





Article

The Interest Level Assessment in Attending Training Programs among Romanian Teachers: Econometric Approach

Silviu Nate ^{1,*}, Daniel Mara ¹, Alin Croitoru ¹, Felicia Morândau ¹, Andriy Stavytskyy ²
and Ganna Kharlamova ²

¹ Department of International Relations, Political Science and Security Studies,
Lucian Blaga University of Sibiu, 550024 Sibiu, Romania

² Department of Economic Cybernetics, Faculty of Economics, Taras Shevchenko National University of Kyiv,
01601 Kyiv, Ukraine

* Correspondence: silviu.nate@ulbsibiu.ro

Abstract: The article explores the determinants of Romanian in-service teachers' willingness to participate in a national training program focused on mentoring in education. A multidimensional analytical model and survey data collected from a large sample of Romanian teachers ($N > 5000$) revealed a specific profile of those teachers who are interested in joining this type of training in education. It is found that individuals' interest in joining the training program is positively affected by a higher level of education, prior experiences of attending training programs, and higher awareness of the role of mentoring in education. At the same time, individuals' self-assessed needs for training and more challenges faced in online/blended teaching during the pandemic period also increase the teachers' chances to be interested in joining the training program. However, a negative relationship is found between age and the willingness to enroll in the training program. Based on these general findings, the article advances the comparisons between three subsamples of teachers depending on their teaching level (primary education, lower-secondary education, and upper-secondary education). The study is designed to contribute to the general debate on reforming education systems through mentoring in education, and its findings can inform policymakers and stakeholders in the field.

Keywords: mentoring in education; in-service teachers; quantitative analysis; teachers' continuous education; logit regression



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1. Introduction

Within all contemporary educational systems, teachers' professional development is a constant concern [1–3]. This systemic objective can be accomplished through public policies and instruments that facilitate improvements in teaching quality, along with adaptation to new global transformations and challenges [4–7]. Structural reforms and digitalization determine the main directions in which teaching activities are driven, especially during the COVID period, but an individual teacher's competencies, attitudes, and motivations can affect the success of implementing transformative policies [8–11]. There is the opinion that mentoring programs in education can constitute effective mechanisms for better integrating beginner teachers into the system; hence, improving the quality of teaching and enhancing the education system's capacity to deal with new societal problems is still necessary. Mentoring programs in education are not exclusively dedicated to beginner teachers; indeed, there is evidence that mid-career or late-career teachers can benefit from the support mechanisms implemented in this type of program [12,13].

Romania constitutes an excellent venue for exploring teachers' attitudes toward professional development and mentoring programs because the country has one of the largest proportions of young teachers within the European Union (EU) [14]. The challenges in developing teachers' careers are rather numerous in post-socialist countries, which are marked

by economic, political, and social capricious transformations and significant educational gaps between generations of teachers [15–17]. On the one hand, the post-socialist transition's challenges can be linked to teachers' initial education, which was affected by frequent changes in the curriculum, methodologies, and legislative prerequisites [18]. On the other hand, training requirements and the supply of training programs for in-service teachers were also subject to multiple changes, not to mention, teachers evaluate the importance of continuous education in different ways [19].

The problem should be solved by the introduction of the LLL (long life learning) approach, which provides continuous improvement of the skills and competencies of teachers. However, experience shows that not all teachers are ready to implement this concept for various reasons [20]. Some believe that his/her experience is more important than the new demands of the time, some do not have the physical ability to devote much to their self-improvement, and some lack incentives for such learning [21].

Based on these premises, the paper aims to analyze how initial education and continuous training shape individual teachers' interest in being enrolled in a national training program for mentoring in education. This paper has the ambition to provide empirical-based knowledge for understanding the specific profile of those teachers who are interested in enrolling in the program and exploring its possible variations, mostly based on their background (primary, lower secondary, or upper secondary education). In this context, the paper supposes to advance a multidimensional analytical model for understanding Romanian teachers' interest in enrolling in a specific type of continuous training that aims to endorse mentoring among professionals in education.

The present article is organized as follows: first, a literature review helps to draw a series of insights about the importance of mentoring programs in education and it allows us to distinguish between the explanatory potential of the factors linked to teachers' initial instruction and their experiences of continuous training. Much attention is paid to what determines the real incentives to participate in them. Next, the methodological details are introduced about the research model and data collection processes. The third section includes the descriptive analysis and logistic regression model employed to statistically identify and assess the relative importance of the predictors for teachers' attitudes toward this type of continuous training. The final section points out the main contributions to the literature and discusses the potential implications of these findings, mentioning milestones of the research.

2. Literature Review

Developing a teaching career entails constant training [22], and teachers are among the professionals who supposedly acknowledge the value of continuous education programs the most [23]. In an influential article focused on mentoring in education [13], it is pointed out that "schools need to recognize that learning to teach effectively is a never-ending process and, accordingly, attention to ongoing professional development must be viewed as a key to increasing teacher motivation, efficacy, and retention".

