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ORIGINAL PAPER

Money in one click: Inequalities in digital financial practices and digital Skills among emerging adults in Switzerland

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Abstract
Although Internet is becoming a medium for all economic activities, inequalities in digital financial practices among youth have received little attention. Using a sample of emerging adults in Switzerland (18–29 years, $N=385$), the latent class analysis used in this study offers a unique opportunity to identify different configurations of digital economic practices considering that online money consumption, management, and production are closely related. The analysis reveals four classes of digital economic practices that reflect different user profiles: *Regular Consumers* (60.5%), *Occasional Consumers* (20.8%), *Moderate Managers* (15.1%), and *Active Users* (3.6%). Class membership is associated with some of the sociodemographic characteristics as well as digital skills of emerging adults. Our findings suggest that prevention and financial education programs should be adapted to the different user profiles and focus more specifically on occasional digital financial users who come from less privileged backgrounds and have the fewest digital skills.

Keywords Digital economy · Emerging adults · Digital inequality · Digital skills · Latent class analysis

Introduction

Emerging adulthood is a developmental period characterized by access to financial independence from parents (by entering the job market in particular) and by autonomy; that is, the ability to manage one's life and "make one's own laws" according to one's personal beliefs and values (e.g., living in one's own home, entering into a couple, starting a family) (Arnett, 2001; de Singly, 2000). Given that emerging adults spend more time using media than any other activity (Coyne et al., 2013), the advent of digital technologies potentially provides new opportunities for them to actively experiment with financial practices and, by extension, can contribute to their financial inclusion (OECD, 2020a). In the European context, the digital economic practices of the Swiss population is particularly interesting to study. Indeed, Switzerland was in 2019 among the countries with the highest proportion of people ordering goods or services for their personal use via the Internet (Eurostat, 2021). For example, 91% of Swiss youth aged 15–29 reported making online purchases in the past year, and 79% indicated using online banking in the past three months (Federal Statistical Office, 2019b).

Although the data suggest that most emerging adults in Switzerland are familiar with the digital economy, this information does not allow us to determine whether they are adopting similar or different digital financial practices. A better understanding of the extent to which different digital financial practices combine, and the characteristics of those who engage in them, seems essential. Indeed, the literature points out that the digitization of financial services has its share of benefits but also challenges (Ozili, 2018). On the one hand, it offers the opportunity to integrate poor and financially excluded segments of the population by providing them with safe, affordable, and convenient access to a wide range of financial services tailored to their needs. On the other hand, the digitalization of the economy can give rise to new forms of inequality, not only in terms of digital skills and risks (e.g., security and over-indebtedness), but

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also in terms of exclusion of vulnerable groups. Although emerging adults are financially active, a significant number of them appear to be under-equipped to manage well this increasing financial responsibility, particularly among specific sociodemographic subgroups (OECD, 2020a). This lack of financial literacy, in turn, has consequences on financial practices, including indebtedness or lack of savings (de Bassa Scheresberg, 2013) and problematic shopping (e.g., Lam & Lam 2017). It may be more difficult for economically disadvantaged emerging adults to use digital financial services if they do not have sufficient funds to spend or manage (Henchoz, 2016; Webley & Nyhus, 2013), making all the opportunities offered by the digital sphere less relevant to them.

Despite the widespread belief that younger generations are Internet savvy, previous research has identified inequalities in both online activities and digital skills within this population, as well as an interplay between them (e.g., Hargittai 2010). However, inequalities in specific Internet use for financial activities and their relationship to digital skills have received less attention. Indeed, previous research has primarily examined profiles of financial practices (e.g., Sinha et al., 2018) and digital practices (e.g., Scott et al., 2017) separately. By linking the research fields of financial and digital, the first goal of this study is to provide a deeper understanding of emerging adults' digital financial practices using a person-centered approach. A second objective is to explore whether emerging adults' unequal engagement in digital financial activities is associated with their sociodemographic characteristics and digital skills.

A Fragmented Understanding of Digital Financial Practices among Young People

Dematerialization of money, or digital financial services, encompasses all products, services, technology, and infrastructure that are gradually replacing the use of physical money in daily life (OECD, 2020a). These new technologies, in particular the Internet, are increasingly becoming a medium for all areas of people's economic activity.

The first area of digital economic activity we distinguished, the *production* of financial resources, refers to the "modalities through which young people mobilize different types of exchanges to meet their needs" during early adulthood (Plomb & Poglia Mileti, 2015, p. 201). Existing studies have focused on emerging adults' use of the Internet for gambling (e.g., Kim et al., 2017) or sexual transactions (e.g., Bigot, 2009; Rubio, 2013); both types being potential sources of financial income. The literature has also examined how emerging adults use the Internet in the context of a job search (e.g., Kuhn & Mansour 2014; Mowbray & Hall, 2020) and recruitment (e.g., Hargittai & Litt 2013; Jacobson & Gruzd, 2020). Fewer studies examined other digital means by which emerging adults could generate money, such as crowdfunding (e.g., Bouaiss & Maque 2016), social media (e.g., Abidin 2014), or stock market transactions. The second area of economic activity considered is money *management* through the use of online tools. The most studied online management practices within this population include Internet banking (e.g., Sum Chau & Ngai Liqing 2010), mobile banking (e.g., Koenig-Lewis et al., 2010), and e-purse (e.g., Karim et al., 2020). However, little attention has yet been paid to how these practices can be combined with other management offerings available on the Internet, such as using comparison sites and searching for information and consumer reviews on services and products or looking for "good deals" (e.g., von Helversen et al., 2018). The third area of economic activity examined in this study, the *use* of dematerialized money, was primarily addressed through online consumption (e.g., Kowalska 2012). For example, scholars have studied online purchase intentions among emerging adults (e.g., Dharmesti et al., 2019), and compared the shopping channels through which they make their purchases (Lueg et al., 2006). A growing number of studies also examined the collaborative consumption practices of emerging adults online (e.g., Hwang & Griffiths 2017).

