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On Virtual Mobility in Three Central European Universities: Similar but Different?

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ABSTRACT. This article examines the patterns and determinants of virtual mobility among students in the social sciences and humanities at three universities in Central Europe: University of Hradec Kralove (HKU) in the Czech Republic, Adam Mickiewicz University, Poznan (AMU) in Poland and Constantine the Philosopher University in Nitra (UKF) in Slovakia. Virtual mobility, a form of international cooperation facilitated by information and communication technologies, has become increasingly important, especially during the COVID-19 pandemic. The study investigates students' motivation, resources and experiences in this form of mobility. Findings show that a similar percentage of students participated in both physical and virtual mobility across the three universities, with over 60% not participating in any form of mobility. Work experience significantly impacted participation, as students with employment records were likelier to participate. Gender and level of study did not have a significant influence on participation. Noticeable differences in motivation were observed between universities, with students at the AMU demonstrating a higher level of motivation for virtual mobility. The study also revealed differences in students' perceptions of technical resources and organisational effectiveness for virtual mobility.

Keywords: virtual mobility; higher education; Central European universities; student motivation, information and communication technologies (ICTs); COVID-19 pandemic; social sciences and humanities (SSH)

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Introduction

The educational mobility of students and academics (academic mobility) is a vital part of the learning process within higher education institutions (HEIs), which, in essence, involves the exchange of (a) ideas and experiences, (b) critical discussion of them and (c) intercultural relationships that enrich a range of competences necessary for understanding and functioning in a globalised world. Such mobility is an essential component of internationalisation within higher education (HE) (Tereseviciene, Volungeviciene & Dauksiene, 2013), affecting the quality of tertiary school teaching (Baranowski, 2020). In the European context, '[s]upporting the international mobility of students (and staff) has been not only the most often recurring theme in the discourse around structural reforms brought about by the Bologna Process but also the very rationale of this supranational initiative or at least the officially-stated one' (European Commission, 2020, p. 124). A form of virtual mobility became a particularly interesting option in the context of the COVID-19 pandemic, when 'physical' mobility was impossible or very difficult to deliver (Bohman, Ryan, Stjernborg & Nilsson, 2021; Dunajeva, 2022; Kozakowski, Lucas & Rudnev, 2022; Yang, Shen, Xu, 2022). Implementing and/or developing the 4C's (Critical thinking, Communication, Collaboration and Creativity) is also possible in virtual student mobility (VSM) or hybrid forms, combining physical forms of mobility with virtual ones. Such mobility sets new possibilities for improving the quality of teaching in, among others, the social sciences and humanities (SSH) using Information and Communication Technology (ICT). The beneficiaries of virtual mobility can be students, lecturers and university administrative staff.

In this article, we attempt to characterise patterns of virtual mobility use and their determinants among students of the SSH at three universities from Central European countries (also known as Central and Eastern Europe) – University of Hradec Kralove (HKU) from the Czech Republic, Adam Mickiewicz University, Poznan (AMU) from Poland and Constantine the Philosopher University in Nitra (UKF) form Slovakia. These three universities from former socialist republics counterbalance studies of this phenomenon in Western European countries (e.g., Bohman, Ryan, Stjernborg & Nilsson, 2021; López-Duarte, Maley & Vidal-Suárez, 2022; Villar-Onrubia & Rajpal, 2016), enabling an analysis of the motivations for undertaking student mobility at HKU, AMU and UKF and their assessment of the resources and preparation of the universities themselves for this form of study.

Challenges of Virtual Mobility

Virtual mobility means 'a collection of ICT-supported activities, organised at an institutional level, that in a context of learning and/or teaching, realise or facilitate international cooperation' (*Erasmus+ programme guide: Glossary* cited by *Educational Glossary*, 2023). This form of education, also referred to as 'online mobility' (cf. *Educational Glossary*, 2023), has become particularly important during pandemic education (Sturm, Gibbons & Peters, 2020), enabling the

continuation of university internationalisation and related educational tasks during times of limited physical mobility (Olimid, 2023).

Although there are many definitions of virtual mobility in the literature (cf. Tereseviciene, Volungeviciene & Dauksiene, 2013, pp. 2-4), it is about 'the use of information and communication technologies to obtain the same benefits as one would have with physical mobility but without the need to travel' (Poulová, Černá & Svobodová, 2009, p. 87). Such use is possible because of 'the increasing availability of open educational resources for mobile technology,' which is 'making access to learning more affordable for anyone who wants to learn' (Ally & Prieto-Blázquez, 2014, p. 147). HEIs operating in a knowledge society (Baranowski, 2019; Brennan, 2012; Górak-Sosnowska & Tomaszewska, 2022; Välimaa, Papatsiba & Hoffman, 2016) are using the existing infrastructure to expand the palette of opportunities for participation in 'new' forms of mobility, whose advantages, in addition to their relatively low costs, include the freedom to schedule classes or meetings, as well as a reduced carbon footprint (Contreras-Taica et al., 2022; Versteijlen, Salgado, Groesbeek & Counotte, 2017).

