

# Exploring Socio-Economic Disparities in E-Learning: A Study of Bulgarian Students' Online Educational Experiences

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## Abstract

New Internet-based educational technologies, platforms and applications are becoming increasingly popular among learners worldwide. In using them, students and learners are finding ways to make learning easier, more fun and more effective. However, the digitalization of education raises the question of the distribution of digital resources and who has access to educational resources on the Internet and who does not. Therefore, this research will also attempt to answer the question of how economic inequalities become educational in the context of the use of online educational resources. The analysis uses representative data from Eurostat for Bulgaria to show the effects of the unequal distribution of digital technologies on the use of educational resources online. The analysis utilizes Structural Equation Modelling to demonstrate the link between technological resources and the conversion of economic into cultural capitals. Using Bourdieu's theory of cultural and social reproduction, the article examines how economic inequalities translate into educational inequalities in two ways. On the one hand, the results of the study show how access to digital technology leads to increased digital skills, and on the other, how technology and digital skills lead to greater chances of using online educational resources.

## Keywords

E-Learning, Educational Inequalities, Digital Inequalities, Sociology of Education

## 1. Introduction

In the dynamic field of digital learning, the surge in online educational technologies promises significant opportunities for improving the learning experience.

However, this digital development also highlights existing socio-economic inequalities and their potential extension into and impact on e-learning. This study undertakes a sociological investigation of these inequalities, focusing specifically on how socio-economic status affects educational outcomes within the e-learning environment in Bulgaria. This research is crucial as it delves into an area of informal digital education that has not been extensively studied. While inequalities in formal online education have received considerable attention, particularly during the COVID-19 pandemic (UNESCO, 2020; Febrianto et al., 2020; Sadiki et al., 2023), students' engagement with online text-based materials and digital courses outside of formal educational settings remains less studied.

Students' inclination towards online educational resources is not coincidental, as various studies confirm their positive impact on educational achievement (Robinson et al., 2018; Meseguer-Artola et al., 2020; Ciglaric & Vidmar, 1998; Allen & Tay, 2012). The internet acts as a conduit for students to develop their independent learning and information management skills. Engaging with Internet resources for lesson preparation is not only more enjoyable, but also more effective for students (Hamdan & Amorri, 2020). It also enhances digital literacy skills and the ability to critically evaluate information sources (Goldman et al., 2012). Social networking also is emerging as a critical internet tool for peer-to-peer support, sharing experiences, insights, advice and educational materials (Greenhow, 2011).

However, the growing importance of online learning highlights an issue of unequal access and technological barriers that prevent certain student groups from accessing the World Wide Web. Recognising this, the European Commission's Better Internet for Children strategy, updated in 2022 (European Commission, 2022), states that limited internet use can exacerbate the risks of poor educational outcomes, poor mental health and reduced long-term prospects. Children at risk of poverty or lacking basic necessities and those in remote areas with inadequate infrastructure are considered particularly vulnerable. The European Commission's Digital Decade for Children and Young People initiative highlights the disparities in internet access among Europe's youth, with Bulgaria having the second highest level of digital deprivation after Romania. Around a fifth of Bulgarian youth live in households that cannot afford a computer or internet access, and two-fifths of rural households do not have high-speed broadband access (European Commission, 2020b).

Given the growing importance of, and inequalities in access to, digital learning tools, the focus of this study is twofold: to unravel the impact of socio-economic inequalities on the accessibility and use of online educational resources, and to identify their wider implications for educational equity in the digital age. By exploring these dimensions, the research seeks to shed light on the complex ways in which socio-economic status influences educational opportunities in the digital landscape, providing valuable insights for policy makers, educators and researchers.

The analytical framework of this study aims to: 1) illustrate how economic,

digital and educational inequalities are integrated within the broader context of social inequalities; 2) elucidate the transformation of socio-economic inequalities into educational inequalities; 3) present an empirical analysis of quantitative data from the 2021 Eurostat ICT in Households Survey, using structural equation modelling (SEM) to elucidate the relationship between technological resources and the transformation of economic capital (household income) into cultural capital (digital literacy and use of online educational resources).

