also be considered, as some students may choose to skip the questionnaire based on their interest in the study's content. Moreover, since the study included only Flemish students, the results cannot be generalized to other nationalities, as knowledge of the EU is influenced by the high school education system, which may vary across countries. Future research should aim to measure EU knowledge among a broader range of student fields and subjects. Furthermore, as the Erasmus+ program expands beyond higher education, it would be valuable to investigate whether EU knowledge increases among non-higher education participants, such as teachers or social workers.

Furthermore, the present study's results should be interpreted cautiously considering the varying degrees of freedom across the attitude dimensions. Dropout in the survey may be attributed to survey fatigue and participants' disinterest in politics, as all 24 items were measured using a 1-7 Likert scale. This could have led to participants closing the survey prematurely, indicating a general lack of interest in the European Union. The lower degrees of freedom in some dimensions may have reduced statistical power to detect significant differences between pre- and post-Erasmus+ scores. These limitations should be

considered when interpreting the results, and future research should replicate the findings with larger, more heterogeneous samples to address these limitations.

Finally, it is important to consider the normative aspect of EU knowledge when evaluating citizens' competence as democratic participants. Different questions may hold varying degrees of relevance, highlighting the need for caution when comparing the concept of EU knowledge employed in this study with findings from other studies. Therefore, future research should prioritize the selection of essential questions to ensure comparability and validity in assessing EU knowledge.

In conclusion, this study sheds light on the attitudes towards and knowledge of the European Union (EU) among Erasmus students. The findings, obtained through a quantitative pretest-posttest design, revealed that attitudes towards the EU did not exhibit significant changes following participation in the Erasmus+ program. Additionally, students' initial knowledge of the EU was low and did not demonstrate significant improvement after completing the program. These results have important societal implications and contribute to the ongoing dialogue on the democratic deficit within the EU. To advance our understanding of EU attitudes and knowledge, future research should focus on exploring and enhancing our comprehension among diverse populations, and employ robust methodologies to further advance this field of study.

References

- Anspach, N. M., Jennings, J. T., & Arceneaux, K. (2019). A little bit of knowledge: Facebook's News Feed and self-perceptions of knowledge. *Research & Politics*, *6*(1), 2053168018816189.
- Bennett, S. E. (2003). Is the public's ignorance of politics trivial? *Critical Review*, *15*(3–4), 307–337. <https://doi.org/10.1080/08913810308443585>
- Boomgaarden, H. G., Schuck, A. R. T., Elenbaas, M., & de Vreese, C. H. (2011). Mapping EU attitudes: Conceptual and empirical dimensions of Euroscepticism and EU support. *European Union Politics*, *12*(2), 241–266. <https://doi.org/10.1177/1465116510395411>
- Carpini, M. X. D., & Keeter, S. (1996). *What Americans know about politics and why it matters*. Yale University Press.
- Cohen, C. J., & Luttig, M. D. (2020). Reconceptualizing political knowledge: Race, ethnicity, and carceral violence. *Perspectives on Politics*, *18*(3), 805–818.
- De Vreese, C. H., & Boomgaarden, H. (2006a). News, political knowledge and participation: The differential effects of news media exposure on political knowledge and participation. *Acta Politica*, *41*, 317–341.
- De Vreese, C. H., & Boomgaarden, H. G. (2006b). Media effects on public opinion about the enlargement of the European Union. *JCMS: Journal of Common Market Studies*, *44*(2), 419–436.
- De Vreese, C. H., & Boomgaarden, H. G. (2016). Effects of news media coverage on public support for European integration. *W. van Der Brug & CH de Vreese (Eds.)*, 237–254.
- de Vries, C. E. (2007). Sleeping Giant: Fact or Fairytale?: How European Integration Affects National Elections. *European Union Politics*, *8*(3), 363–385. <https://doi.org/10.1177/1465116507079546>
- De Wilde, P., Michailidou, A., & Trenz, H.-J. (2014). Converging on euroscepticism: Online polity contestation during European Parliament elections. *European Journal of Political Research*, *53*(4), 766–783.
- Directorate-General for Education, Youth, Sport and Culture. (2021). *Erasmus+ 2021-2027: Enriching lives, opening minds through the EU programme for education, training, youth and sport*. Publications Office of the European Union. <https://data.europa.eu/doi/10.2766/536>
- Down, I., & Wilson, C. J. (2013). A rising generation of Europeans? Life-cycle and cohort effects on support for 'Europe.' *European Journal of Political Research*, *52*(4), 431–456.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt brace Jovanovich college publishers.
- Elo, K., & Rapeli, L. (2010). Determinants of political knowledge: The effects of the media on knowledge and information. *Journal of Elections, Public Opinion and Parties*, *20*(1), 133–146.
- European Commission. (n.d.-a). *Key Action 2: Cooperation among organisations and institutions / Erasmus+*. <https://erasmus-plus.ec.europa.eu/node/30>