Virtual mobility can be used in the form of 'blended mobility,' i.e., a form of online collaboration before the actual physical mobility (Cobcroft, Towers, Smith & Bruns, 2006; Purg, Širok & Brasil, 2018) or as course integration, i.e., complementing full-time courses with online collaboration between students or academic teachers (Monk, McDonald, Pasfield-Neofitou & Lindgren, 2015). This does not change the fact that virtual mobility 'should not only be considered as an instrument to enrich physical mobility but as an innovative and fully-fledged form of international mobility per se' (Bedenlier & Marín, 2020, p. 86).

The possibilities for the use of virtual mobilities are vast if the universities and the stakeholders themselves have the necessary access to ICT infrastructure as well as the competence to use this technology and knowledge of the languages of the countries with which they intend to cooperate. As well as the relative novelty of this form of mobility, we decided to examine the attitudes of SSH students from three universities in Central Europe towards virtual mobility.

Methodology/Data and Methods

Data for the analysis presented in this paper are based on a survey (Computer-Assisted Web Interview) of 1,382 students studying SSH at three Central European universities, namely 1) the University of Hradec Králové in the Czechia (CZ: HKU), 2) the Adam Mickiewicz University, Poznan, Poland (PL: AMU) and 3) the Constantine the Philosopher University in Nitra, Slovakia (SK: UKF). The sample size distribution across three universities reflects the diversity of the study population. In total, 364 students were surveyed in Czechia, 876 in Poland and 142 in Slovakia.

A two-stage sampling design was used within each university to ensure sample representativeness. During the first stage, a random selection was made at the student group (lecture unit) level with the strata defined by the type (BA vs MA)

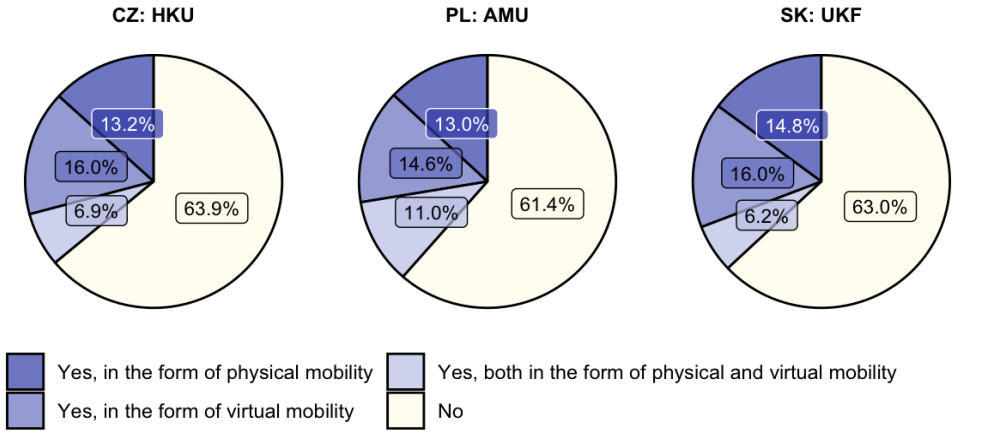
and year of the study (the number of selected lecture units was proportional to the size of each stratum), followed by an invitation to all chosen group members to complete a web-based questionnaire for data collection. The two-stage sampling design was implemented to enhance the representativeness of the sample by minimising potential biases associated with self-selection students to an online survey and ensuring a broader cross-section of students participated in the study. This approach also reduced the likelihood of students receiving duplicate invitations to complete the online survey, thereby improving the overall efficiency and accuracy of data collection during the fieldwork period from October 2022 to December 2022.

We employed two statistical procedures to address research objectives. Firstly, the chi-square test was used to assess the significance of the differences in the distribution of responses among students from the three participating universities. This method was selected for its suitability for assessing the association between multinomial categorical variables, i.e., specific survey questions measured as non-numerical characteristics and the students' university affiliation. Secondly, we utilised logistic regression to predict students' willingness to participate in virtual mobility. This regression enabled us to explore the complex relationship between various features of students and the likelihood of their engaging in virtual mobility experiences, shedding light on the determinants and influences shaping their decisions in three universities. Summarising, the choice of statistical procedures was considered to align with the research goals and the type of measurement of survey variables, ensuring that we could effectively address research objectives and draw meaningful conclusions from the study.