As Zelizer (1994, 2017) has already noted for material money, production, management, and consumption have often been studied as separate practices in the fields of economics and sociology. However, Zelizer's research (1994, 2017) on the social meaning of money has shown that these three dimensions of economic activity are interrelated. For example, individuals are likely to spend money differently (e.g., savings vs. consumption) based on the sources of that money (e.g., gift money vs. pocket money), because they attribute different meanings, emotions, and affects depending on where it comes from (Henchoz et al., 2014, 2016). With respect to the specific context of the digital economy, there is also indirect evidence from the economic and digital literature that emerging adults' digital financial practices are interrelated and that they may mobilize the Internet differently for their economic activities. On the one hand, a growing number of studies in the field of economic research have taken a person-centered approach, which has led to the identification of different patterns financial behaviors among emerging adults (Shim et al., 2013; Sinha et al., 2018). On the other hand, in the digital literature, previous studies using the same analytical strategy have highlighted the heterogeneity of emerging adult's online activities (e.g., Ilakkuvan et al., 2019; Scott et al., 2017). However, to our knowledge, none of these studies have jointly examined how emerging adults use the Internet to spend, manage, and

generate financial resources in an effort to provide a more in-depth understanding of the diversity of digital economic practices.

Inequalities in Digital Financial Practices According to Sociodemographic Characteristics

Demographic characteristics are critical to gaining insight into variations in the use of new technologies among younger generations (e.g., Hargittai 2010). However, relatively few studies have examined the association between inequalities in emerging adults' digital economic practices and their sociodemographic characteristics. What emerges from international studies is that age, income and education levels, and gender play a key role. Younger people are more likely than older people to use the Internet for financial activities, such as online banking, tracking expenses, obtaining product information, comparing product prices, visiting e-commerce sites, and purchasing products (e.g., Sunderaraman et al., 2020). These trends at the international level are mirrored, at least in part, in Switzerland, where a higher proportion of men and women aged 15–29 used the Internet to buy or order products, do banking, or search for a job than those aged 60 and older (Federal Statistical Office, 2019a). Furthermore, the higher the education and income levels, the more the Internet is mobilized for financial activities (e.g., OECD, 2020b) or for capital enhancing activities (economic, cultural, and social; Hargittai & Hinnant 2008). In Switzerland, a higher proportion of residents with a higher level of education and a better household financial situation mobilize the Internet for economic activities. Finally, while a gender gap has been observed in OECD countries, with boys being more likely than girls to have engaged in digital financial activities (OECD, 2020b), descriptive data from the Swiss Federal Statistical Office (2019a) indicate an almost similar proportion of young men and women aged 15–29 who mobilize the Internet for financial activities.

These results find support in studies that have not necessarily distinguished between online and offline economic practices, but also pointed out that risky financial behaviors are related to the sociodemographic characteristics of emerging adults. Existing evidence shows that being a young male and having lower levels of income and education are associated with risky financial behaviors (e.g., getting into debt, having unpaid bills, or taking out leasese) (e.g., de Bassa Scheresberg 2013; Lyons, 2004). Living alone or in a couple or having children also increases the risk of engaging in risky financial behaviors (e.g., de Bassa Scheresberg 2013; Friedline & West, 2015), especially compared to emerging adults living with their parents (Henchoz et al., 2019). In the context of Switzerland, it is also important to consider the nationality and linguistic region where emerging adults live: those of foreign nationality and living in French-speaking Switzerland are indeed more likely to engage in risky financial practices (Henchoz et al., 2019).

Taken together, these findings suggest that not all emerging adults are equal in their use of the Internet for economic activities. The differences described above may be related to the process of financial socialization; that is, the processes by which individuals acquire and develop knowledge, beliefs, behaviors, skills, and norms about money that are then likely to influence their financial practices, such as banking, budgeting, saving, insuring, and using credit cards (Bowen, 2002; Danes, 1994). As researchers noted, financial socialization differs by demographic characteristics and socioeconomic status, which may explain this observed inequality in practices (Gudmunson et al., 2016; LeBaron & Kelley, 2020). The purpose of the present study is not to delve into the issue of socialization in the digital economy, but to examine inequalities in the digital financial practices of emerging adults and the links to their sociodemographic characteristics and digital skills.

Inequalities in Digital Financial Practices and in Digital Skills: An Interplay

Young adults' digital skills have generally been associated with diversity of Internet use (Livingstone et al., 2021), which leads us to consider the link between inequalities in digital financial practices and digital skills. When it comes to digital skills, multiple conceptualizations and measures (e.g., computer literacy, digital literacy, etc.) are used in the literature (Haddon et al., 2020). According to UNESCO (2018), digital skills are broadly defined as "a range of abilities to use digital devices, communication applications, and networks to access and manage information. They enable people to create and share digital content, communicate and collaborate, and solve problems for effective and creative self-fulfillment in life, learning, work, and social activities at large." Four core dimensions are typically used to assess young people's digital skills (Helsper et al., 2020), namely technical and operational skills, information navigation and processing skills, communication and interaction skills, and content creation and production skills.

Previous research has suggested that digital skills and digital financial practices have a reinforcing relationship, with greater digital skills leading to more varied types of financial use, and vice versa (e.g., Hargittai 2010). More digitally skilled individuals generally make broader use of online opportunities (e.g., Hargittai 2010; Livingstone

& Helsper, 2007), and are also more likely to visit capital-enhancing web sites (e.g., Hargittai & Hinnant 2008), compared to their less digitally skilled counterparts. As noted by Robinson et al., (2015) in their review of the digital inequality literature, both intensity of Internet use and related skills have an impact on the production of financial resources, such as the likelihood of earning higher wages due to the intermediate role of social media in the job search, and the propensity of individuals to engage in entrepreneurial activity. Similarly, digital skills are linked to consumption possibilities, with many opportunities mediated by online sites (e.g., peer-to-peer economy such as Uber, Airbnb).

The Present Study

This study aims to jointly analyze the three dimensions of digital economy activity (i.e., production, management and use of dematerialized money) to better identify inequalities in digital financial practices among emerging adults. To this end, this study adopted a person-centered approach, which is a useful method for exploring constellations of digital financial practices that are overlooked in variable-centered approach. Three main objectives guided this study: (1) to identify and describe distinct and consistent classes of digital financial practices among emerging adults in Switzerland based on their mobilization of the Internet for financial consumption, management, and production activities; (2) to examine the extent to which these classes are associated with the sociodemographic characteristics of emerging adults; (3) to test whether these classes are related to digital skills.