- European Commission. (n.d.-b). *Studying abroad | Erasmus+*. <https://erasmus-plus.ec.europa.eu/node/475>
- European Commission. (2022a). *Erasmus student charter*. Publications Office of the European Union. <https://data.europa.eu/doi/10.2766/45379>
- European Commission. (2022b). *Public opinion in the European Union: Report*. Publications Office of the European Union. <https://data.europa.eu/doi/10.2775/465233>
- European Commission. (2023a). *Public opinion in the European Union*. <https://www.europa.eu/eurobarometer>
- European Commission. (2022c). *Priorities of the Erasmus+ Programme | Erasmus+*. Priorities of the Erasmus+ Programme. <https://erasmus-plus.ec.europa.eu/node/47>
- European Commission. (2023b). *Erasmus+ Programme Guide*. <https://erasmus-plus.ec.europa.eu/node/4575>
- European Parliamentary Research Service. (2020). *Impact of the Erasmus+ programme*. [https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/642812/EPRS_BRI\(2020\)642812_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/642812/EPRS_BRI(2020)642812_EN.pdf)
- Evans, G., & Butt, S. (2007). Explaining Change in British Public Opinion on the European Union: Top Down or Bottom Up? *Acta Politica*, 42(2), 173–190. <https://doi.org/10.1057/palgrave.ap.5500181>
- Galston, W. A. (2001). Political Knowledge, Political Engagement, and Civic Education. *Annual Review of Political Science*, 4(1), 217–234. <https://doi.org/10.1146/annurev.polisci.4.1.217>
- Goldberg, A. C., & de Vreese, C. H. (2018). The dynamics of EU attitudes and their effects on voting. *Acta Politica*, 53(4), 542–568. <https://doi.org/10.1057/s41269-018-0106-0>
- Golubeva, I., Gómez Parra, M. E., & Espejo Mohedano, R. (2018). What does ‘active citizenship’ mean for Erasmus students? *Intercultural Education*, 29(1), 40–58. <https://doi.org/10.1080/14675986.2017.1404741>
- Hadfield, A., & Summerby-Murray, R. (2016). Vocation or vocational? Reviewing European Union education and mobility structures. *European Journal of Higher Education*, 6(3), 237–255.
- Hobolt, S. B. (2005). When Europe matters: The impact of political information on voting behaviour in EU referendums. *Journal of Elections, Public Opinion and Parties*, 15(1), 85–109. <https://doi.org/10.1080/13689880500064635>
- Hobolt, S. B., & Brouard, S. (2011). Contesting the European Union? Why the Dutch and the French Rejected the European Constitution. *Political Research Quarterly*, 64(2), 309–322. <https://doi.org/10.1177/1065912909355713>
- Iriondo, I. (2020). *Evaluation of the impact of Erasmus study mobility on salaries and employment of recent graduates in Spain*. 45(4), 925–943. <https://doi.org/10.1080/03075079.2019.1582011>
- Kenamer, J. D. (1994). *Public Opinion, the Press, and Public Policy*. Greenwood Publishing Group.