It is quite obvious that the main point of the discussion is understanding the variety of such continuous education & mentoring programs, especially their worldwide distribution. In addition, mentor teachers at field-placement program schools are bestowed with new and unique functions to support preservice teachers' learning to teach, which calls for new conceptualizations of teacher mentoring approaches [24,25]. Nevertheless, most scholars concluded that there are four main approaches to preservice teacher mentoring [26]: personal growth, situated learning, core practice, and critical transformative approaches. Central to integrated teacher mentoring are diagnostic, deliberative, and inquiry skills and competencies for supporting preservice teachers' learning to teach as expected by the field-based teacher education reform [25]. Meanwhile, considering different programs and practices of mentoring teachers, most scholars came to the solution that there could be no one approach and the most productive of them created the site-specific conditions through which new teachers came to practice their profession and learn how to go on (or

not as the case may be) in their chosen profession [13,24]. Despite that there is evidence that mentoring programs can contribute to retaining young teachers in the education system and to improve their teaching quality and effectiveness [27], there is still a series of structural determinants that frame teachers' attitudes toward these programs. The training infrastructure and legislative framework in education can increase or decrease the importance given to continuous training and the involvement of in-service teachers [28].

On the other side, the interest in attending new training programs is not homogeneously distributed within the population of teachers [29]. So, novel knowledge is needed to define factors that influence individuals' willingness to take particular types of training. At the same time, the generation's variance is documented, while [11] notes that the younger generations of teachers are output-driven and achievement-oriented. Young teachers' attitudes toward career-long professional development are framed by individuals' expectations regarding the outcomes in terms of self-development and their commitment to their careers.

While strategic intervention within the educational system can address both issues through training and mentoring programs [30], teachers' attitudes toward professional development and continuous instruction vary concerning their career stage. For instance, [31] studied German secondary teachers, pointing out that formal learning opportunities decrease with seniority and for older teachers.

The obvious fact is that the willingness to move on with the mentoring programs depends on teachers' anticipation of possible results and the known effectiveness of the results in previous situations/experiences. There is evidence that mentees benefit from pedagogical, administrative, and emotional support [32,33], which can help them decrease the level of anxiety and uncertainty experienced during the first years of their teaching career [4,34,35]. Mentoring may have a great impact on early career teachers' learning, commitment to students, work motivation, self-efficacy, and job satisfaction [4,9,13,29]. All these aspects significantly impact teachers' career development and facilitate their professional growth [36]. For instance, a recent mixed methods study carried out by [8] shows that mentoring positively impacts beginning teachers' classroom management. Similar evidence regarding the effectiveness of mentoring programs for enhancing mentees' performance has also been found for programs implemented online [37]. Second, teachers who are mentors enhance and update their knowledge while improving their level of work motivation. However, [38] pointed out that the relationship between mentors and mentees offers benefits not only for young teachers but also for the professional development of more experienced teachers. In brief, there is sound evidence that mentoring programs can contribute in multiple ways to the advancement of the instruction process in general and the teachers' professional development in particular. Therefore, in general, the mentoring programs for teachers directly respond to the need to complement the initial phase of instruction, mainly in terms of the teachers' practical skills and up-to-date knowledge and teaching methods.

Case of Romania. In terms of initial training, most Romanian teachers graduate from tertiary education programs (bachelor's, master's, and doctoral programs), and within these programs, they receive pedagogical training for teaching up to a certain level (primary, lower secondary, or upper secondary). In addition, graduation from each type of education program contributes to the individual's awareness of mentoring in education because s/he must elaborate on a dissertation under the supervision of an advisor (coordinator). This process provides the opportunity to anticipate and exercise the important characteristics of a mentoring-type relationship. In addition, those who teach at the preschool or primary level must graduate from tertiary programs in education sciences, and they are also assisted in their practical experiences of teaching by a teacher-mentor. This assures teachers some practical experience of teaching in the classroom while going through their education. However, comparative research within the EU reveals that Romania has one of the shortest durations of initial education required to teach [14], and there is a lack of practical training within the system [39]. Teaching activity requires a significant degree of autonomy within

the classroom, and beginner teachers must assume full and rapid responsibility in providing student learning similarly to experienced teachers [10,34]. From this perspective, mentoring programs can be perceived as a following-up phase of instruction for testing, revising, and improving a series of abstract information and an individual's skills gained during their initial training. Building on these premises, one can argue that studying individuals' attitudes toward continuous training and mentoring programs should include aspects linked to teachers' initial development.

Continuous training responds to a series of necessities of the educational systems, i.e., in Romania, this is required for promotion or salary progression [14]. The need for training can be measured through a series of objective indicators (e.g., testing teachers' knowledge, competencies, and skills) or by using individuals' evaluations of the needs for instruction. Both strategies have a series of limitations and present certain advantages. In terms of a subjective evaluation of the needs for training, the literature emphasizes the important role played by teachers' self-assessment of their training needs and their capacity to assume the role of critical co-observers for peers [40,41]. Moreover, reflexivity linked to their teaching activity and observing the needs of training for co-workers contribute to more effective teaching [42] and can affect individuals' attitudes toward continuous instruction. Research within the EU has pointed out that in-service teachers in Romania registered one of the lowest shares of participation in training (courses and workshops for professional development): slightly over 50% of teachers joined programs 12 months before the survey [14]. Corroborating these aspects, positive correlations between individuals' evaluations of the needs for training or prior experiences of training and their willingness to enroll in new programs of instruction are expected to be found.