## **2. Socio-Economic and Educational Inequalities in Bulgaria in the Age of Online Learning**

The case of Bulgaria is relevant for a better understanding of the problem under study because of its high level of income and education inequality, which allows the research problem to be highlighted more clearly. The country underwent a profound transformation in the late 20th century, moving from a Soviet-influenced socialist state to a market-oriented economy. The collapse of the communist regime in 1989 marked a pivotal moment in Bulgaria's recent history, leading to political and economic reforms. The transition has been fraught with challenges, including economic fluctuations, corruption and difficulties in establishing a democratic framework. Currently, Bulgaria has the highest level of inequality in the European Union, as measured by the Gini coefficient (Eurostat, 2023).

Bulgaria is struggling with persistent socio-economic inequalities that have a significant impact on the educational landscape. The transition from a centrally planned to a market-oriented economy has had a lasting influence on the country's social fabric (Stoilova & Haralampiev, 2022; Mintchev et al., 2010). An important driver of socio-economic disparities in Bulgaria is the uneven distribution of wealth and opportunities, resulting in a multifaceted divide (Boyadjieva & Kabakchieva, 2015). Access to quality education is often impeded by economic constraints, with disadvantaged families encountering obstacles in providing essential resources for their children's learning journey. This results in a cycle where economic disadvantage translates into limited educational opportunities, perpetuating intergenerational inequality.

The education system reflects and reinforces these inequalities (Ilieva-Trichkova & Boyadjieva, 2014; Iakimova, 2022). Schools located in economically deprived areas frequently encounter insufficiencies in resources, infrastructure, and staff (Zdravkov, 2022). As a consequence, pupils in these localities struggle to obtain a comprehensive education, affecting their potential to compete equally in the job market of the future. A significant issue is Bulgaria, which usually tops the rankings of educational inequalities (European Commission, 2020a). Considering the significant economic variances among Bulgarian families and the diverse options available to secure students' physical access to various educational facilities, this text aims to show how economic inequalities are transformed into educational inequalities.