- Kuhn, T., van Elsas, E., Hakhverdian, A., & van der Brug, W. (2016). An ever wider gap in an ever closer union: Rising inequalities and euroscepticism in 12 West European democracies, 1975–2009. *Socio-Economic Review*, *14*(1), 27–45. <https://doi.org/10.1093/ser/mwu034>
- Lau, R. R., & Redlawsk, D. P. (2001). Advantages and Disadvantages of Cognitive Heuristics in Political Decision Making. *American Journal of Political Science*, *45*(4), 951–971. <https://doi.org/10.2307/2669334>
- Lubbers, M., & Scheepers, P. (2007). Euroscepticism and extreme voting patterns in Europe. Social cleavages and socio-political attitudes determining voting for the far left, the far right and non-voting. 71–92.
- Maier, M., Maier, J., Baumert, A., Jahn, N., Krause, S., & Adam, S. (2015). Measuring citizens' implicit and explicit attitudes towards the European Union. *European Union Politics*, *16*(3), 369–385. <https://doi.org/10.1177/1465116515577454>
- Marquart, F., Goldberg, A. C., Van Elsas, E. J., Brosius, A., & de Vreese, C. H. (2019). Knowing is not loving: Media effects on knowledge about and attitudes toward the EU. *Journal of European Integration*, *41*(5), 641–655.
- McEvoy, C. (2016). The role of political efficacy on public opinion in the European Union. *JCMS: Journal of Common Market Studies*, *54*(5), 1159–1174.
- Mitchell, K. (2012). Student mobility and European Identity: Erasmus Study as a civic experience? *Journal of Contemporary European Research*, *8*(4).
- Nielsen, J. H. (2016). Personality and Euroscepticism: The Impact of Personality on Attitudes Towards the EU. *JCMS: Journal of Common Market Studies*, *54*(5), 1175–1198. <https://doi.org/10.1111/jcms.12381>
- Öz, Y., & Van Praag, L. (2022). Can participation in learning abroad mobility support pro-European Union attitudes among youth? *European Educational Research Journal*, 147490412210848. <https://doi.org/10.1177/14749041221084849>
- Pannico, R. (2017). Is the European Union too complicated? Citizens' lack of information and party cue effectiveness. *European Union Politics*, *18*(3), 424–446.
- Partheymüller, J., Kritzing, S., & Plescia, C. (2022). Misinformedness about the European Union and the Preference to Vote to Leave or Remain. *JCMS: Journal of Common Market Studies*, *60*(5), 1449–1469. <https://doi.org/10.1111/jcms.13316>
- Petty, R. E. (2018). *Attitudes and persuasion: Classic and contemporary approaches*. Routledge.
- Rahn, W. M. (1999). Review of What Americans Know about Politics and Why It Matters [Review of *Review of What Americans Know about Politics and Why It Matters*, by M. D. Carpini & S. Keeter]. *Political Psychology*, *20*(1), 207–210.