Based on previous research (e.g., Sinha et al., 2018), our first hypothesis is that emerging adults would unequally mobilize the Internet for their economic activities. We expect to find a differentiated constellation of digital financial practices among emerging adults in Switzerland based on their production, management, and use of online financial resources; in other words, distinct classes of digital economy users would emerge from the analysis. For example, some emerging adults might mobilize the Internet to find economic resources (through the sale of goods, for example), while preferring to withdraw their money from the banking system because they feel they can manage it better in its material form than online (Henchoz, 2016, 2020).

Consistent with our literature review, our second hypothesis is that membership in digital financial practice classes would be associated with users' socio-demographic characteristics. Based on previous research considering demographic and socioeconomic characteristics related to digital financial exclusion (e.g., de Bassa Scheresberg 2013), we expect associations between membership classes and age, gender, nationality, education level, labor market status, and financial status of emerging adults. In addition, because young people in French-speaking Switzerland are less likely to engage in saving behaviors and are more exposed to debt risk compared to their German-speaking counterparts (e.g., Henchoz et al., 2019), we also expect them to belong to different classes.

Finally, our third hypothesis is that classes would be related to users' digital skills. Given that digital financial practices and digital skills appear to have a reinforcing relationship (e.g., Hargittai 2010), we expect that emerging adults in classes characterized by broader and frequent digital economic practices would demonstrate more digital skills, compared with those who take advantage of fewer online financial opportunities.

Method

Participants and Procedure

We conducted a secondary analysis of data collected in the 2019 Omnibus survey on Internet use conducted by the Swiss Federal Statistical Office (2019b). Omnibus surveys provide nationwide information on current issues of political and scientific interest. In the 2019 edition of the Omnibus survey on Internet use, a total of 2,455 people aged 15 to 88 (50.6% women; mean age = 47.46 years, $SD = 18.47$) who were randomly selected from the sample register of the Federal Statistical Office voluntarily agreed to participate in online or computer-assisted telephone interviews. Based on the standard European questionnaire, the interview covered a variety of Internet-related topics: household access, individual use, online government, e-commerce, Internet security, computer and Internet skills, and the use of Information and Communication Technology at work.

As this study focused on the digital economic practices of emerging adults, only data collected from people aged 18 to 29 years ($N = 387$) was used for this study. A descriptive comparison of this subsample with the total sample from the 2019 Omnibus survey on Internet use (Federal Statistical Office, 2019b) is available in Online Source 1. The final sample used for the secondary analyses therefore included 385 participants[1] (56.1% women; mean age = 23.38 years, $SD = 3.65$). The majority were Swiss citizens (78.4%) and born in Switzerland (77.9%). Of the participants, 64.9% lived in urban areas, 16.6% in semi-urban areas, and 18.4% in rural areas. In terms of linguistic regions, 63.4% of the emerging adults were from German-speaking Switzerland,

[1] In the subsample selected for the present study, two participants did not use the Internet in the last 12 months and were therefore not asked about e-commerce.

26% from French-speaking Switzerland, and 10.6% from Italian-speaking Switzerland, which corresponds to the distribution of the national languages of the Swiss population (Federal Statistical Office, 2019c). Regarding their household structure, 50.6% of the participants lived in a couple household with child(ren) living in the household, 15.8% in a couple household without child(ren) living in the household, 12.7% in a single parent household with child(ren) living in the household, 11.2% in a non-family household (with or without relatives), and 9.6% in a single person household. The highest levels of education completed by participants were upper secondary education (i.e., general education and vocational education and training; 51.2%) and tertiary level (i.e., professional education and universities; 30.4%), compulsory school (16.6%), and none (1.8%) t. As for their labor market status, most participants (75.1%) were employed, 5.2% unemployed and 19.7% inactive. Although no objective indicators of financial income were available in the 2019 Omnibus study (Federal Statistical Office, 2019b), participants reported on the subjective financial situation of their household. Almost half of them (44.6%) indicated that their household's ability to pay for necessary expenses was difficult or very difficult given their total household income. Finally, almost all participants lived in a household with access to the Internet (98.2%).

Measures

Two distinct sets of variables were included: the first refers to the digital financial practices that were used for the latent class analyses, while the second consists of characteristics of emerging adults that help to understand the heterogeneity in their practices.

Digital financial practices. We have selected indicators in the 2019 Omnibus study (Federal Statistical Office, 2019b) described above that relate to the three main dimensions of digital economic activity: production, management, and use of digital financial resources. First, with respect to using the Internet to generate directly or indirectly financial resources, participants indicated whether they had mobilized the Internet to conduct the following financial earning activities (1 = *yes*, 2 = *no*): (1) selling anything, goods or services, for example on auction sites or classified ad sites (within the last three months); (2) searching or applying for a job (within the last three months); (3) arranging a mortgage or other credit with a bank or other financial intermediary (within the last 12 months); (4) buying or selling stocks, bonds or other investment services (within the last 12 months). Second, with respect to management, participants indicated whether they mobilize the Internet for the following financial management activities: (1) searching for information on products, goods or services in the past 3 months (1 = *yes*, 2 = *no*); (2) e-banking in the past 3 months (1 = *yes*, 2 = *no*). They also indicated which payment methods they used to pay for their purchases or orders on the Internet (1 = *yes*, 2 = *no*): credit/debit cards; a prepaid account on the Internet, an account on the seller's site or that of an intermediary; e-banking, by electronic transfers; an application on a smartphone, i.e., with a digital wallet; not by the Internet, i.e., by payment slip, in cash or in kind. An indicator "payment method" was computed on the basis of participants' answers to the question whether they used digital tools to pay (i.e., credit/debit cards, prepaid accounts, e-banking/electronic transfers, smartphone applications; coded as 1), offline methods (e.g., payment slip, in cash or in kind; coded as 2), or a combination of both (coded as 3). Third, to examine the mobilization of the Internet for consumption, participants were asked: (1) whether they had ever bought or ordered products or services on the Internet for their private use (1 = *yes*, 2 = *no*); (2) when was the last time they bought or ordered a product or a service on the Internet for their private use (1 = *within the last three months*; 2 = *between three months and a year ago*; 3 = *more than a year ago*); (3) how many times did they order or purchase goods or services on the Internet for their private use in the last three months (1 = *one to two times*; 2 = *three to five times*; 3 = *six to ten times*; 4 = *more than ten times*). An indicator entitled "time of last online purchase" was created based on participants' responses to the first two questions (1 = *never*, 2 = *more than a year ago*, 3 = *between three months and a year ago*, 4 = *within the last three months*).