Results

Based on the results of an online survey conducted among students, it appears that similar percentages participated in both physical (13-14.8%) and virtual mobility (14.6-16%) (see Figure 1 and the detailed data in Table A1 in the Appendix). What should not escape our attention is that for more than 60% of the students, neither form of mobility was part of their study process. The universities included in the study do not have an effective system for motivating student mobility or students are not interested in this form of academic activity. However, looking at these results from a different angle, i.e., considering the student mobility benchmark set at 20% within the European Higher Education Area (cf. Davies, 2023), the results obtained in the three Central European universities meet and exceed the set guidelines, if we consider physical and virtual mobility together.

Figure 1
Participation in academic mobility in three Central European universities



Note: chi-square = 3.39; df = 6; p-value = 0.759

Table 1 presents the logistic regression analysis results for predicting participation in any form of virtual mobility. We run three models with increased complexity. Model 1 incorporates the university's name as a predictor and tests whether the propensity to participate in virtual mobility differs between survey participants from Czech HKU, Slovak UKF and Polish AMU (set up a reference category). Model 2 adds to the regression the following predictors: gender of the respondent (male=1), degree of the studying program (BA is set up as a reference category for MA and uniform MA) and having working experience (yes=1). Finally, Model 3 adds the interaction between the name of the university and the independent variable from Model 2, which we found significant for predicting the likelihood of participating in any form of virtual mobility. All the regression parameters were transformed by exponential function to allow for interpretation of the result as odds ratio (OR). Additionally, we present standard errors (SE) of the OR and the p-values indicating the significance level.

Table 1
Logistic regression analysis for predicting participation in virtual mobility in any form as a dependent variable

	Model 1			**Model 2**			**Model 3**		
Predictors	*Odds Ratios*	*std. Error*	*p*	*Odds Ratios*	*std. Error*	*p*	*Odds Ratios*	*std. Error*	*p*
Intercept	0.60	0.06	**<0.001**	0.34	0.07	**<0.001**	0.32	0.08	**<0.001**
CZ: HKU	0.72	0.16	0.129	0.79	0.19	0.320	0.95	0.36	0.887
SK: UKF	0.92	0.24	0.744	0.99	0.28	0.973	1.17	0.62	0.773
Gender [Male]				1.04	0.22	0.836	1.06	0.22	0.790
MA degree studies [vs BA]				1.09	0.28	0.721	1.10	0.28	0.718
Uniform MA degree studies [vs BA]				0.83	0.19	0.420	0.83	0.19	0.406
Working experience [Yes]				2.19	0.45	**<0.001**	2.41	0.64	**0.001**
CZ * Working experience							0.76	0.36	0.569
SK * Working experience							0.81	0.49	0.725
Observations	598			598			598		
AIC	783.646			775.197			778.822		
log-Likelihood	-388.823			-380.598			-380.411		

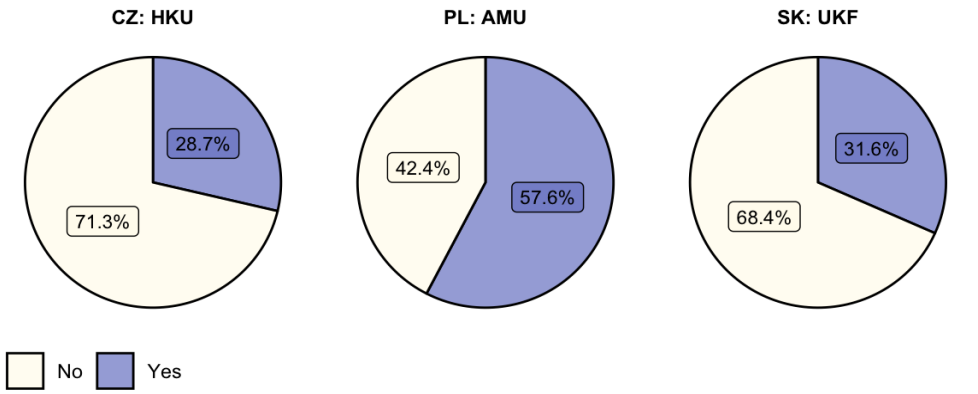
The results of Model 1 indicate no significant differences between students from the three universities in terms of their willingness to participate in any form of virtual mobility. Regarding the results of Model 2, we found the odds of participation in virtual mobility similar for male and female students and respondents from the BA, MA and a uniform MA degree of studies (all the differences are negligible). The only significant differences are between survey participants having and not having working experience, as a willingness to participate in virtual mobility for students with working experience is twice that for

those not previously working. Additionally, the results of Model 3 demonstrate the impact of working experience on the propensity to participate in virtual mobility is the same in the three universities.