In Bulgaria (Milenkova, 2022; Varbanova et al., 2022; Mineva, 2019; Marino-

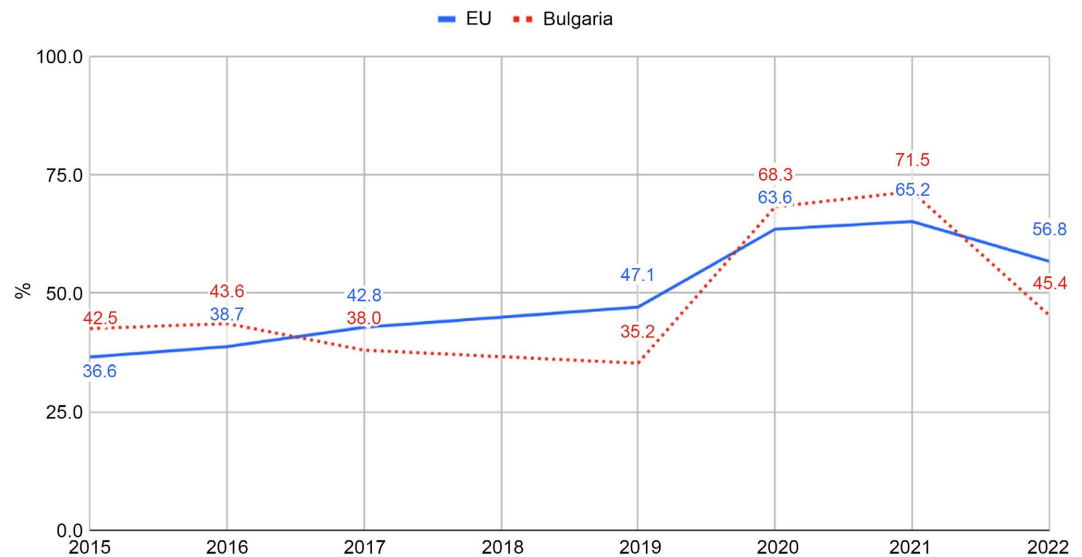
va, 2020; Ilieva-Trichkova, 2013; Milenkova & Manov, 2020), as in many countries, the introduction of new educational technologies holds great promise for reducing educational inequalities. The use of digital tools and online resources has the potential to bridge gaps in access, improve the quality of education and empower students from all socio-economic backgrounds. For example, Wikipedia is a well-known and widely used educational resource that helps students prepare for their studies. Although there are other text-based educational materials available, Wikipedia remains one of the most popular options for students (Allen & Tay, 2012; Meseguer-Artola et al., 2020). It has a large number of articles (over 290,000), most of which are focused on formal education. According to Eurostat data from 2015, about 60% of Bulgarian students regularly use online courses. A well-known platform, “Study.myself”, is widely used in Bulgaria, covering 97% of the educational curriculum as defined by the Ministry of Education. More than one million users have registered and 25,000 lessons have been viewed more than 110 million times (ucha.se, 2023). During the COVID-19 pandemic in the EU, 65% of students were able to use the Internet to their advantage. In Bulgaria, this percentage was even higher at 75.1% (see **Figure 1**). Although this figure has fallen in both the EU and Bulgaria in 2022, it still highlights the important role that the Internet plays in the lives of today’s students.

### 3. E-Learning from a Sociological Perspective

Whether a student chooses to use online educational resources may seem like a personal decision or even accidental, and having access to digital devices can be a matter of preference, especially if these learning methods aren’t mandatory. Nonetheless, from a sociological perspective, their actions should be interpreted in the social context in which they are embedded. Therefore, whether students use the Internet for educational purposes or not is a structural problem with its own logic that needs to be explored with the appropriate analytical tools. One possible sociological explanation comes from the French sociologist Pierre Bourdieu and his theory of cultural and social reproduction (Bourdieu, 1973), which has been widely applied in the field of educational inequalities (Harker, 2016).

In Bourdieu’s terminology, the resources that parents pass on to their children are called capital—“accumulated labour” that allows individuals and groups to appropriate social energy (Bourdieu, 1986: p. 15), such as the cultural and skills transmitted through education. There are three basic forms of capital: economic, cultural (institutionalised, embedded and objectified) and social. Depending on the configuration of the capital that families possess, they use different strategies to reproduce or increase it. For example, through “connections” (social capital) a child can be enrolled in a good school, those with money (economic capital) can enrol the child in a private school and hire private teachers, and highly educated parents (cultural capital) can actively help prepare the child for school.

According to Bourdieu, cultural capital is familiarity with elite culture and in some sense, these capitals guarantee the ability to maneuver in the educational field. Cultural capital is relative to the structure of the field and depends on what



**Figure 1.** Percentage of use of online educational materials by students in the EU and Bulgaria from 2015 to 2022. Note: Data from *DESI, 2022*, own calculations.

is considered valuable, which in turn results from historical specificities. In order to fully assimilate the knowledge and “high culture” of the school, students must have a prior accumulation of resources, skills, culture and tools with which to do so. However, these resources are unevenly distributed among them and depend on where they are located in the social hierarchy. Bourdieu therefore refers to “cultural inertia” as the belief that school increases the social mobility of students and gives them an equal start in life. This is also why, according to him, education is a “conservative force” through which social hierarchy is recreated in society (Bourdieu, 1974). The school therefore acts as a mechanism for legitimizing the process of social status transmission from parents to pupils. It does this by treating the “social gifts” that students receive from their parents as their personal qualities and natural endowments. Therefore, students from families with higher social status (higher income, prestigious professions, higher education) are much more likely to be in a prestigious school or to graduate from university. The higher the social status of a family, the more time, effort and resources are required to pass it on to their children. This explains why the competition for the best school is so intense, why the strategies for competing are so varied, and why the competition is fiercest among parents from the most privileged social backgrounds (Bourdieu, 1996). In this context, access to digital technologies and online educational resources plays a crucial role in the adoption of today’s school culture.