Sociodemographic characteristics. To examine associations with sociodemographic characteristics, participants were asked about their age, gender, nationality, linguistic region (i.e., German, French and Italian), household type, level of education, labor market status, and perceptions of their household's financial status. For the latter indicator, participants responded to the following question: "Considering your total household income, how do you make ends meet at the end of the month, that is, how do you manage to pay for necessary expenses?" (1 = *very easy*, 5 = *very difficult*).

Digital skills. The measure of digital skills used in this study is based on the European Digital Competence Framework (also known as DigComp; Vuorikari et al., 2016), which included four skills domains close to the dimensions of digital skills commonly used in the youth literature (Helsper et al., 2020; Livingstone et al., 2021): (1) information skills (5 items), which refers to the ability to identify, locate, retrieve, store, organize and analyze digital information; (2) communication skills (4 items), which enable people to communicate, share information, collaborate with digital tools and participate in online networks or

communities; (3) problem-solving skills (9 items), which include the ability to identify needs and digital resources to be used, make informed decisions on the choice of digital tools or solve technical problems; (4) content creation software skills (6 items), which cover skills in editing and manipulating digital content (e.g., text, videos, coding) (Federal Statistical Office, 2018). Within the DigComp framework, a set of activities is selected for each of the four domains, assuming that the people who are engaged in the related activities have the corresponding skills (see Vuorikari et al., 2016). Based on the skill levels calculated for each of the four domains ("none", "basic" or "above basic"), an overall composite indicator is then computed as an approximation of the digital skills of individuals: (1) "no skills": "none" in all four domains; (2) "low": one or more "none" in one to three domains; (3) "basic": at least "basic" in all four domains; (4) "above basic": "above basic" in all four domains. This methodology has been successfully used in Eurostat (2022) and Omnibus surveys (Federal Statistical Office, 2018).

Statistical Analyses

All statistical analyses were performed on R software (R Core Team, 2020). In order to examine the heterogeneity of the way emerging adults mobilize the Internet for economic activities (i.e., use, management, production), we conduced latent class analysis (LCA; Hagenaars & McCutcheon 2003; Nylund-Gibson & Choi, 2018) using the package "poLCA" (Linzer & Lewis, 2011). The interest of LCA is to identify and describe qualitatively different subgroups (i.e., latent classes) within populations based on the interrelationship of individuals' responses to categorical indicator variables.

First, we used nine indicators reflecting Internet use for economic activities (i.e., selling anything; searching/applying for a job; arranging mortgages/credit; investment; search for information on products, goods or services; banking; payment method; time of last online purchase; frequency of recent online purchases) to identify the latent classes in the sample. As recommended in the literature, we estimated a series of models with a successively increasing number of classes until the model no longer yielded conceptually and statistically superior solutions (Nylund-Gibson & Choi, 2018; Weller et al., 2020). To ensure that the best solution was found, the maximum number of iterations was chosen as 5,000 and 50 different sets of starting values were used (Linzer & Lewis, 2011; Oberski, 2016).

To explore and decide on the number of classes, we jointly examined multiple fit statistical and substantive theoretical interpretability (Nylund et al., 2007; Nylund-Gibson & Choi, 2018; Weller et al., 2020). First, we compared models with different numbers of latent classes based on the following standard statistical information criteria: Bayesian Information Criteria (BIC), sample-size adjusted BIC (aBIC), Akaike Information Criteria (AIC) and Bozdogan's Consistent AIC (CAIC), where lower values of these indices indicate a better fit. Second, we calculated the likelihood ratio chi-square goodness-of-fit test (G^2), testing the null hypothesis that the model fits the data (Masyn, 2013). We also calculated the Lo-Mendell-Rubin adjusted likelihood ratio test (LMR-LRT), testing whether there is a statistically significant improvement in model fit when an additional class is included (Nylund et al., 2007).

After model selection, we evaluated the classification quality of the selected model. Specifically, we examined entropy, whose value near 1 and above 0.80 supports the accuracy of the model's classification (Nylund-Gibson & Choi, 2018; Weller et al., 2020). We also considered the average posterior probability, which indicates the average probability that the LCA model accurately classifies participants into their most likely class, with values being 0.80 and 0.90 being acceptable (Muthén & Muthén, 2000; Weller et al., 2020). We also examined the number of participants in each class, which should not be less than 5% of the sample unless the small class makes theoretical sense (Weller et al., 2020). Finally, we interpreted and labeled the classes by examining the estimated conditional item-response probabilities of latent class membership (i.e., the probability of endorsing each manifest variable as a function of class membership).

Our second and third research questions aimed to characterize the classes in terms of sociodemographic characteristics, digital skills, and online shopping issues. Given a sufficiently high level of entropy, we first assigned each participant to their most likely class membership based on their posterior probabilities. Second, we conducted Pearson Chi-square tests (and Fisher-Freeman-Halton tests when expected cell frequencies were fewer than 5) as omnibus tests to examine the relationships between the most likely class membership and sociodemographic characteristics (i.e., gender, nationality, linguistic region, household type, education level, labor market status) and digital skills of emerging adults. When the result was statistically significant, suggesting a significant relationship between class membership and sociodemographic variables, we performed post hoc analyses based on residuals of Pearson's chi-squared test for count data to find the source of the overall statistical significance. In addition, we also conducted analyses of variance (ANOVAs) and subsequent post hoc analyses based on Tukey's HSD test to examine mean-level differences in age and household financial situation between classes.