Along with the insights introduced about training and mentoring programs in education, there have been unprecedented challenges faced in education since 2020. The COVID-19 pandemic severely affected the functioning of educational systems all over the world [43,44]. This greatly challenged teachers' capacity to rapidly adapt to changeable contexts and manage teaching activities in unexpected scenarios (e.g., online, blended, or limited interactions even with physical attendance). Heterogenous responses and strategies were developed worldwide in facing these challenges, increasing the awareness within education systems of the need to support teachers through more focused mechanisms. Confronted with important concerns about the potential health risks, teachers had to hastily adapt their teaching practices in the classroom or switch to hybrid methods or online teaching. In Romania, all these teaching strategies were alternated, and this new reality affected teachers and students alike [45,46]. Teachers were differently prepared to manage the online and blended scenarios of teaching, and part of this capacity depended on their digital competencies. Pre-pandemic research at the European level reveals that the use of Information and Communication Technologies (ICT) for classroom teaching was one of the greatest vulnerabilities felt by teachers [14]. In this context, the paper can introduce a measurement of the problems faced in online/blended learning to examine if this less-studied factor contributes to the explanation of teachers' attitudes toward a program of continuous training.

To sum up, the research gap could be seen in the advanced approach to in-service teachers' willingness to join training programs for mentoring in education. Such a study should be based on the analysis of data regarding teachers' initial development, experiences, and self-assessed needs of continuous training, digital skills, and challenges of online teaching, as well as more general attitudes towards educational reforms driven by the EU's policy model.

3. Methodology and Methods

The literature review demonstrates that most studies on the impact of mentoring programs on teachers and the involvement of teachers in such programs are analyzed on the basis of meta-data or literature analyzes, and case studies. However, the quantitative approach that ensures the qualitative hypothesis is lacking or is fully mitigated. The current

study uses a quantitative approach and an original dataset to explore the specific profiles of Romanian in-service teachers who are interested in joining training programs for mentoring in education. To accomplish this research objective, certain drivers beyond individuals' self-declared willingness to enroll in this type of training are explored.

The total number of in-service teachers in Romania is around 234,000, which includes staff at all levels of teaching (National Institute of Statistics, Bucharest, Romania, 2021). However, this study focuses exclusively on teachers who are active at the primary, lower-secondary, and upper-secondary levels (please see Appendix A). The dataset used is derived from an online survey (2021) conducted among teachers employed in the national system, and it includes over 5000 respondents dispersed across the whole country (despite it being just more than 2% of all teachers, it is statistically valid to generalize results and the research assumes the error in 3% margin (see Tools4dev)). The online questionnaire was designed for evaluating in-service teachers' willingness to attend training for mentoring in education, along with their evaluations of multiple dimensions of the educational system and some challenges faced in online/blended teaching during the COVID-19 pandemic. The questionnaire contained approximately 40 questions of various types (single-choice, multiple-choice grid, linear scale, open answer, etc.). The items were grouped thematically to ensure a thorough understanding of teachers' attitudes toward continuous professional development, and mentoring programs, as well as information about their teaching careers and socio-demographics. The Likert-type scale employed in this study has five response categories, namely (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, or (5) strongly agree. Additionally, there are questions on a scale of "yes/no" (1/0). The research instrument also collected sociodemographic information and details about the teachers' initial development and their teaching careers. The answers were collected through specialized online software (QuestionPro), and the call for respondents was sent to hundreds of schools in Romania's all counties. The research strategy ensured the complete anonymity of the respondents, and the questionnaire opened only if the individual expressed consent for voluntary participation. A general description of the study's objectives was provided before asking for the individual's participation.

The series of descriptive statistics and logistic regression analyses are supposed to be run for identifying the factors that significantly increase teachers' probability to declare their willingness to attend this type of mentoring program. The dependent variable is built on the individual's answer (yes or no) to the following question: are you interested in attending training programs for mentoring in education? Based on the literature review presented above, the independent variables include individuals' characteristics, career development, and attitudes and opinions.

In general, the logistic regression is composed in the form: $y_t = f(x_1, x_2, \dots, x_{14}) + \varepsilon_t$, where $f()$ —logistic function, ε —model residuals, y —interest in training for mentoring in education that has only two values, which are denoted by the numbers 0 and 1. Let this value depend on some set of explanatory variables $x = (1, x_1, x_2, x_3, \dots, x_{14})^T$, x_1 —the highest level of education graduated (MA/Ph.D. degree), x_2 —at least one degree in education sciences, x_3 —awareness on mentorship during initial training, x_4 —participation in training during the last five years, x_5 —prior participation training mentoring in education, x_6 —status of mentor for pedagogical internships, x_7 —needs of training self-assessment, x_8 —needs of training school teaching staff, x_9 —the necessity to adapt the system to European policies, x_{10} —permanent teaching position, x_{11} —age, x_{12} —teacher's education background, x_{13} —self-assessed digital skills, x_{14} —difficulties in blended teaching. Table 1 provides the complete set of independent variables, which will be used in the logit models. The paper provides a general scheme through the mean values by categories of teaching and details on the measurement and scales used for each indicator.

Table 1. Descriptive statistics by teaching level.