According to Bourdieu, economic capital is the basis of all forms of capital, but it can never be completely reduced to it. This is due to their specific effects, the need for conversion between types of capital and the constant need to devise new strategies (Bourdieu, 1986). In the online field, as a relatively autonomous sphere with its own rules and stakes (Levina & Arriaga, 2014), economic capitals cannot provide direct cultural capitals, but they can provide access to services

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and information—broadband internet access, a high-quality telephone and a modern laptop.

Thanks to the secure and easy access to these technologies, students have the opportunity to discover the online environment for themselves, take risks and make mistakes without serious consequences, gaining digital skills in the process. They can watch a video lesson, log in to class, check what homework they have in e-learning, check what they are doing in class, check what they are doing in class, check what they are doing in e-learning, diary, ask someone on the internet for the solution to a problem or check what Wikipedia says. This form of self-directed accumulation of embodied cultural capital has also been referred to as “learning recreation” (Hollingworth et al., 2011), where students are both entertained and learning. In contrast, students who are limited by digital resources are quick to disengage from this medium and associate it with something unpleasant, developing a “taste for the necessary” (Robinson, 2009).

In this perspective, digital technologies are not cultural capital per se, but a kind of precursor that students may or may not have at their disposal. And only if they have the relevant skills and knowledge at their disposal can they adapt technologies for educational purposes, turning them into objectified cultural capitals. As Bourdieu argues, owning machines (a laptop, for example) requires only economic capital. To benefit from it, however, it is necessary to have access to incorporated cultural capitals either personally or with the help of others (Bourdieu, 1986: p. 20).

In summary, Bourdieu’s framework elucidates that the educational system is not just a conduit for knowledge transmission but also a field where cultural and social hierarchies are reproduced. This reproduction occurs as educational achievements are often more reflective of students’ access to cultural capital—stemming from their social background—than their inherent abilities. In the context of e-learning, this translates to the access and utilization of digital resources, which become pivotal in the accumulation of cultural capital and, consequently, educational success. The section highlights that while the choice to engage with online educational resources may appear as a matter of personal preference, it is deeply entrenched in the socio-economic structures that govern students’ lives. Access to digital technology, far from being a mere preference, is shown to be a critical factor that can either enable or hinder the development of digital skills and the effective use of online educational resources.

By situating students’ e-learning practices within the broader framework of socio-economic inequalities, this section sets the stage for understanding how disparities in access to technology and digital literacy are not just reflections of individual choices but are shaped by broader social and economic forces. This theoretical backdrop is crucial for interpreting the empirical findings presented in the subsequent sections, offering a lens through which to analyze the interplay between economic capital, cultural capital, and educational opportunities in the digital age.

Given what has been said so far, the following sections will show how eco-

conomic capitals are converted into cultural ones within the family, and hence into educational ones. To this end, the results of a quantitative analysis are presented that analyses the relationship between 1) students' families' economic capitals (as measured by their income) and students' chances of having access to several types of technologies, high digital skills, and educational materials; 2) access to such technologies and students' level of digital skills; and 3) digital technologies/skills and students' chances of using online educational resources.

## **4. Data and Methodology**

### **4.1. Data**

The study uses Eurostat's ICT in households and by individuals for the year 2021. This is an annual survey that collects harmonized and comparable information on the use of ICT in households and by individuals. It covers a wide range of characteristics related to access to and use of ICT, use of the Internet and other electronic networks for different purposes, ICT skills and competences, etc., as well as various socio-demographic characteristics such as gender, age, level of education, occupation, main status in the labour market. It is representative for all countries where it is conducted and for Bulgaria it includes 8935 participants. In order to select only students, the analysis includes all those aged 16 - 24 (not including those under 16) who have not completed secondary education but have declared that they are still in education. This reduces the sample to 257.