Table 1 Descriptive Statistics (%) of Digital Financial Practices and Digital Skills Among Emerging Adults

Indicator	%
Production	
Online sale	28
Job search	44
Borrow/credit	4
Investment	5
Management	
Search for information on products/services	84
e-banking	84
Payment methods	
Offline only	4
Online only	66
Both	30
Use	
Time of last online purchase	
Never	6
> 1 year	3
> 3 month and < 1 year	6
< 3 month	85
Frequency of recent online purchase (< 3 month)	
0x	15
1-2x	31
3-5x	33
> 6x	21
Digital skills	
Overall	
None	0
Low	10
Basic	18
High	72
Information	
None or basic	6
Above basic	94
Communication	
None or basic	6
Above basic	94
Problem-solving	
None or basic	9
Above basic	91
Content creation software	
None or basic	23
Above basic	77

Results

Descriptive Statistics

Descriptive statistics for digital financial practices and digital skills are presented in Table 1. First, regarding the dimensions of the digital economy, most emerging adults in Switzerland have already used the Internet to manage their money, whether by searching for information on products or services online, using online banking or online payment methods. Similarly, a large proportion of emerging adults in Switzerland have recently used the Internet to make a purchase (in the last 3 months) on a fairly regular basis. Conversely, a smaller proportion of them has mobilized the Internet to generate financial resources. Specifically, while nearly half of emerging adults already have used the Internet as an intermediary to search or apply for a job, one third have ever used this digital tool to sell goods or services and fewer than one in twenty emerging adults have already obtained a mortgage or other credit or made an investment using the Internet. Second, with respect to digital skills, nearly three quarts of our sample had advanced overall digital skills, while a smaller proportion had basic or low overall skills.

Latent Classes of Digital Financial Practices

Latent class models with an increasing number of classes were estimated and compared. Table 2 summarizes the fit information for LCA models with one through five latent classes. The one-class model showed the highest AIC and BIC among the five solutions. The two-class model showed a decrease in the AIC compared to the one-class model and the lowest BIC among the five solutions. The three-class model displayed a decrease in the AIC and a small increase in the BIC than the two-class model. The four-class model had an additional increase in the BIC, but also displayed the lowest AIC among the five solutions. The five-class model showed increases in the AIC and BIC compared to the four-class model. Additionally, the likelihood ratio chi-square goodness-of-fit test (G^2) and the LMR-LRT were statistically significant for each class (up to 4) added to the model. Taken together, all fit indices did not point to a single solution, which is common in LCA models (Nylund-Gibson & Choi, 2018). Therefore, we examined the theoretical interpretability and utility of the classes in the different models. After careful consideration, the four-class model had better theoretical interpretability based on the patterns that emerged in the qualitative part our project (Henchoz, 2020). Considering the fit indices coupled with the theoretical interpretability of the classes, we therefore selected the four-class model. Regarding the classification diagnostics of four-class model, the entropy was 0.78, which suggests that latent class membership classification quality is adequate. The average posterior probabilities were 100% for class 1, 93% for class 2, 82% for class 3, and 85% for class 4, indicating well-separated classes. Enough participants were found in each class (class 1: 60.5%; class 2: 20.8%; class 3: 15.1%). Although the size of the fourth class (3.6%) was less than 5% of the sample, it makes sense conceptually, which led us to retain this model.

Table 2 Model Fit Information for LCAs with 1–5 Latent Classes

Number of class	LL	df	AIC	BIC	CAIC	aBIC	G^2	ΔG^2	LMR-LRT
1	-1966.14	371	3960.29	4015.63	4029.63	3971.21	590.76	–	–
2	-1770.15	356	3598.30	3712.94	3741.94	3620.93	378.32	$p<.001$	$p<.001$
3	-1740.17	341	3568.34	3742.29	3786.29	3602.68	314.19	$p<.001$	$p<.001$
4	**-1723.21**	**326**	**3564.41**	**3797.65**	**3856.65**	**3610.45**	**280.08**	$\boldsymbol{p=.003}$	$\boldsymbol{p=.006}$
5	-1714.15	311	3576.31	3868.85	3942.85	3631.06	265.75	$p=.501$	$p=.202$

Number of class	Diagnostic criteria			
	Smallest class count (n)	Smallest class size (%)	Entropy	Smallest AvePP
1 class	385	100	–	–
2 classes	58	15.1	1.00	1.00
3 classes	58	15.1	.71	.81
4 classes	**14**	**3.6**	**.78**	**.82**
5 classes	8	2.1	.82	.82

Note. LL = LogLikelihood; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; CAIC = Consistent Akaike Information Criterion; aBIC = sample-size adjusted Bayesian Information Criterion; G^2 = likelihood ratio chi-square; LMR-LRT = Lo-Mendell-Rubin adjusted likelihood ratio test; AvePP = average posterior probability. The diagnostic criteria are presented here for information purposes but are not intended to be used in model selection (Masyn, 2013). The bold font indicates the selected model.

The LCA results confirmed our first hypothesis that distinct classes of digital economic practices would be found among emerging adults. Each latent class corresponding to an underlying subgroup characterized by a specific pattern of digital financial practices was interpreted and labeled by examining the conditional item-response probabilities (available in Online Source 2). Figure 1 presents a summary of the four subgroups identified. The first and largest class, labeled *Regular Consumers* ($n=233$; 60.5% of the total sample), included participants who were likely to have recently and frequently used the Internet to make purchases and manage their money, but not to generate financial resources. For example, participants in this class had high probabilities of having used the Internet to make a purchase in the past three months (1.0) and of having used only digital tools to pay (0.71), and moderate probabilities of having used the Internet three to five times in the past three months to make purchases (0.39). The second class, labeled *Occasional Consumers* ($n=80$; 20.8%), comprised participants who were likely to have recently and occasionally used the Internet to make purchases and manage their money, but not to generate financial resources. For example, those participants had moderate probabilities of having used the Internet one to two times in the last three months to make purchases (0.51) and of having used only digital tools to pay (0.55). The third class, labeled *Moderate Managers* ($n=58$; 15.1%), consisted of participants who were unlikely to have used the Internet to generate financial resources or make purchases, but who were likely to use digital means to manage their money. For example, those participants had high probabilities of having used the Internet to search for information on products/services (0.74), and of having recently used e-banking (0.61) and only digital tools to pay (0.76). Finally, the fourth class, labeled *Active Users* ($n=14$; 3.6%), included a fairly small proportion of participants who were very likely to use the Internet for multiple economic activities, whether to spend, manage, or generate financial resources. For example, participants in the *Active Users* class not only had a high probability of having used digital tools to pay (0.66) and a moderate probability of having used the Internet more than six times in the last three months to make purchases (0.40), but also a high likelihood of using the Internet to sell goods or services (0.86) and invest money (0.69).