Variables	Mean Values			
	Primary	Lower Secondary	Upper Secondary	Total Sample
Interested in attending training programs for mentoring in education (no = 0 and yes = 1)	0.91	0.84	0.87	0.87
Initial Training				
Highest level of education graduated				
Non-tertiary (no = 0 and yes = 1)	0.07	0.01	0.01	0.02
BA (no = 0 and yes = 1)	0.53	0.44	0.35	0.42
MA (no = 0 and yes = 1)	0.39	0.50	0.52	0.48
PhD (no = 0 and yes = 1)	0.01	0.05	0.12	0.08
At least one degree in education sciences (no = 0 and yes = 1)	0.97	0.40	0.31	0.50
Awareness of the role played by educational mentorship during initial training (scale 1 to 5)	3.56	3.25	3.44	3.43
Continuous Professional Development				
Participation in continuous training during the last five years (scale 1 to 5)	3.76	3.53	3.57	3.61
Prior participation in training programs dedicated to mentoring in education (no = 0 and yes = 1)	0.47	0.37	0.45	0.43
S/he has the status of mentor for pedagogical internships (no = 0 and yes = 1)	0.32	0.09	0.28	0.25
Needs of training-self-assessment (scale 1 to 5)	3.93	3.80	3.78	3.82
Needs of training-at the level of the school's teaching staff (scale 1 to 5)	3.93	3.86	3.87	3.88
Support of adapting the national system of in-service teacher training to EU's policies (scale 1 to 5)	4.17	4.03	4.12	4.11
Stage of Career				
Permanent teaching position (no = 0 and yes = 1)	0.92	0.82	0.91	0.89
1st degree teacher-highest level in the national teaching career (no = 0 and yes = 1)	0.69	0.63	0.78	0.72
Age (number of years)	44.05	44.01	46.65	45.41
Digital Skills and Difficulties in Online Teaching				
Self-assessed digital skills (scale 1 to 5)	3.72	3.74	3.90	3.82
Difficulties in online/blended teaching (index derived from scale 1 to 5)	2.70	2.73	2.62	2.67
TOTAL NUMBER OF RESPONDENTS	1.313	1.081	2.611	5.048

Source: the name of the project will be added after peer review (2021)–authors' elaboration.

The main idea of the logit model, dependence y on $x_1, x_2, x_3, \dots, x_{14}$ can be determined by entering an additional variable y^* , where $y^* = \theta^T x = \theta_0 + \theta_1 x_1 + \dots + \theta_k x_{14} + \varepsilon$. Then: $y = \begin{cases} 0, & y^* \leq 0 \\ 1, & y^* > 0. \end{cases}$ When determining the logistics model, the stochastic term ε is considered as a random variable with a logistic probability distribution. As one can see, most variables are a respondent's scale from 1 to 5 or binary (0 or 1). The only nominal change is the age, which determines the real age of the respondent. This approves the need to use the logit model—statistical regression method used in the case when the dependent variable is binary [47–49], i.e., it can take only two values (0 or 1), such as Y here: interest or no interest.

The multidimensional analytical model and large and heterogeneous sample offer a great opportunity to add new evidence for understanding teachers' attitudes toward training programs. However, the study's limits are linked to its concentration on a specific national context and the non-probabilistic sampling procedures.

4. Results

Descriptive analysis. The set of variables included in the analysis (Table 1) provided at the level of distinguishes between the three subsamples based on the highest level where the individuals teach: primary education, lower secondary, and upper secondary (Appendix A). The variables are clustered in relation to the teachers' pathways of initial and continuous training and are completed by the teachers' opinions about the necessity to adapt the national system of in-service teacher training to European policies. At the

same time, there is information on teachers' career stages, self-evaluated digital skills, and difficulties encountered in online/blended teaching activities during the pandemic.

Dependent variable (DV)—interest in attending training programs for mentoring is the dominant within the sample (Table 1). About 87% of the total respondents declared their willingness to participate in such programs, and 13% stated that they had no interest in joining this type of training. Still, there are some differences between the three subsamples. The highest interest in participating is among teachers at the primary level (90%), and there is lower interest among those who teach at the lower-secondary level (84%). This result indicates an important openness towards training and instruction for mentoring in education within the sample.

Independent variables. In terms of the initial training, the survey collected information about the level of education and if the teacher has a degree in education sciences (pedagogical high school or tertiary level). Within the sample, the data reveal that over 98% of the in-service teachers graduated tertiary education (42% bachelor's degree, 48% master's degree, and 8% doctoral degree). As one could expect, the share of teachers with MA and Ph.D. degrees increases from primary teaching toward upper secondary, while the percentage of teachers who have at least one degree in education sciences is dominant in primary education (97%) and rarer among teachers in lower- and upper-secondary education. Within the total sample, around 50% of the teachers have at least one degree in education sciences (including those who graduated from pedagogical high school). In addition, in-service teachers' awareness of the role played by educational mentorship during the initial phase of instruction is measured on a scale from 1 to 5, where the mean value is 3.43.

The next indicators focus on the continuous training and echo prior to teachers' participation in training programs (attendance during the last five years in training programs dedicated to mentoring in education). These are accompanied by opinions about the necessity to adapt the education system to the European policies in the field and teachers' evaluations of the need for training. Within the sample, a rather high level of participation in continuous training during the previous five years is observed (mean value of 3.61 on a scale from 1 to 5). At the same time, about 43% of the sample previously attended training programs dedicated to mentoring in education, of which over 25% have the status of a mentor for pedagogical internships (they are mentoring students during internships in schools). In this context, the research revealed an important gap between primary education and lower-secondary education; here, teachers at the lower-secondary level register lower values of prior participation in training dedicated to mentoring in education. There is also a significantly lower share of respondents with the status of mentor for pedagogical internships.

The descriptive analysis of the needs for training presents high values both in terms of the self-assessed needs for training (mean value of 3.82 on a scale from 1 to 5) and at the level of the school's teaching staff (mean value of 3.88 on a scale from 1 to 5). Lastly, dominant support for adapting the Romanian system of teacher formation to the European policies should be noticed (mean value of 4.11 on a scale from 1 to 5).