The economic capital of the family is measured by the variable income of the household in which the student lives. The database does not have access to absolute incomes, but is divided into 5 categories (1) lowest, 2) low, 3) medium, 4) medium to high, 5) high), which are categorized on an ordinal scale. The indicators chosen for objectified cultural capital are: having (1) or not (0) fixed broadband access; having (1) or not (0) access to a laptop and/or desktop computer; having (1) or not (0) access to a telephone; having (1) or not (0) a tablet; having (1) or not (0) any other devices (e.g., smart TV, smart speakers, game console, e-book reader, smart watch). For the incorporated cultural capital used, having (1) or not (0) high digital skills. In this case, two types of educational practices were analysed. They are using (1) or not (0) online educational materials; and attending (1) or not (0) online courses. Controlled for gender, type of locality, number of children in the household, number of household members.

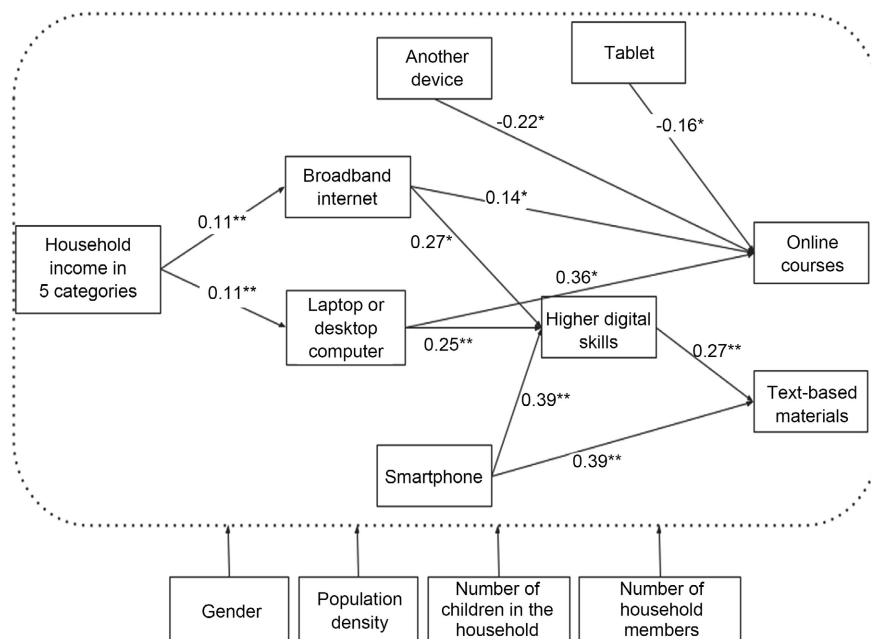
### **4.2. Methodology**

Bourdieu's theory suggests that cultural and social capital cannot be reduced to economic capital alone, and that their transformation has a significant impact on educational outcomes. SEM is adept at handling such complex, interrelated constructs, allowing researchers to assess direct and indirect effects simultaneously. Bourdieu's forms of capital are also not directly observable but are latent constructs inferred from various indicators. SEM is particularly suited for analyzing latent variables, providing a structured approach to defining and measuring

these constructs through observable indicators. This aligns with the need to operationalize abstract concepts like cultural capital or habitus into measurable variables.