Significant differences emerged when answering the question on motivation to study via virtual mobility (see Figure 2 and the detailed data in Table A2 in the Appendix). As many as 71.3% of HKU students and 68.4% of UKF are not motivated to study via virtual mobility. For AMU students, these percentages were much lower at 42.4, which is still – in our estimation – a relatively high result. Less than one-third of the students from the Czech and Slovak universities declare their willingness to study through virtual mobility. It contrasts with the motivations of students from AMU, as more than 57% responded positively to this question.

Figure 2

Motivation to undertake studies through virtual mobility in three Central European universities



Note: chi-square = 38.41; df = 2; p-value < 0.001

Considering the socio-demographic characteristics of all the students surveyed, it appears that a much lower percentage of men (35.3%) than women (47.5%) declare a willingness to undertake studies in the form of virtual mobility. In addition, there were no significant differences between the level of study and the motivation to participate in this form of mobility (master's degree students [49.3%] were more likely to say yes than bachelor's degree [42.5%] or uniform master's degree students [46.7%]). Students with work experience (in any form, e.g., as casual or full-time employees) were more likely to declare a motivation to study via virtual mobility than their peers without this experience.

Students who responded positively to the question on participation in virtual mobility were asked a series of questions about technical resources and evaluation of virtual mobility activities (see resources and organisation in Figure 3 and the detailed data in Table A3 in the Appendix), as well as about personal benefits and

their overall assessment of virtual mobility (see personal benefits and overall assessment in Figure 3).

Regarding the possession of adequate technical resources to study in the form of virtual mobility, considerable differences emerged between the responses of students from the three universities surveyed. The highest percentage of positive responses was recorded among students from AMU (77.4%), which dropped to 65.4% for HKU and as low as 46.7% for UKF. When it came to the possibility of successfully organising virtual mobility duties at home, differences also emerged. Students from UAM and HKU were more likely to declare effective organisation (83% and 73.1%, respectively) than their UKF counterparts (66.7%).

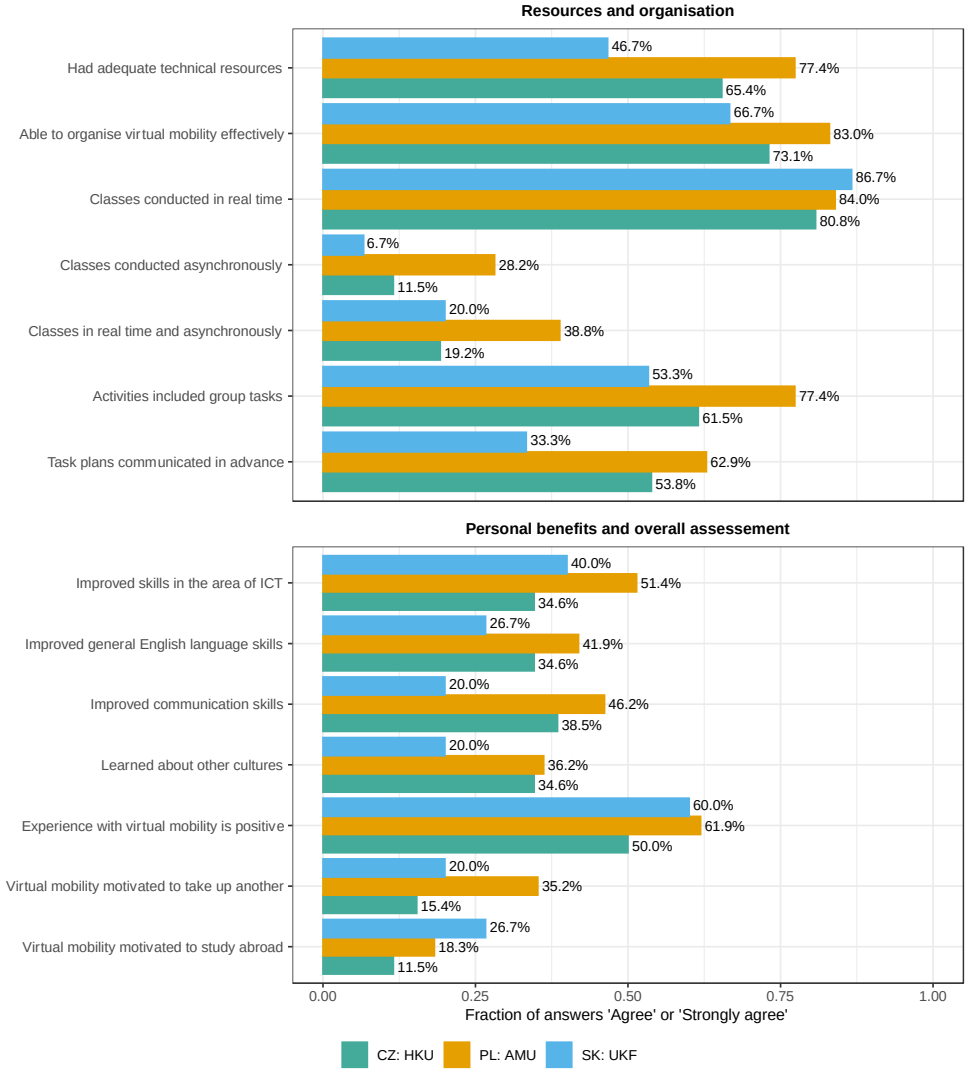
In the three universities, classes were mainly conducted in real time. However, in AMU, more often than in the other two, classes were conducted asynchronously (i.e., based on students' work with materials provided by lecturers). Let us remember that the research was conducted during the COVID-19 pandemic, meaning that some of those willing to travel to another country were forced to participate in virtual mobility, and individual universities had to implement the virtual system quickly into their offerings.