Associations between Class Membership and Sociodemographic Characteristics of Emerging Adults

Our second hypothesis focused on the associations between most likely class membership and the sociodemographic characteristics of digital financial services users. Table 3 presents the sociodemographic characteristics of emerging adults in each class. First, as expected, analyses of variance showed that the classes differed in terms of age and household financial status. The results of the post hoc analyses using Tukey's HSD test indicated that participants in the *Regular Consumers* class were older than those in the *Occasional Consumers* and *Moderate Managers* classes, respectively. In addition, emerging adults in the *Regular Consumers* class reported having less difficulty paying for essential expenses than those in the *Occasional Consumers and Moderate Managers* classes, respectively.

Next, a series of chi-square test of independence (and Fisher-Freeman-Halton tests when expected cell frequencies were fewer than 5; that is for nationality, linguistic regions, household type, level of education, labor market

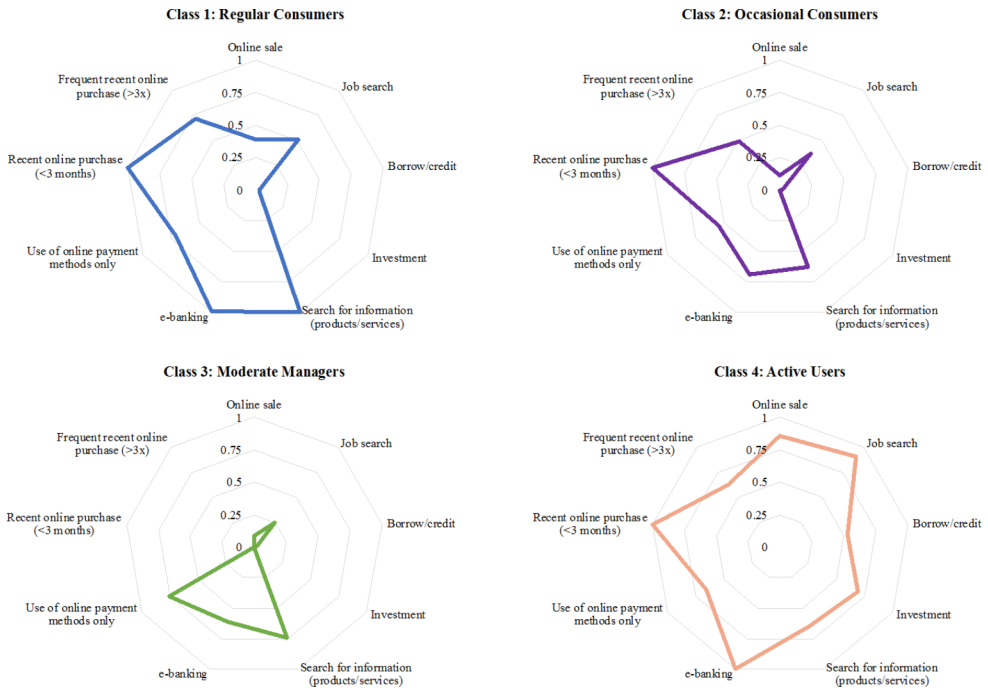

Fig. 1 Radar Plots Depicting the Highest Item-Response Probabilities for Each Manifest Indicator Within the Four Latent Classes
Note. The conditional item-response probabilities are available in Online Resource 2.

status) were conducted to examine the associations between class membership and sociodemographic characteristics. As hypothesized, results showed statistically significant links between class membership and gender, linguistic regions, level of education, and labor market status. The results of the post hoc analyses, reported in Table 3, revealed a positive and significant association between the *Active Users* class and being male, meaning that among emerging adults in the *Active Users* class, there was an overrepresentation of men. Regarding the linguistic regions, among emerging adults in the *Regular Consumers* class, more were from the German-speaking part of Switzerland, and less from the French-speaking part. Conversely, among emerging adults in the *Moderate Managers* class, fewer were from German-speaking Switzerland and more from French-speaking Switzerland. In terms of education level, emerging adults with tertiary level of education were overrepresented in the *Regular Consumers* and *Active Users* classes, while they were underrepresented in the *Occasional Consumers* and *Moderate Managers* classes. With respect to labor market status, among emerging adults in the *Regular Consumers* class, more were also employed and fewer were non-active, while among those in the *Moderate Managers* class, more were inactive and fewer were employed.

Although the association between class membership and household type was not statistically significant ($p = .075$), the results of the post hoc analyses indicated that among emerging adults in the *Regular Consumers* class, more lived in a household type consisting of a couple without child(ren). In addition, among emerging adults in the *Occasional Consumers* class, less lived in a non-family household. Finally, contrary to our expectations, there was no statistically significant association between nationality and class membership, $p = .332$.

Associations between Class Membership and Emerging adults' Digital Skills

Our third hypothesis focused on the associations between most likely class membership and digital skills among emerging adults in Switzerland. Table 4 presents, for each class, the proportion of emerging adults with low, basic, and above basic digital skills.

As expected, a series of Fisher-Freeman-Halton tests indicated a statistically significant association between class membership and overall level of digital skills. The results of the post hoc analyses reported in Table 4 showed a positive and significant association between the *Regular Consumer* class and having advanced digital skills, meaning that among emerging adults in the *Regular Consumers* class, there were more who reported having higher overall digital skills. Conversely, there was a positive association between the *Occasional Consumers* class and having low digital skills, and negative associations between the *Moderate*

Table 3 Associations between Class Membership and Socio-Demographic Characteristics