- Rasmussen, S. H. R. (2016). Education or Personality Traits and Intelligence as Determinants of Political Knowledge? *Political Studies*, 64(4), 1036–1054. <https://doi.org/10.1111/1467-9248.12214>
- Ray, L. (2003). Reconsidering the link between incumbent support and pro-EU opinion. *European Union Politics*, 4(3), 259–279.
- Reichert, F. (2016). How Internal Political Efficacy Translates Political Knowledge Into Political Participation. *Europe's Journal of Psychology*, 12(2), 221–241. <https://doi.org/10.5964/ejop.v12i2.1095>
- Ringlerova, Z. (2019). Generations and Stability of Support for the EU: An Analysis of Six-Wave Panel Data from The Netherlands. *International Journal of Public Opinion Research*, 31(3), 549–569. <https://doi.org/10.1093/ijpor/edy024>
- Sangiovanni, A. (2019). Debating the EU's raison d'Être: On the relation between legitimacy and justice. *JCMS: Journal of Common Market Studies*, 57(1), 13–27.
- Sigalas, E. (2010). Cross-border mobility and European identity: The effectiveness of intergroup contact during the ERASMUS year abroad. *European Union Politics*, 11(2), 241–265. <https://doi.org/10.1177/1465116510363656>
- Thurstone, L. L. (1929). Theory of attitude measurement. *Psychological Review*, 36(3), 222.
- van Elsas, E. J., Goldberg, A. C., & de Vreese, C. H. (2019). EU issue voting and the 2014 European Parliament elections: A dynamic perspective. *Journal of Elections, Public Opinion and Parties*, 29(3), 341–360. <https://doi.org/10.1080/17457289.2018.1531009>
- van Klingerren, M., Boomgaarden, H. G., & de Vreese, C. H. (2017). Will Conflict Tear Us Apart? The Effects of Conflict and Valenced Media Messages on Polarizing Attitudes toward EU Immigration and Border Control. *Public Opinion Quarterly*, 81(2), 543–563. <https://doi.org/10.1093/poq/nfw051>
- Van Mol, C. (2018). Becoming Europeans: The relationship between student exchanges in higher education, European citizenship and a sense of European identity. *Innovation: The European Journal of Social Science Research*, 31(4), 449–463. <https://doi.org/10.1080/13511610.2018.1495064>
- Van Rompuy, H. (2015). *Europe in the storm*.
- Wilson, I. (2011). What Should We Expect of "Erasmus Generations"? *Jcms-Journal of Common Market Studies*, 49(5), 1113–1140. <https://doi.org/10.1111/j.1468-5965.2010.02158.x>
- Windhoff-Héritier, A., Kerwer, D., Knill, C., Douillet, A.-C., Lehmkuhl, D., & Teutsch, M. (2001). *Differential Europe: The European Union impact on national policymaking*. Rowman & Littlefield.

Appendix

Appendix A. Attitude Dimensions towards the European Union

Dimension	Question
EU identity	Q1. Being a citizen of the European Union means a lot to me Q2. Europeans share a common tradition, culture and history Q3. I feel close to fellow Europeans Q4. The European flag means a lot to me Q5. I am proud to be a European citizen
Negative Affection	Q1. I am afraid of the European Union Q2. I feel threatened by the European Union Q3. I am angry about the European Union Q4. I am disgusted with the European Union Q5. The European Union poses a threat to Flemish identity*
Performance	Q1. The decision-making process in the European Union is transparent Q2. The European Union functions well as it is Q3. The European Union is wasting a lot of tax money (R) Q4. The European Union functions according to democratic principles Q5. I trust the European Parliament
Utilitarianism idealism	& Q1. The European Union fosters peace and stability Q2. The European Union fosters the preservation of the environment Q3. Belgian membership of the European Union is a good thing Q4. Belgium has benefited from being a member of the European Union Q5. I personally benefit from Belgium's EU membership
Strengthening	Q1. The European Union should become one country Q2. I support more decision/policy-making at EU level Q3. The decision-making power of the European Union should be extended Q4. The EU should be enlarged with other countries

*Note: The original statement was adapted because it contained a double-barreled question both asking about identity and culture. Here, I shortened the statement by only referring to identity.

Appendix B. Knowledge Questions, Answers & Question Development

PK1	Ursula Von Der Leyen is the current president of the European Commission. How did she become president?	<ul style="list-style-type: none"> o She was appointed without a vote. o She was directly elected by EU citizens. o She was selected based on an internal vote within the European Commission. o She was approved by the majority of members of the European Parliament.* o I don't know. 	Adapted from Partheymuller et al. (2022) in which Jean-Claude Juncker was replaced by Ursula Von Der Leyen.
PK2	How does one become a member of the European Parliament?	<ul style="list-style-type: none"> o They are directly elected by EU citizens in elections.* o They are elected by the European Council. o They are elected by the European Commission. o They are elected indirectly by national MPs. o I don't know. 	Inspiration taken by Partheymuller et al. (2022) (see notes).
PK3	Which of the following statements is NOT correct?	<ul style="list-style-type: none"> o Individual EU countries cannot conclude their own trade agreements. o All EU citizens have the right to work in another EU member state. o Mobile phone roaming charges have fallen within the EU. o Spending on EU officials' salaries is the biggest item in the EU budget.* o I don't know. 	Directly taken from Partheymuller et al. (2022)
PK4	Who sits on the European Council?	<ul style="list-style-type: none"> o Experts from each Member State. o Heads of state and government from each member state.* o Judges from each Member State. o Senators from each Member State. o I don't know. 	Original developed question.
PK5	Approximately how many inhabitants do you think live in the EU? For your information, about 8 billion people live in the world.	<ul style="list-style-type: none"> o 450 million* o 880 million o 1.4 billion o 2.1 billion o I don't know. 	Originally developed question. Although this question does not directly relate to European institutions, its members or its budget. It does refer to the knowledge of the scope of the EU and its place in the world. Furthermore, it can be used to