Furthermore, students at AMU were far more likely (77.4%) than at the other two universities (HKU 61.5% and UKF 53.3%) to declare that virtual mobility included group tasks and activities. At AMU (62.9%) and HKU (53.8%), task plans for individual courses/activities were communicated in advance and implemented as agreed.

In terms of personal benefits and overall assessment, students who had experience with virtual mobility rated it positively most often at AMU (61.9%) and UKF (60%) and slightly less often at HKU (50% of indications). Despite this, the percentage of those who declared that virtual mobility had mobilised them for another such mobility or study abroad was small (see Figure 3). Given the range of advantages described above, which characterise virtual mobility (e.g., low cost compared to physical mobility, relatively low technological requirements, availability to a much larger number of students than traditional mobility and to students with various forms of disadvantages in terms of health, geography, culture, etc.), the results obtained require in-depth qualitative research. That kind of research should identify specific reasons for the lack of motivation to undertake an additional form of virtual mobility or explain the lack of translation of this form of student activity into a desire to go to a foreign partner university.

Regarding another dimension of interpersonal capacity, 38.5% of HKU students agreed that virtual mobility improved their communication skills, compared to 46.2% at AMU and 20.0% at UKF. And when it comes to cultural learning, 34.6% of HKU students agreed, compared to 36.2% at AMU and 20.0% at UKF. Disagreement was reported by 30.8% at HKU, 41.9% at AMU and 26.7% at UKF.

Figure 3
Virtual mobility: Assessment of resources, organisation and personal benefits in three Central European universities



To obtain a more comprehensive explanation of the factors influencing the adoption of virtual mobility among students, inquiries were made regarding their channels for acquiring knowledge concerning this technologically mediated way of studying. In all the educational institutions surveyed, the home university was most often indicated as the primary source of information (see Table A4 in the Appendix). The highest number of answers not related to home universities

appeared in HKU (34.6%) and were related to information from friends/family and other sources (e.g., Erasmus+ programme websites).

Those with experience of virtual mobility were also asked from which location they participated in these activities (see Table A5 in the Appendix). The predominant answers were 'from home' (UKF 80%, HKU 76.9% and AMU 66.1%), which may be related to the pandemic. However, as many as 33.9% of AMU students (against 23.1% of HKU and 20% of UKF) declared that they participated in virtual mobility from a dormitory or rented accommodation. These differences should also be viewed through the prism of not only the diverse residence practices of the students but, above all, the availability of the ICT infrastructure required to participate in virtual mobility.

Discussion

In consideration of the fact that 'the international mobility of students can easily be called one of the central and most palpable features of the internationalisation of higher education' (Bedenlier & Marín, 2020, p. 85), the results obtained in a survey of SSH students from three Central European universities leave much to be desired. It is not about the student mobility benchmark set for European countries, which can be met even at the relatively low levels of mobility evident in the data (Davies, 2023). Instead, virtual mobility is a form of increasingly inclusive education, as 'for a large number of students, it is not possible to go abroad for social, financial or other reasons' (and not all students can receive funding from Erasmus+) (Buiskool & Hudepohl, 2020, p. 4; see Richardson, 2016). A lack of willingness to undertake or continue this form of student engagement post-COVID-19 limits the inclusivity that should be becoming a 'standard' element of HE, particularly in Central European countries, which differ from Western European states in terms of both their economic prosperity and quality of education (Batrancea, Nichita, Balcı & Akgüller, 2023; Jutz, 2020; Roessler & Catacutan, 2020). Additionally, it contradicts evidence in other studies that 'virtual formats can serve as an effective option to address challenges related to cultural awareness, intercultural collaboration and transversal or soft skills' (Buiskool & Hudepohl, 2020, p. 6).