	Latent classes								Class differences[1]
	Regular Consumers ($n=233$)		Occasional Consumers ($n=80$)		Moderate Managers ($n=58$)		Active Users ($n=14$)		
		Residuals		Residuals		Residuals		Residuals	
Age (years), mean	23.92_a	–	22.29_b	–	22.36_b	–	24.79_{ab}	–	$F=6.54$, $p<.001$
Male (%)	45.1	0.57	40.0	-0.79	36.2	-1.28	78.6	2.66^{**}	$\chi^2=8.85$, $p=.031$
Swiss nationality (%)	79.4	–	71.3	–	82.8	–	85.7	–	$p=.335$
Linguistic region (%)									$p=.025$
German	68.7	2.67^{**}	55.0	-1.74	50.0	-2.29^{*}	78.6	1.20	
French	21.9	-2.26^{*}	31.2	1.21	39.7	2.58^{**}	7.1	-1.64	
Italian	9.4	-0.95	13.8	1.01	10.3	-0.08	14.3	0.45	
Household type (%)									$p=.075$
Alone	10.3	0.57	10.0	0.13	8.6	-0.28	0.0	-1.24	
Non-family	13.3	1.65	2.5	-2.77^{**}	12.1	0.24	21.4	1.24	
Couple w/o children	18.9	2.02^{*}	11.3	-1.26	10.3	-1.24	14.3	-0.16	
Couple w/ children	46.8	-1.88	57.5	1.38	55.2	0.75	57.1	0.49	
Single parent	10.7	-1.47	18.8	1.82	13.8	0.26	7.1	-0.64	
Highest educational level (%)									$p<.001$
None	0.9	-1.75	3.7	1.45	3.4	1.01	0.0	-0.52	
Compulsory school	13.7	-1.88	21.2	1.25	22.4	1.28	14.3	-0.24	
Upper secondary education	47.2	-1.92	63.7	2.53^{*}	55.2	0.66	28.6	-1.72	
Tertiary level of education	38.2	4.12^{***}	11.3	-4.18^{***}	19.0	-2.05^{*}	57.1	2.22^{*}	
Labor market status (%)									$p<.001$
Employed	82.4	4.12^{***}	68.8	-1.47	56.9	-3.47^{***}	64.3	-0.95	
Unemployed	4.3	-0.99	7.5	1.04	5.2	-0.01	7.1	0.33	
Inactive	13.3	-3.93^{***}	23.7	1.01	37.9	3.78^{***}	28.6	0.85	
Household financial status, mean[2]	2.34_a	–	2.60_b	–	2.70_b	–	2.21_{ab}	–	$F=5.41$, $p=.001$

Note. [1]Fisher-Freeman-Halton tests were conducted to examine class differences in terms of nationality, linguistic region, household type, education, and labor market status. Subsequent post hoc analyses were based on residuals of Pearson's chi-squared test for count data. ANOVAs were conducted for age and household financial status. Subsequent post hoc analyses were based on Tukey's HSD test. Means with different alphabetic superscripts within a row significantly differ at $p<.05$. [2]1 = *very easy*, 5 = *very difficult*. $^{*}p<.05$. $^{**}p<.01$. $^{***}p<.001$.

Managers and *Occasional Consumers* classes and having higher digital skills.

In terms of digital skills in specific areas, there were statistically significant associations between class membership and skills in information, problem-solving, and content creation, but not in communication ($p=.091$). The results of the post hoc analyses were relatively similar: there were positive and statistically significant associations between the *Regular Consumers* class and having advanced skills in information, problem solving, and content creation. Conversely, there were negative associations between this class and with having low information skills, problem-solving skills, and content creation skills. In other words, emerging adults with higher digitals skills were overrepresented in the *Regular Consumers* class. Conversely, the *Occasional Consumers* class was positively associated with having low information and content creation skills, and the *Moderate Managers* class was positively associated with having no problem-solving skills. These classes were also negatively associated with having advanced information and problem-solving skills.

Discussion

New technologies offer emerging adults a new context for experimenting with and developing their financial practices and skills. This study contributes to the emerging field of research on digital financial practices by exploring typical patterns of use and their associations with users' sociodemographic characteristics and digital skills.

Table 4 Associations between Class Membership and Digital Skills

	Latent classes								Class differences[1]
	Regular Consumers ($n=233$)		Occasional Consumers ($n=80$)		Moderate Managers ($n=58$)		Active Users ($n=14$)		
	%	Residuals	%	Residuals	%	Residuals	%	Residuals	
Overall									$p<.001$
Low	5.2	-4.22***	23.7	4.38***	14.3	1.01	7.1	-0.41	
Basic	16.3	-0.92	18.8	0.26	25.0	1.53	7.1	-1.06	
Above basic	78.5	3.65***	57.5	-3.19**	60.7	-1.99*	85.7	1.17	
Information									$p<.001$
None	0.0	-4.37***	11.3	4.69***	5.3	1.01	0.0	-0.68	
Basic	0.4	-3.98***	8.7	2.98**	7.0	1.64	7.1	-0.79	
Above basic	99.6	6.00***	80.0	-5.50**	87.7	-1.91*	92.9	-0.10	
Communication									$p=.098$
None	0.0	-	0.0	-	1.8	-	0.0	-	
Basic	4.7	-	6.2	-	12.3	-	0.0	-	
Above basic	95.3	-	93.8	-	86.0	-	100	-	
Problem-solving									$p<.001$
None	0	-2.17*	0	-0.89	5.4	4.20***	0	-0.34	
Basic	4.3	-3.58***	17.5	3.32***	12.5	1.21	7.1	-0.17	
Above basic	95.7	4.10***	82.5	-2.92**	82.1	-2.45*	92.9	0.26	
Content creation									$p=.004$
None	5.2	-3.53***	20.0	3.80***	10.5	0.40	7.1	-0.26	
Basic	12.4	-1.31	16.3	0.63	19.3	1.23	7.1	-0.76	
Above basic	82.4	3.22**	63.7	-3.11**	70.2	-1.29	85.7	0.80	

Note. [1]Fisher-Freeman-Halton tests were conducted to examine class differences. Subsequent post hoc analyses were based on residuals of Pearson's chi-squared test for count data. *$p<.05$. **$p<.01$. ***$p<.001$.

Classes of Digital Financial Practices among Emerging Adults

In line with our first hypothesis suggesting that emerging adults mobilize the digital economy in different ways, our analyses revealed four distinct classes of digital economic practices. This finding is consistent with previous research showing heterogeneity in emerging adults' online activities (e.g., Scott et al., 2017) and financial behaviors (e.g., Sinha et al., 2018). Specifically, most emerging adults in Switzerland are likely to use Internet to make purchases and manage financial resources, although to a lesser extent for those in the *Occasional Consumers* class than for those in the *Regular Consumers* class. This finding overlaps previous research showing that among the many activities offered by Internet, shopping online is a ubiquitous practice among young people (e.g., OECD, 2020b). Indeed, online shopping is increasingly becoming a preferred channel for them, who are motivated, for example, by aspects of convenience (e.g., ordering at any time, home delivery, saving time), but also by value motives (e.g., getting a good deal) or the ability to search for information about products and goods (e.g., Dharmesti et al., 2019; Kowalska, 2012).