The data were analysed using structural equation modelling (SEM) using Stata software (SEM Builder), which is a series of (logistic) regression equations (Stata manual, 2019). This statistical technique allows us to construct a comprehensive model that elucidates the direct and indirect pathways through which socio-economic status influences educational outcomes in the context of e-learning (Brown, 2006). SEM's capability to handle complex relationships and multiple dependent variables is particularly suited for the study, as it enables us to assess the mediating role of technological access and digital skills between household income and students' engagement with online educational resources (Wang & Wang, 2012). Through SEM, we could quantify the extent to which access to digital tools and digital literacy mediates the relationship between socio-economic status and educational practices in a digital environment (Lee, 2018).

The resulting regression coefficients were used to calculate average marginal effects for each case, and the result is directly interpretable and comparable as odds ratios in percentages. This is the so-called marginal mediation analysis (Barrett et al., 2019), which allows to calculate the effects of cultural capital as a mediator of economic inequalities. The results of this analysis are presented in Figure 2, where only statistically significant relationships ( $p < 0.05$ ) are shown for clarity. The descriptive analysis is presented in Table 1.



**Figure 2.** Result of structural modelling showing the effects of mean marginal effects. Note. Only statistically significant relationships are included, \*\* $p < 0.001$ , \* $p < 0.05$ .  $N = 257$ . Controlled for gender, population density of the city or rural area, number of children in household, number of household members. Data from DESI (2022), own calculations.



**Table 1.** Descriptive statistics of all analyzed variables.

Variables	Value	Value	Freq.
<i>Dependent variable</i>			
Participation in an online course	No	66.1	170
	Yes	33.9	87
Text-based learning materials	No	31.5	81
	Yes	176	68.5
<i>Independent variables</i>			
Broadband Internet	No	13.6	35
	Yes	86.4	216
Laptop or desktop computer	No	15.95	15.95
	Yes	41	41
Smartphone	No	6.6	17
	Yes	93.4	240
Tablet	No	79.4	204
	Yes	23	8.95
Other device (e.g. smart tv, etc.)	No	91.05	234
	Yes	8.95	23
Digital skill level	Low	45.14	116
	High	54.86	141
Household income quartiles (lowest = q5)	q5	24.1	62
	q4	20.6	53
	q3	13.2	34
	q2	25.7	66
	q1	16.3	42

**Note:** Data from DESI (2022), own sample analysis.

## 5. Result of the Analysis

Starting from the socio-economic differences between students, the first step is to establish whether there is a relationship between household income and students' access to technology, their level of digital skills and their use of online educational resources.

Household income (grouped into five categories), which is an indicator of families' economic capital, has no direct correlation with students' digital skills, nor does it have with participation in online courses or use of online materials (Figure 2). They do, however, have a direct effect on students' access to broadband internet and laptop/laptop computers. The coefficient of 0.11 for both, respectively, implies that a one-level increase in income (lowest → low → medium → medium to high → high) increases students' chances of having access to them by 11%.

Access to broadband, in turn, increased a student's chances of participating in

online courses by 14% and increased their chances of having high digital skills by 27%, but it had no bearing on their use of online resources. Having access to a laptop/desktop computer increases a student's chances of participating in online courses by 36% and digital skills by 25%. Access to a phone increased his chances of using online materials by 39% and his chances of having high digital skills by 39%. Whether or not one has access to a phone has no relationship to household income level. High digital skills in turn increase a student's chances of using educational online materials by 27%.

Another entertainment device and a tablet have a particular effect against the backdrop of other technologies. On the one hand, they have no relationship with increasing digital skills, and on the other hand, they have a negative effect on the chances of participating in online courses by 22% and 16% respectively. At the same time, they are not affected by the level of income in the family.

**Table 2** shows what effects differences in students' household income have on their chances of using online materials or taking online courses. Since there is no statistically significant relationship between income and educational practices, this implies that their effects are only indirect, that is, unity mediated by a second type of factor. Household income has the highest effects on the use of online materials because relevant technologies lead to increased digital skills. These in turn further increase the chances of using online materials.