Within the sample, the overwhelming majority of the respondents are formed by teachers with permanent positions (89%), and most of them also have achieved the highest level in their teaching careers: teachers' first degree (72%). The lowest share of teachers who are advanced in their careers can be found within the upper-secondary level (63%). The mean age within the sample is 45.41 years. Figure 1 presents the matching between the study's sample and the general population of pre-university teachers regarding the age structure. On the one hand, a consistent representation of each age group is observed. On the other hand, the sample exposes a slight overrepresentation of the category of teachers between 40 and 54 years old.

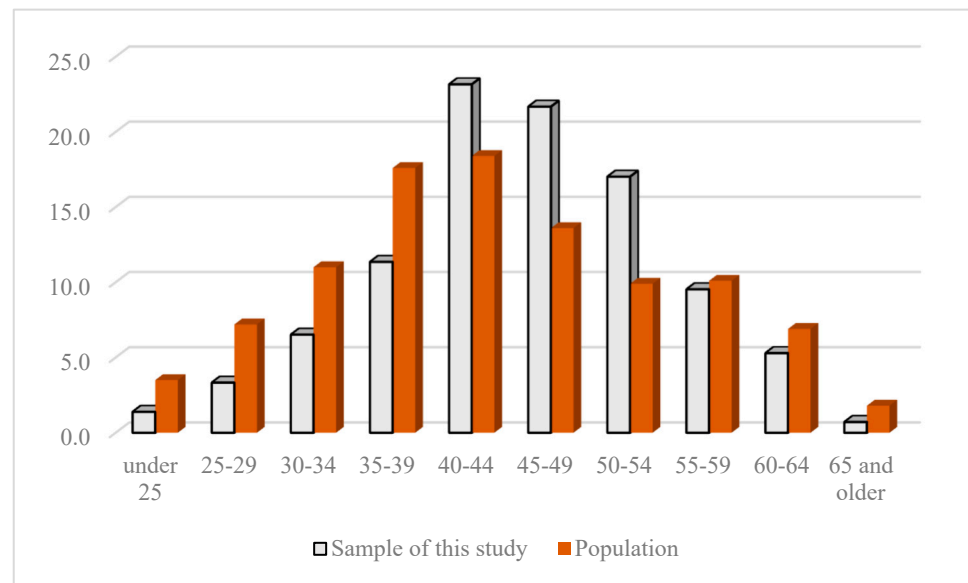


Figure 1. Sample age structure compared to the structure of the total pre-university population of teachers (%). Source: authors' elaboration.

Last but not least, the analysis focus on two important components that are linked to the general pandemic context in which the study is carried out. Within the survey, the teachers were asked to self-assess their level of digital competencies and evaluate the difficulties faced in their teaching activity during COVID-19. Certainly, there is a self-selection effect that favored the participation of teachers with better digital competencies because the study is conducted online, and the general population of teachers can be expected a slightly lower level of digital competencies. Having this in mind, Table 1 shows that the mean value for the digital skills declared by the respondents is 3.82 (on a scale from 1 to 5). The teachers declared a rather low level regarding the difficulties in online/blended teaching faced during this period (mean value is 2.67 on a scale from 1 to 5) and there are almost no differences between the primary and lower- and upper-secondary levels of teaching. The index concerned with the difficulties in online/blended teaching includes the following dimensions of teachers' activity: teaching, interacting with students and receiving feedback from students, evaluating students during the semester, and evaluating students at the end of the semester.

Table 2 presents the results of the logistic regression model run for each category of teaching level and the whole sample.

The first logistic regression model (M1) presents the results obtained for the primary education of teachers in Romania. Indicators about teachers' initial training are not in statistically significant relationships with the DV, but other important factors that influence their willingness to attend training programs for mentoring in education are found. Teachers who evaluate their own needs for continuous instruction higher and those who support the idea of adapting the national system of in-service teacher training to EU's policies have a statistically significant higher probability to be among those interested in new training programs. Additionally, prior participation in training programs dedicated to mentoring in education and having the status of a mentor for a pedagogical internship have a statistically significant positive influence on individuals' intention to participate in training programs for mentoring in education. A negative statistically significant relationship between teachers' age and the DV is found as well. As a result, the probability to be interested in attending new training programs for mentoring in education decreases with the age. Finally, difficulties faced in teaching during COVID-19 also influence teachers' attitudes toward this type of continuous instruction; individuals who more frequently faced problems in their teaching activity have statistically significant odds of being interested

in attending continuous training. Within the sample of teachers at the primary level, no statistically significant relationships were found between the DV and variables linked to participation in training during the last five years, needs of training of the school's teaching staff, permanent teaching positions, the highest level in the national teaching career (first-degree teacher) and self-assessed digital skills. Thus, the model approach revealed that in primary education, teachers of the old generation are not open to new training, and this aspect was boosted during the period of COVID-19. The younger generation of teachers is more loyal to new policies including training. So, government programs should be more oriented toward the young generation of teachers, maybe starting to invade the mentoring culture in the Universities where these teachers graduate. Still, the model highlights the inner willingness as the motive of a teacher to follow training but not other factors, even regulations and positions.