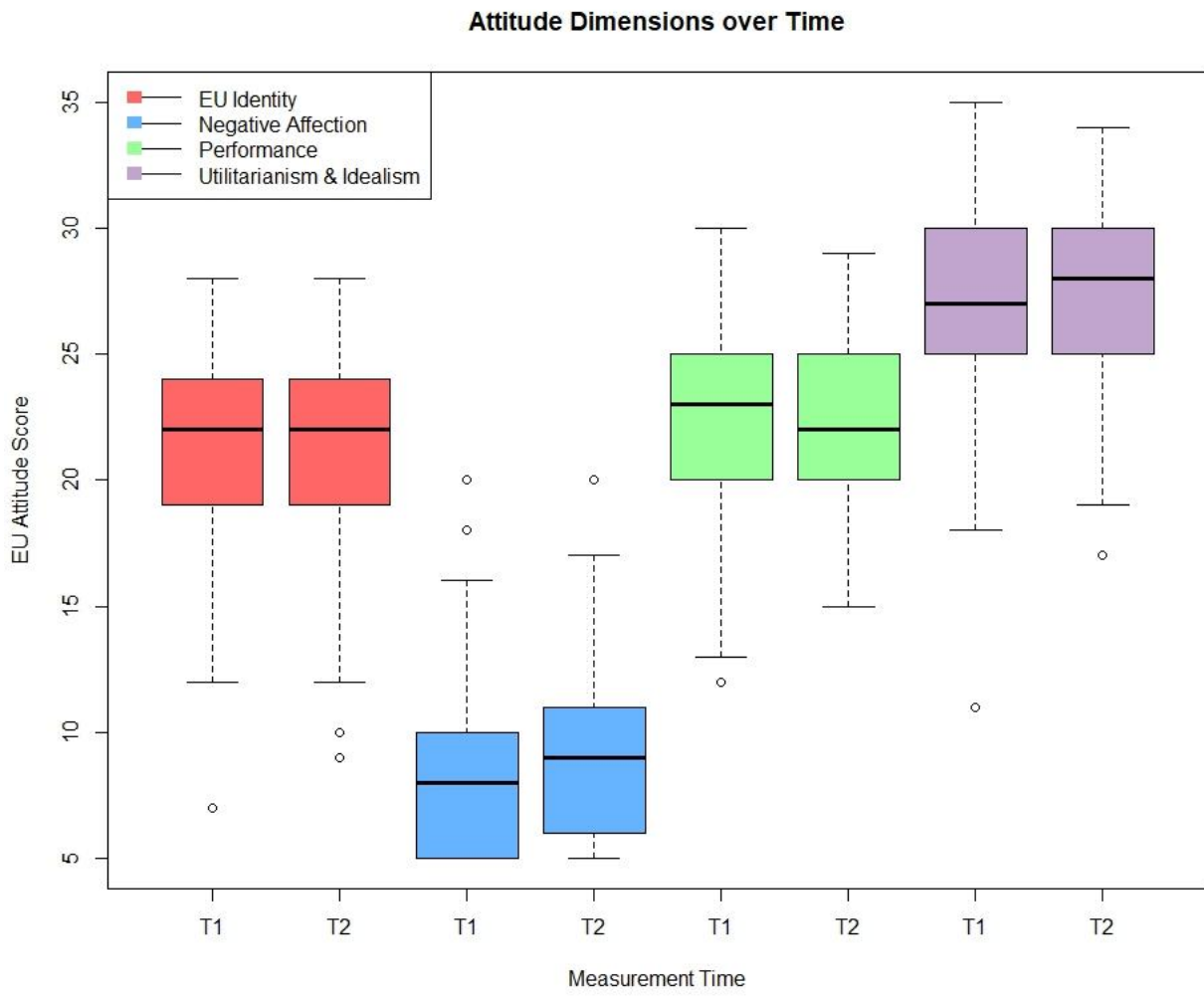
check whether participants looked up questions as this one is very easily to search online.