These findings reveal that socio-economic status significantly influences Bulgarian students' access to digital technologies, which in turn affects their digital skills and engagement with online educational resources. Key findings indicate that higher household income enhances access to technology, crucial for developing digital skills and promoting e-learning participation. While direct correlations between income and e-learning engagement are absent, the indirect effects through technology access and digital skills are evident, highlighting the complex interplay of socio-economic factors in the digital education landscape.

## 6. Discussion of the Results

### 6.1. Economic Capital Conversion to Cultural Capital

In line with Bourdieu's theory, economic capital is a significant but indirect factor in shaping educational outcomes. The positive relationship between household income and access to broadband internet and laptop/desktop computers

**Table 2.** Statistically significant direct, indirect and full effects measured through coefficient of marginal analysis.

Interconnection	Direct effect	Indirect effect	Full effect
Income → internet → online courses	-	0.14	0.14
Income → laptop → online courses	-	0.36	0.36
Income → internet → dig. skills → text.	-	0.54	0.54
Income → laptop → dig. skills → text.	-	0.52	0.52

**Note:** Own calculations.

reflects the transformation of economic capital into cultural capital. Higher income levels increase the chances of having essential technological tools, contributing to educational advantage. The data suggests that while household income does not directly correlate with digital skills, access to technology (broadband internet, laptop/desktop computers) does.

This reflects the transformation of economic capital (access to technology) into cultural capital (digital skills). The possession of digital skills becomes a form of cultural capital that enhances students' ability to engage with online educational resources. This transformation is crucial for adapting to the digitized educational landscape. As Robinson shows for example, non- and low-quality access individuals develop a task-oriented information habit us stemming from their experiences of deprivation and urgency, developing "taste for the necessary" (Robinson, 2009: p. 505). These individuals are predisposed to avoid the internet technologies. In contrast, the learners with high-quality home internet access, liberated from spatial, temporal, and access constraints, they develop a playful or exploratory information, leading to have positive dispositions towards the digital space.

The positive correlation between income and access to technology indicates a risk of social reproduction. Students from higher-income families are more likely to have access to essential technological tools, potentially perpetuating educational inequalities. Access to broadband internet and computers transforms economic capital into cultural capital by enhancing digital skills.

## 6.2. Smartphones and Education

The link between using a smartphone and having digital skills, regardless of income, could suggest technology is becoming more accessible to everyone. Smartphones themselves, which are quite common, appear to help in developing digital skills despite one's social and economic background, as the phone is so widespread among different social groups that it is no longer used as a tool for social distinction (Bourdieu, 1984). The quality and the brand, however, is another topic, which could not be addressed due to the limitation of the used data (North et al., 2008).

The possession of a smartphone alone does not equate to an equalization of digital skills or cultural capital. Instead, it's the depth of engagement and the nature of use that are critical. Individuals from different social backgrounds might use smartphones in varied ways, influenced by their existing cultural capital. For instance, those with higher cultural capital might leverage smartphones for more educational or professional purposes, enhancing their digital skills in ways that align with the valorized practices of the dominant class.

## 6.3. Negative Effects of Technology

The negative effects of entertainment devices and tablets on the chances of participating in online courses suggest a nuanced relationship. While technology

can be a form of cultural capital, not all forms of technology contribute equally to educational success. In the context of this study, it is very clear that they are not objectified cultural capital. They do not increase students' digital skills, nor do they increase students' chances of using educational resources. On the contrary, they bring minus cultural capital (at least from the perspective of the field of education), reducing their chances to accumulate educational capital.

An explanation could be sought in that technologies such as laptop require more skills, but are instead much more adaptable to the needs of their users (Napoli & Obar, 2014), and therefore are likely to be converted into an educational tool. Also, these results may indicate the families that prioritize gaming consoles and entertainment devices may develop a habitus (Bourdieu, 1990) that values leisure and entertainment over academic pursuits. This habitus can influence the way children perceive and engage with different activities, potentially leading to a diminished interest in online education. Bearing in mind that not every technological resource can be converted into an educational tool should be taken into account when shaping future policies to promote participation in digital education.