The second logistic regression model (M2) is focused on teachers who are involved in lower-secondary education. Here, there are some similarities with the sample of teachers from primary education, but also, there are important differences. On the one hand, the similarities are linked to the importance of prior participation in continuous training, individuals' assessments of their own needs for continuous training, and the support for adapting the national system to the European policies in the field. Correspondingly, age has a negative statistically significant influence on individuals' odds to be interested in this type of continuous instruction. On the other hand, few independent variables do not maintain their statistically significant influence on teachers at the lower-secondary teaching level compared with those in primary education: the status of being a mentor in a pedagogical internship and the difficulties encountered in teaching during COVID-19. However, new factors can be included in the explanatory model. In terms of initial training, teachers with a higher level of education (MA or/and Ph.D.) and those who have at least a degree in education sciences have a higher probability of being interested in this type of continuous instruction for mentoring in education. Within the sample of teachers at the lower-secondary level, no statically significant relationships were found between the DV and individuals' awareness of the role of educational mentorship during initial instruction, participation in training during the last five years, the current status of mentor for pedagogical internships, needs of training of the school's teaching staff, permanent teaching position, the highest level in the national teaching career (first-degree teacher) and self-assessed digital skills. In addition, the practical finding of this model is that government policies could be more oriented on the lower-secondary teachers, as besides inner decisions, their background is an impactful factor to their willingness to be involved in mentoring trainings, etc.

The third logistic regression model (M3) reveals the main predictors for the upper-secondary teachers' willingness to attend training programs for mentoring in education. It is found that there are similarities between teachers from primary and lower-secondary education, yet there are also several differences. Within the advanced multidimensional approach, most of the independent variables linked to continuous training affect individuals' attitudes toward new instruction. Indicators about individuals' initial training indicate that teachers with a higher level of education (MA or/and Ph.D.) and those with a higher awareness of the role played by educational mentorship during their initial formation have a higher probability to be interested in attending training for mentoring in education. Complementarily, a higher probability of being interested in this training program was found for those teachers who support the idea of adapting the national system of continuous training to EU's policies and for teachers who evaluate a higher need for instruction for their own and the school's staff where they teach. At the same time, participation in continuous training over the past five years is in a positive relationship with the DV. Age has a similar negative influence on teachers' willingness to attend this new training and individuals' interest slightly decreases with age. Finally, the difficulties faced in teaching during the pandemic are also a significant predictor, and those who have more often encountered problems register higher odds of being among those interested in this type of continuous

training. Within the sample of teachers at the upper-secondary level, no statically significant relationships were found between the DV and having at least one degree in education sciences, prior participation in training programs of mentoring in education, the current status of mentor for pedagogical internships, permanent teaching position, the highest level in the national teaching career (first-degree teacher) and self-assessed digital skills. The results on upper-secondary teachers are in the line with previous findings but the factor is that those who were involved in some trainings in the closest past are already motors of the next launches of trainings. That could be used as the dissemination of best practices in the education field, to enhance the necessity of mentoring programs and trainings in the Romanian education system.

The combined effects of the independent variables at the level of the entire sample of teachers, regardless of the teaching level, are presented in the fourth logistic regression model (M4). It indicates the following effects: the initial phase of instruction is important, and a higher willingness to enroll is found for teachers who have higher levels of education (MA or /and Ph.D.), have at least one degree in education sciences, and those who attribute a higher role to educational mentorship during their initial training. In terms of continuous professional development, a higher probability of being interested in participating in training is found for those who evaluate there is a greater need for their training and the school's teaching staff, as well as for teachers who support adapting the national training system to European policies. At the same time, teachers' status as a mentor for pedagogical internships increases their interest in this type of training. Higher participation in training during the last five years and prior participation in the training of mentoring in education have statistically significant positive influences on willingness to participate in the new proposed training program. Furthermore, age is important, and older teachers are less interested in attending training programs for mentoring in education. The last piece of this profile is linked to the difficulties encountered in online/blended teaching during COVID-19 and in-service teachers who self-assessed problems that are more frequent. It is found that this group has a higher chance to declare their willingness to this training. Within the total sample of pre-university Romanian teachers, no statistically significant relationships were found between the DV and having a permanent teaching position, the highest level in the national teaching career (first-degree teacher), and self-assessed digital skills.

The valid finding of all models is that old-aged teachers in the education field are very unmotivated and resistant to training. The post-soviet impact could be seen in this, surely. However, the development of the whole system is struggling in this aspect, the innovations are blocked or sabotaged, and digitalization and new educational approaches and technologies are slowly being implemented. This has a long-lasting impact on the workforce and the comparability of Romanian education and graduates of it on the European market. If that negative impact can be mitigated, there is a hope that the educational system will be more welcoming to all innovations, digital tools, etc., at all levels, providing the country with highly competitive young generations in the EU labor market.

Table 2. Logistic regression models–Dependent variable: Interested in attending training programs for mentoring in education (YES).