PK6	Who sits on the Council of the European Union?	<ul style="list-style-type: none"> o Heads of state from each member state. o Experts from each Member State. o Judges from each Member State. o Ministers from each Member State.* o I don't know. 	Inspiration taken from Partheymuller et al. (2022), but the question was turned around. We argue this increases the validity of assessing whether participants know ministers are represented in the EU, instead of telling them.
PK7	What is the main task of the Council of the European Union?	<ul style="list-style-type: none"> o Setting the general political direction. o Negotiating and passing laws.* o Submitting legislative proposals. o It functions mainly as an advisory body. o I don't know. 	Originally developed question.
PK8	- How many Eurocommissioners are there?	<ul style="list-style-type: none"> o 9 o 27* o 42 o 705 o I don't know. 	Originally developed question.
PK9	How many judges does the Court of Justice of the European Union consist of?	<ul style="list-style-type: none"> o 9 o 27* o 54 o 81 o I don't know. 	Originally developed question.
PK10	What is NONE of the European Commission's competencies?	<ul style="list-style-type: none"> o Negotiating and passing laws.* o Enforcing EU law. o Managing the EU budget. o Proposing new EU laws and policies. o I don't know. 	Originally developed question.

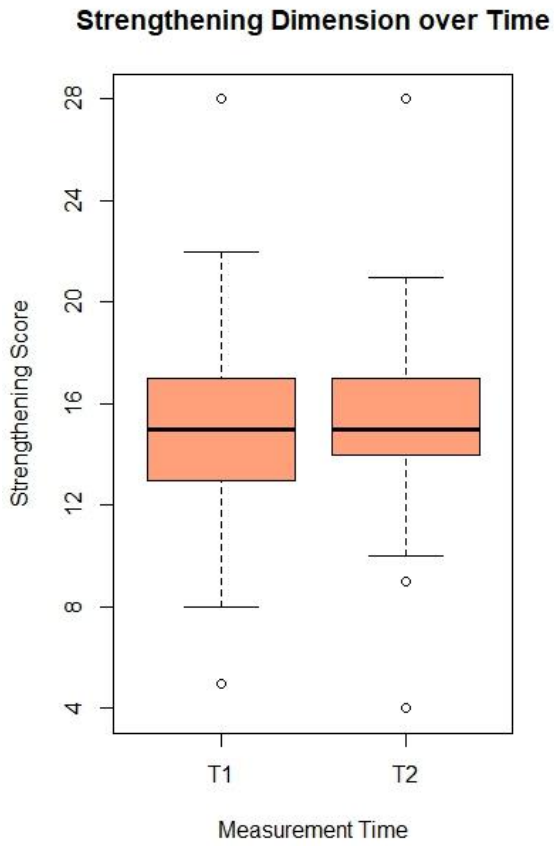
Note. The questions regarding the Council of the European Union and the European Parliament were taken as inspiration but we argue that these questions should be worded differently to effectively measure their knowledge. For instance, Partheymuller et al. (2022) questioned which of the following institutions are directly elected by European citizens, followed by the options of the European Commission, the European Parliament and the Council of the European Union. As in all member states, citizens vote for their parliamentarians, this could be perceived as a relatively easy question in which citizens draw on their knowledge about their national system instead of direct EU knowledge. Therefore, we transformed the question into PK2, which simply asks how one becomes a member of the European parliament.

Note. (Partheymüller et al., 2022)

Appendix C. Figure 1. Attitude Dimension Scores at Measurement Time 1 and 2 (range 5 – 35)



Appendix D. Figure 2. Strengthening Dimension Scores at Measurement Time 1 and 2 (range 4 – 28)



Appendix E. Comparison of Total EU Knowledge Scores between Time 1 and Time 2