Our study found that similar percentages of students participated in both physical and virtual mobility at the three Central European universities surveyed. However, a significant portion of students (over 60%) did not engage in any form of mobility, indicating potential issues with their motivation to do so or university support for it (Breznik & Skrbinjek, 2020; Cairns, Krzaklewska, Cuzzocrea, & Allaste, 2018). Moreover, it identified that working experience was a significant predictor of participation in virtual mobility, with students having work experience being more inclined to participate. Students with work experience are, on the one hand, well organised, as they can combine paid work with studies and, on the other hand, more aware of the benefits of intercultural experience (e.g., in terms of practical language use or valuable experience on a CV). Gender and level of education did not significantly influence students' inclination to participate.

However, there were substantial differences in motivation levels among students from different universities. AMU students displayed higher motivation for virtual mobility than those at HKU and UKF, due to various factors, including university policies, resources or student preferences (as illustrated in Figure 3). In addition, students' perceptions of possessing adequate technical resources and effective organisation for virtual mobility varied among the universities. AMU students reported higher satisfaction levels in this regard compared to HKU and UKF peers. The study also found that students who had experience of virtual mobility generally rated it positively. However, only a small percentage of students expressed a motivation to pursue further virtual or physical mobility.

Conclusion

The article explores patterns of virtual mobility among students in the SSH at three Central European universities from Czechia, Poland and Slovakia. Despite similar participation rates in physical and virtual mobility, over 60% of students did not engage in any form of mobility, suggesting potential motivation or university support issues. Working experience (in any form) emerged as a significant predictor of virtual mobility participation, with students having employment records being more inclined to participate.

Significant variations in motivation levels were observed among universities, with AMU students showing higher motivation, possibly influenced by university policies, resources, or student preferences. Gender and level of study (bachelor's or master's degree) did not significantly affect participation. Our study highlighted differences in students' perceptions of possessing adequate technical resources and effective organisation for virtual mobility among universities, with AMU students reporting higher satisfaction.

Despite generally positive ratings from students with virtual mobility experience, a small percentage expressed motivation for further mobility, raising questions about the translation of virtual mobility experience into a desire for additional forms of study abroad. These findings underscore the importance of understanding and addressing factors influencing student motivation and university support for virtual mobility.

While the findings are informative and explanatory, further research, including qualitative investigation of the reasons for students' motivations and participation in virtual mobility and consideration of the university-specific factors for such mobility, is needed to understand the patterns and determinants of this mobility form. In addition, it is worth being aware that our study focused on three Central European universities, limiting generalisability to other regions or disciplines. Because it was conducted during the COVID-19 pandemic, the unique circumstances may influence the study's findings, and motivations for virtual mobility might evolve post-pandemic. Furthermore, reliance on self-reported data through a web-based survey may introduce response bias, impacting the accuracy of results. Even more, our study assessed students' perceptions of technical

resources but did not objectively measure the actual availability and accessibility of these resources. It did not extensively explore cultural factors that might influence virtual mobility participation, which could be crucial for a comprehensive understanding.

We believe that addressing these limitations in future research will contribute to a more nuanced understanding of virtual mobility patterns and inform strategies for enhancing student engagement in Central European universities.

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Authors' contributions
The authors confirm being the sole contributors to this work and having approved it for publication. They take full responsibility for the accuracy and the integrity of the data analysis.

Conflict of interest statement
The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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APPENDIX

Table A1
Participation in academic mobility

Category	Yes, in the form of physical mobility	Yes, in the form of virtual mobility	Yes, both in the form of physical and virtual mobility	No
University				
- CZ: HKU	19 (13.2%)	23 (16.0%)	10 (6.9%)	92 (63.9%)
- PL: AMU	57 (13.0%)	64 (14.6%)	48 (11.0%)	269 (61.4%)
- SK: UKF	12 (14.8%)	13 (16.0%)	5 (6.2%)	51 (63.0%)
Chi-square test	chi-square = 3.39 (df = 6), p-value = 0.759			
Gender				
- Female	62 (13.5%)	63 (13.7%)	40 (8.7%)	294 (64.1%)
- Male	16 (11.0%)	25 (17.1%)	10 (6.8%)	95 (65.1%)
Chi-square test	chi-square = 1.92 (df = 3), p-value = 0.589			
Level of education				
- Bachelor's degree	47 (12.6%)	53 (14.2%)	28 (7.5%)	245 (65.7%)
- Master's degree	13 (13.7%)	16 (16.8%)	11 (11.6%)	55 (57.9%)
- Uniform master's degree	20 (12.6%)	22 (13.8%)	17 (10.7%)	100 (62.9%)
Chi-square test	chi-square = 3.40 (df = 6), p-value = 0.758			
Working experience				
- Yes	71 (15.7%)	76 (16.8%)	47 (10.4%)	259 (57.2%)
- No	15 (7.5%)	23 (11.6%)	14 (7.0%)	147 (73.9%)
Chi-square test	chi-square = 17.26 (df = 3), p-value < 0.001			