		(M1) Primary Education				(M2) Lower Secondary				(M3) Upper Secondary				(M4) Total Sample			
		S.E.	Wald	Sig.	Exp(B)	S.E.	Wald	Sig.	Exp(B)	S.E.	Wald	Sig.	Exp(B)	S.E.	Wald	Sig.	Exp(B)
Initial Training	Highest level of education graduated (MA or PhD)	0.250	0.103	0.748	1.084	.220	6.564	0.010	1.756	.142	5.085	0.024	1.378	0.102	11.885	0.001	1.419
	At least one degree in education sciences	0.559	0.974	0.324	1.736	0.227	4.688	0.030	1.635	0.163	0.345	0.557	1.101	0.101	6.058	0.014	1.283
	Awareness of the role of educational mentorship during initial instruction	0.113	0.598	0.439	1.091	0.100	.066	0.797	0.975	0.069	8.742	0.003	1.228	0.050	5.439	0.020	1.123
Continuous Professional Development	Participation in training during the last five years	0.097	2.045	0.153	1.149	0.084	0.009	0.925	0.992	0.055	10.054	0.002	1.190	0.041	9.999	0.002	1.137
	Prior participation in training programs of mentoring in education	0.241	5.774	0.016	1.786	.241	10.562	0.001	2.185	0.155	3.278	0.070	1.325	0.113	17.968	0.000	1.612
	Current status of mentor for pedagogical internships	0.285	5.500	0.019	1.953	.444	1.692	0.193	1.782	0.177	3.514	0.061	1.393	0.138	11.270	0.001	1.590
	Needs for training – self-assessment	0.160	19.955	0.000	2.042	0.148	22.500	0.000	2.016	0.088	61.448	0.000	1.994	0.067	103.908	0.000	1.981
	Needs of training of the school’s teaching staff	0.179	1.421	0.233	1.238	0.167	2.040	0.153	1.270	0.100	20.510	0.000	1.573	0.076	20.454	0.000	1.408
Support for adapting the national system of in-service teacher training to EU’s policies	0.132	12.233	0.000	1.587	0.109	19.608	0.000	1.618	0.070	23.619	0.000	1.408	0.052	57.246	0.000	1.485	
Stage of Career	Permanent position	0.489	2.663	0.103	2.221	0.381	0.043	0.836	1.082	0.274	0.313	0.576	0.858	0.196	0.317	0.573	1.117
	Teacher-first degree	0.326	1.111	0.292	0.709	0.254	0.786	0.375	1.252	0.190	1.006	0.316	1.210	0.134	0.212	0.645	1.064
	Age (number of years)	0.016	19.097	0.000	0.933	0.014	7.276	0.007	0.962	0.010	9.869	0.002	0.969	0.007	32.518	0.000	0.961
Self-assessed digital skills		0.158	1.988	0.159	1.249	0.145	2.070	0.150	0.812	0.092	1.866	0.172	1.134	0.068	1.371	0.242	1.083
	Difficulties in online/blended teaching	0.126	6.068	0.014	1.362	0.125	0.337	0.562	1.075	0.080	5.504	0.019	1.205	0.058	9.996	0.002	1.201
Constant		1.406	6.372	0.012	0.029	1.140	3.214	0.073	0.129	0.795	33.230	0.000	0.010	0.570	41.631	0.000	0.025
Cox & Snell R square				0.154				0.200				0.165				0.166	
Nagelkerke R square				0.321				0.334				0.304				0.306	
No of cases				1221				960				2499				4716	

Source: Highlighted cells where $p < 0,05$, so the significance is approved. Using a similar logistic regression model, in terms of the dependent and independent variables, with the three subsamples presented above the specific profiles of teachers interested in attending training programs for mentoring in education at the primary, lower- and upper-secondary levels can be identified (Table 2). The explanatory power of the regression models presented is rather moderate (Cox & Snell R square has values between 1.54 and 2; Nagelkerke R-square has values between 0.304 and 0.334), however, it is appropriate for such large samples. This approach facilitates comparisons between these categories and a deeper understanding of the results obtained by running the logistic regression model within the total sample.

5. Discussion

This research can inform the general debate on public policies in the field. First, policies in education have to respond to the vast demand for training in relation to mentoring in education and implement programs that are focused on this topic. Second, teachers' attitudes toward training and reforms in the system are determined over a long time that include their initial instruction and experiences of continuous training for in-service teachers. In this context, positive attitudes toward formation and mentoring must be nurtured starting from the initial instruction and reinforced through follow-up training. Third, the current challenges produced by societal changes and (global) crises have enhanced teachers' openness to training and provided excellent opportunities for implementing reforms in continuous training.

Similarly to any research, this paper also has some limitations. They are primarily related to the method of obtaining the sample. Although its volume (more than 5000 respondents) is sufficient for the analysis, the method of obtaining it may be of some concern. In particular, the invitation was sent to all respondents by e-mail. As a result, some respondents who are not active online users either did not respond or did not even receive a letter. The most active teachers also took part in the survey, which could theoretically lead to a shift in the sample through an access-based sample. In principle, this could affect the shift of the coefficients on the variable corresponding to the age of the teacher.

Secondly, the education (primary, secondary) type distinction can only be interpreted with limitations. It is obvious that teachers have the opportunity to work at different levels of education at the same time, so the sample can be considered as cross-cutting.

Third, in the study, the dependent variable was specifically chosen to have only two values (0 and 1). However, the answer to the question of the desire to participate in the relevant programs may have more answers, in particular, "I want, but I do not have the opportunity" or "I want, but under certain conditions" and so on. In this case, the study would have to be conducted using multiple logit models.

The concern could be seen as well in the aspect of the factors' significance as predictors and why the three models have different significant factors. The underlying reasons for these differences, and why these differences exist can be explained from theoretical and mathematical points of view. From the theoretical point of view, the set of significant predictors can be explained by the heterogeneous population of teachers in Romania (initial training completed during different periods of time: communism, post-communist transition, country's membership to the EU) and the different systemic challenges faced depending on the teaching level (primary education, lower-secondary education, and up-per-secondary education). Corroborating these points, different levels of preparedness for dealing with the transformation required for teaching in Romania today can be seen. From the mathematical point of view, the exact task of the econometric approach is to determine the most significant variables/factors, that were reached in the paper. As well, it is quite obvious that the wider set—e.g., the M4 Total sample model—has less significant predictors as more narrow cases, because with the increasing of the set the impact of the random component increases. The approach of dividing the total set on different models on the basis of the dependent variable constructs one of the tasks of the research. The findings highlight the heterogeneity in the study sample.