#### 6.4. Two Strategies for Capital Accumulation

In Pierre Bourdieu's framework, families with plus cultural capital (high cultural knowledge, skills, and education) and minus cultural capital (low cultural knowledge, skills, and education) often employ different educational strategies compared to families with minus cultural capital (low cultural capital) and plus economic capital (high economic resources). Families with plus cultural capital typically place a high value on education and intellectual pursuits. They are more likely to engage in activities that support academic development, such as reading, cultural outings, and discussions about current events. Parents with high cultural capital actively transmit cultural knowledge and intellectual skills to their children. They may emphasize the importance of a well-rounded education and encourage curiosity and critical thinking. These families may be well-connected to educational networks, fostering a supportive environment for their children's academic success. They are more likely to understand and navigate the educational system effectively.

Families with minus cultural capital and plus economic capital rely more on financial resources to support their children's education. They might invest in private tutors, extracurricular activities, and educational technologies to compensate for a lack of cultural knowledge. Due to limited cultural capital, these families may outsource educational responsibilities to professionals, relying on paid services to supplement their children's learning experiences. Due to limited cultural capital, these families may outsource educational responsibilities to professionals, relying on paid services to supplement their children's learning experiences.

From this analytical framework, two possible strategies for accumulating cultural capital could be distinguished. Parents with high economic but low cultural

capital may focus on creating the right conditions for access to online courses. Participation in online courses may depend on the family's objectified cultural capital, which provides access to online education that is not limited by embodied cultural capital. At the same time, the use of online materials implies more activity on the part of the learner, who has to know where and what to look for, assess whether the information is relevant, and so on. Therefore, this strategy requires more embodied cultural capital and less economic capital—a smartphone (which is the most common device in the sample, see **Table 1**) to procure educational resources. In this case, families with high cultural capital but low economic capital are oriented towards providing opportunities for text-based learning.

## 7. Conclusion

In conclusion, this study, grounded in Pierre Bourdieu's theory of cultural and social reproduction, illuminates the intricate relationship between economic capital, access to digital technologies, and educational outcomes among Bulgarian students. The findings underscore the transformation of economic capital into cultural capital, particularly through the lens of technology access, and its subsequent impact on digital skills and participation in online education. The positive association between household income and access to broadband internet and computers highlights the role of economic capital in shaping educational advantages. While economic capital directly influences the provision of digital technology, the study reveals that economic capital alone does not determine the accumulation of digital skills or students' propensity to use online resources. Notably, the nuanced effects of different technological devices, such as entertainment devices and tablets, on online course participation emphasize that not all forms of technology contribute equally to educational success. The distinction between objectified cultural capital and educational tools suggests that certain technologies, like laptops, are more adaptable to educational needs, thereby becoming a conduit for converting economic into cultural capital. The democratizing aspect of technology is evident in the positive relationship between phone access and digital skills, irrespective of income. Phones, being relatively widespread, contribute to digital skills and may play a role in mitigating inequalities in this aspect. However, the study acknowledges certain limitations, including the inability to measure parents' cultural capital directly and the absence of information on the quality of technology used. Despite these limitations, the findings emphasize the need for targeted policies that consider the multifaceted nature of technology's impact on educational outcomes. Understanding the intricate dynamics between economic and cultural capital can inform strategies to promote more equitable access to digital education and mitigate the perpetuation of educational inequalities among Bulgarian students.

## Study Limitations

The main limitation for this type of analysis is the inability to measure the cul-

tural capital of the student's parents, which is usually done through the mother's and/or father's level of education. Unfortunately, however, the database does not have such variables, and statistical "control" of this variable would better isolate the effects of economic capitals. A second limitation is that the analysis cannot meaningfully consider what courses students take or what materials they use. A third limitation is that the study cannot account for the quality of the technology that students use, which must vary considerably by family income.

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## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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