Table A2
Motivation to undertake studies through virtual mobility

Category	Yes	No
University		
- CZ: HKU	41	102
	(28.7%)	(71.3%)
- PL: AMU	155	114
	(57.6%)	(42.4%)
- SK: UKF	25	54
	(31.6%)	(68.4%)
Chi-square test	chi-square = 38.41 (df = 2), p-value < 0.001	
Gender		
- Female	159	176
	(47.5%)	(52.5%)
- Male	42	77
	(35.3%)	(64.7%)

Chi-square test	chi-square = 4.79 (df = 1), p-value = 0.029	
Level of education		
- Bachelor's degree	121	164
	(42.5%)	(57.5%)
- Master's degree	33	34
	(49.3%)	(50.7%)
- Uniform master's degree	56	64
	(46.7%)	(53.3%)
Chi-square test	chi-square = 1.32 (df = 2), p-value = 0.516	
Working experience		
- Yes	144	170
	(45.9%)	(54.1%)
- No	73	98
	(42.7%)	(57.3%)
Chi-square test	chi-square = 0.33 (df = 1), p-value = 0.565	

Table A3
Virtual mobility: assessment of resources, organisation and personal benefits

Question	**CZ: HKU**	**PL: AMU**	**SK: UKF**
1. I was in possession of adequate technical resources to undertake studies in the form of virtual mobility			
- Agree	17 (65.4%)	82 (77.4%)	7 (46.7%)
- Disagree	2 (7.7%)	15 (14.2%)	1 (6.7%)
- No opinion	7 (26.9%)	9 (8.5%)	7 (46.7%)
Chi-square test	chi-square = 17.86 (df = 4), p-value = 0.001		
2. I was able to organise my virtual mobility duties effectively while remaining in my current place of residence			
- Agree	19 (73.1%)	88 (83.0%)	10 (66.7%)
- Disagree	3 (11.5%)	8 (7.5%)	2 (13.3%)
- No opinion	4 (15.4%)	10 (9.4%)	3 (20.0%)
Chi-square test	chi-square = 3.03 (df = 4), p-value = 0.552		
3. Classes were conducted in real-time			
- Agree	21 (80.8%)	89 (84.0%)	13 (86.7%)
- Disagree	1 (3.8%)	9 (8.5%)	1 (6.7%)
- No opinion	4 (15.4%)	8 (7.5%)	1 (6.7%)
Chi-square test	chi-square = 2.20 (df = 4), p-value = 0.699		
4. Classes were conducted asynchronously			
- Agree	3 (11.5%)	29 (28.2%)	1 (6.7%)
- Disagree	9 (34.6%)	38 (36.9%)	0 (0.0%)
- No opinion	14 (53.8%)	36 (35.0%)	14 (93.3%)
Chi-square test	chi-square = 20.60 (df = 4), p-value < 0.001		
5. Classes were conducted both in real time and asynchronously			
- Agree	5 (19.2%)	40 (38.8%)	3 (20.0%)
- Disagree	9 (34.6%)	34 (33.0%)	1 (6.7%)
- No opinion	12 (46.2%)	29 (28.2%)	11 (73.3%)