Thus, the study's findings are important because they can help policymakers design strategic interventions within educational systems at both the macro-level (national and county-level decisions and programs in Romania) and the micro-level implementation of such policies (school level management should also understand and acknowledge differences between in-service teachers). For example, age can be an important factor in shaping strategic interventions in relation to enrolment in mentoring programs of in-service teachers and policies should address generational needs in a way that correspond to the different motivational drivers. At the same time, controlling for an individual's self-assessment of the need for training can be an important factor in assuring that participants in mentoring programs will have the correct motivation for developing new skills and competencies

within such programs. Assessing individual individual's self-assessment of the needs for training can be integrated into selection processes at school-level or macro-level.

It is also worth noting that the results are correlated with well-known international studies. In particular, the findings of [50] suggested as well that teachers valued opportunities for active participation, collaboration, and experiential learning (e.g., microteaching) highly. The obtained results fully support the case studies of Italia [51], Karachi region [27], Ghana [28], Australia and Finland [24], and Ukraine [52].

Along with the merits of the present study, some milestones should be acknowledged that require follow-up research. Further investigation can build on the study's findings and can extrapolate the results for the entire national context through probabilistic sampling or for other educational systems by replicating and adapting this explanatory model. At the same time, mixed methods approaches can deepen the understanding of factors beyond teachers' attitudes toward training programs and have the potential to verbalize their motivations for (non)participation.

6. Conclusions

The paper provides empirical knowledge of teachers' attitudes toward a specific type of continuous training: mentoring in education. It contributes to the literature focused on the relationship between teachers' initial instructions and continuous training through a multidimensional explanatory model that also includes information about the teachers' career stage and difficulties faced in online/blended teaching. The approach provides premises for a deeper understanding of the factors influencing the transformation of the system. At the same time, the current paper's focus on mentoring in education allows comparing between in-service teachers depending on their teaching level and other professional characteristics.

Within the general sample of Romanian teachers, individuals' willingness to enroll in this type of training can be explained by examining their pathways of initial instruction. Higher educated teachers and those who graduated from programs in education sciences manifest increased interest to join a mentoring program in education. This is complemented by the individual's higher awareness of the role of mentoring in education during initial instruction. However, significant differences were found when comparing the teaching level. The first two factors, an individual's education level (MA and Ph.D. in contrast to BA or non-tertiary degrees) and having a degree in education sciences, are far more important in understanding lower-secondary teachers' interest in joining the mentoring program. These factors have no significant effects when it comes to teachers from primary education and only an individual's education level holds its influence in relation to the sample of teachers at the upper-secondary level. On the other hand, awareness of the role of educational mentorship during initial instruction is a significant predictor of upper-secondary teachers' willingness to join the training program, but it has no significant effects on those teachers who teach below this level.

The variables used for understanding individuals' experiences and attitudes toward continuous training hold explanatory power for teachers' interest to attend training for mentoring in education. Within this dimension, one of the main predictors of willingness to join training is linked to Romanian in-service teachers' support for reforming the system of continuous training for matching EU policies. Furthermore, a higher interest in enrolling in the program was registered for those who assessed a greater need for personal training or for the teaching staff of the school where they work. At the same time, prior experiences of participating in training and the current status as a mentor for pedagogical internship also have a positive influence on teachers' interest in joining the training program for mentoring in education. There are some differences between teachers' profiles depending on the level where they teach. On the one hand, participation in training over the past five years significantly affects an interest in joining the program exclusively for upper-secondary teachers. On the other hand, prior participation in training programs of mentoring in education is a statistically significant predictor of primary and lower-secondary teachers'

attitudes towards this type of mentoring, and much weaker among teachers at the upper-secondary level. The status of being a mentor for pedagogical internship has no statistically significant effects for teachers in lower-secondary education, while for the other levels, it is a significant predictor. Finally, the assessed training needs for the school's teaching staff have no significant effects on primary school and lower-secondary teachers' interest in joining the program, but this is a significant predictor for the teachers at the upper-secondary level.

The indicators revealing teachers' stages of career add insights into the specific profiles of those interested in joining a program of mentoring in education. On the one hand, within the sample of Romanian teachers, age was found to have a negative influence on an individual's willingness to participate in training programs for mentoring in education. This relationship is constant and negative, regardless of the teaching level. On the other hand, holding a permanent teaching position (compared to temporary staff) and having the highest level in the national teaching career (first-degree teacher) have no statistically significant effects at any level of teaching.

Although self-assessed digital skills have no significant effects on individuals' interest in participating in this type of training, teachers' difficulties in online/blended teaching are a significant predictor exclusively within the subsamples of teachers in primary education and the upper-secondary level. Those who declare more problems in online/blended teaching during COVID-19 are more interested in participating in this type of training program.

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Appendix A

Table A1. Teaching levels within the Romanian education system included in the analysis.

Teaching Levels	ISCED *	No. of Teachers Included in the Sample
Upper-secondary education (between 8th and 12th grade)	ISCED 3	2611
Lower-secondary education (between 4th and 8th grade)	ISCED 2	1081
Primary education (between 1st year of education and the 4th grade)	ISCED 1	1313

* International Standard Classification of Education (ISCED 2011).

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