Question	**CZ: HKU**	**PL: AMU**	**SK: UKF**
Chi-square test	chi-square = 14.72 (df = 4), p-value = 0.005		
6. The activities included group tasks and activities			
- Agree	16 (61.5%)	82 (77.4%)	8 (53.3%)
- Disagree	6 (23.1%)	12 (11.3%)	4 (26.7%)
- No opinion	4 (15.4%)	12 (11.3%)	3 (20.0%)
Chi-square test	chi-square = 5.91 (df = 4), p-value = 0.206		
7. Task plans for individual courses/activities were communicated in advance and implemented as agreed			
- Agree	14 (53.8%)	66 (62.9%)	5 (33.3%)
- Disagree	4 (15.4%)	13 (12.4%)	3 (20.0%)
- No opinion	8 (30.8%)	26 (24.8%)	7 (46.7%)
Chi-square test	chi-square = 5.01 (df = 4), p-value = 0.286		
8. During my studies in the form of virtual mobility, I improved/developed my skills in the area of ICT			
- Agree	9 (34.6%)	54 (51.4%)	6 (40.0%)
- Disagree	10 (38.5%)	20 (19.0%)	3 (20.0%)
- No opinion	7 (26.9%)	31 (29.5%)	6 (40.0%)
Chi-square test	chi-square = 5.54 (df = 4), p-value = 0.236		
9. I have improved/developed my general English language skills during my studies in the form of virtual mobility			
- Agree	9 (34.6%)	44 (41.9%)	4 (26.7%)
- Disagree	12 (46.2%)	38 (36.2%)	6 (40.0%)
- No opinion	5 (19.2%)	23 (21.9%)	5 (33.3%)
Chi-square test	chi-square = 2.41 (df = 4), p-value = 0.661		
10. During my studies in the form of virtual mobility, I improved/developed my communication skills			
- Agree	10 (38.5%)	48 (46.2%)	3 (20.0%)
- Disagree	9 (34.6%)	35 (33.7%)	6 (40.0%)
- No opinion	7 (26.9%)	21 (20.2%)	6 (40.0%)
Chi-square test	chi-square = 4.74 (df = 4), p-value = 0.315		
11. During my virtual mobility studies, I learned about other cultures from my fellow students			
- Agree	9 (34.6%)	38 (36.2%)	3 (20.0%)
- Disagree	8 (30.8%)	44 (41.9%)	4 (26.7%)
- No opinion	9 (34.6%)	23 (21.9%)	8 (53.3%)
Chi-square test	chi-square = 7.61 (df = 4), p-value = 0.107		
12. My general experience with virtual mobility is positive			
- Agree	13 (50.0%)	65 (61.9%)	9 (60.0%)
- Disagree	3 (11.5%)	20 (19.0%)	1 (6.7%)
- No opinion	10 (38.5%)	20 (19.0%)	5 (33.3%)
Chi-square test	chi-square = 6.07 (df = 4), p-value = 0.194		
13. Virtual mobility has motivated me to take up another virtual/hybrid form of study			
- Agree	4 (15.4%)	37 (35.2%)	3 (20.0%)
- Disagree	9 (34.6%)	37 (35.2%)	5 (33.3%)
- No opinion	13 (50.0%)	31 (29.5%)	7 (46.7%)

Question	CZ: HKU	PL: AMU	SK: UKF
Chi-square test	chi-square = 6.47 (df = 4), p-value = 0.167		
14. Virtual mobility motivated me to take steps towards physical mobility - studying in another country			
- Agree	3 (11.5%)	19 (18.3%)	4 (26.7%)
- Disagree	11 (42.3%)	56 (53.8%)	5 (33.3%)
- No opinion	12 (46.2%)	29 (27.9%)	6 (40.0%)
Chi-square test	chi-square = 5.13 (df = 4), p-value = 0.274		

Table A4
Source of information about the possibility of pursuing studies in the form of virtual mobility

Category	Home institution (university)	Other
University		
- CZ: HKU	17 (65.4%)	9 (34.6%)
- PL: AMU	86 (78.9%)	23 (21.1%)
- SK: UKF	12 (80.0%)	3 (20.0%)
Chi-square test	chi-square = 2.25 (df = 2), p-value = 0.325	
Gender		
- Female	78 (76.5%)	24 (23.5%)
- Male	26 (76.5%)	8 (23.5%)
Chi-square test	chi-square = 0.00 (df = 1), p-value = 1.000	
Level of education		
- Bachelor's degree	54 (67.5%)	26 (32.5%)
- Master's degree	24 (96.0%)	1 (4.0%)
- Uniform master's degree	32 (84.2%)	6 (15.8%)
Chi-square test	chi-square = 10.26 (df = 2), p-value = 0.006	
Working experience		
- Yes	93 (83.0%)	19 (17.0%)
- No	22 (62.9%)	13 (37.1%)
Chi-square test	chi-square = 5.25 (df = 1), p-value = 0.022	

Table A5
As part of my virtual mobility, I participated in studies from….

Category	Home	Other
University		
- CZ: HKU	20 (76.9%)	6 (23.1%)
- PL: AMU	72 (66.1%)	37 (33.9%)
- SK: UKF	12 (80.0%)	3 (20.0%)
Chi-square test	chi-square = 2.06 (df = 2), p-value = 0.357	
Gender		
- Female	73 (71.6%)	29 (28.4%)
- Male	21 (61.8%)	13 (38.2%)

Category	**Home**	**Other**
Chi-square test	chi-square = 0.73 (df = 1), p-value = 0.391	
Level of education		
- Bachelor's degree	51 (63.7%)	29 (36.2%)
- Master's degree	22 (88.0%)	3 (12.0%)
- Uniform master's degree	26 (68.4%)	12 (31.6%)
Chi-square test	chi-square = 5.27 (df = 2), p-value = 0.072	
Working experience		
- Yes	82 (73.2%)	30 (26.8%)
- No	20 (57.1%)	15 (42.9%)
Chi-square test	chi-square = 2.53 (df = 1), p-value = 0.112	