These latter observations underscore the intertwining of the economic dimensions of consumption and management that has already been observed in studies of the material economy (Zelizer, 2017). Although the latent class analysis revealed distinct patterns of digital economic practices, emerging adults in classes characterized by a moderate to high likelihood of mobilizing the Internet for purchases (i.e., *Regular Consumers*, *Occasional Consumers*, and *Active Users*) consistently had a moderate to high likelihood of using digital means to manage money (i.e., e-banking, digital payment methods, searching for product information online). Furthermore, despite the limited use of digital financial services of emerging adults in the *Moderate Managers* class, it appears that they tended to engage primarily in money management practices. This popularity of online money management, present across all classes to some extent, may be the result of a broad movement toward digitalization of services by Swiss banks (Swiss National Bank, 2019). Many online banking offers are attractive to the younger generation: emerging adults typically receive special benefits when opening accounts at Swiss banks, including special rates for prepaid payment and credit cards, free savings and checking accounts at a higher interest rate than adult savings accounts, additional discounts, service packages, or free access to online accounts (see, for example, Moneyland, n.d.). These offerings appear to meet the current needs and expectations of many emerging adults in Switzerland, who express a strong attachment to savings, creditworthiness, and budgeting (Henchoz et al., 2019).

Finally, the *Active Users* class, the most economically active online with a high probability of using Internet for a variety of economic activities, included the lowest proportion of emerging adults, suggesting that online borrowing and credit taking (i.e., the *production* dimension) are not very common practices among this population. This result can be interpreted with regard to the specific context of Switzerland. The low proportion of emerging adults dealing with the production dimension can be explained in part by the legal context in Switzerland, where access to consumer credit is controlled and limited to people with sufficient funds to repay the debt within 36 months (art. 29 of the Federal Law of March 23, 2001 on Consumer Credit [FLCC]). It is therefore not surprising that the two classes with the most emerging adults (i.e., *Regular Consumers* and *Occasional Consumers*) are characterized by a moderate to high likelihood of using Internet for consumption and financial management activities, and a low likelihood of mobilizing it to generate financial resources. In summary, our results suggest a targeted use of Internet for the most developing and accessible financial activities: consumption and management (Wölfle & Leimstoll, 2020). Most emerging adults in Switzerland are more likely to be *users* of financial services available on the internet, either to spend or manage their money, than to be *producers* of money through these services.

Thus, the widespread digitization of an economy, as observed in Switzerland, does not automatically lead to a generalized use of economical digital offerings. Switzerland is among the European countries with the highest proportion of people ordering goods or services for personal use via Internet (Eurostat, 2021) and at the top of the Business-to-Consumer E-commerce Index (CNUCED, 2020). However, Switzerland is also, like Germany and Austria (Esselink & Hernández, 2017), a country where cash still accounts for a significant share of payment transactions (Swiss National Bank, 2018). In our sample, for example, one-third of emerging adults pay exclusively or partially by material means such as payment slips or cash. This finding is supported by a recent study examining the impact of payment technology innovation on consumer payment choice and cash demand in Switzerland. Brown et al., (2020) found no measurable effect of contactless payment technology on the demand for cash, that is, the frequency of cash withdrawals or the average amount of cash withdrawals. As the Swiss National Bank (2018) points out, the conditions in Switzerland are ideal for the different payment methods to complement each other as appropriate. Well-developed digital payment systems and a high density of ATMs allow everyone to choose the payment method that seems most appropriate for a given situation, which may also help explain the diversity of digital financial practices observed.

Inequalities in Digital Financial Practices and Sociodemographic characteristics

Consistent with our second hypothesis, class membership was associated with some of the sociodemographic characteristics of our population. Overall, the results showed that emerging adults with a high likelihood of regularly using Internet for consumption (i.e., *Regular Consumers*) tended to be older, live in the German-speaking part of Switzerland, be better educated, employed, and have a better financial situation. Conversely, emerging adults engaging in digital financial activities to a lesser extent tended to be younger, live in the French-speaking Switzerland, be less educated, be inactive in the labor market, and have a more difficult financial situation. In other words, emerging adults in the least financially educated (e.g., Lusardi & Mitchell 2014) and most socioeconomically disadvantaged (OECD, 2020b) subgroups are the least active in the digital economy. This finding also echoes studies showing that people from more advantaged backgrounds use the Internet for a greater number of activities, and are therefore better positioned to take advantage of Internet opportunities (Hargittai, 2010).

The fact that emerging adults with lower levels of education, being inactive in the labor market, and having greater financial difficulties were more present in classes characterized by moderate engagement in digital financial activities (i.e., *Occasional Consumers* and *Moderate Managers*) can be interpreted in different ways. First, the limited use of digital financial services among emerging adults from less advantaged backgrounds may be the result of a form of caution or self-discipline. Haesler (1995) observed when the first forms of the digital economy emerged, the dematerialization of money involves the development of financial self-control. This point echoes the form of asceticism of the less socially advantaged that has already been noted in other studies (Faure & Le Dantec, 2015; Schwartz, 2012). In an attempt to balance their budget, the most precarious must indeed exercise close control over their finances and constant vigilance over every financial act. As other studies have shown for the most precarious and least educated people, material money is preferred because it is considered easier to manage than virtual money, which requires "mental accounting", that is, the capacity to mentally represent different virtual economic actions (Kamleitner et al., 2011; Weber, 2009).

Second, low-income implies fewer opportunities to practice e-banking (Henchoz, 2016; Webley & Nyhus, 2013) or, as discussed above, to take out a small loan to access consumption. As a result, less socioeconomically advantaged individuals do not have the same opportunities to use Internet offerings, which echoes the first level of digital divide (Lutz, 2019).

Third, our results probably also reflect financial socialization processes that are differentiated by gender, socioeconomic level, and education level (Gudmunson et al., 2016; LeBaron & Kelley, 2020). For example, in their review of the literature on gender differences in investing and risk taking, Bajtelsmit & Bernasek (1997) noted that socialization plays a role in influencing women's and men's choices, with women being socialized to make more conservative investment choices. This echoes our finding that males are overrepresented in the *Active users* class, given that this class consists of 14 participants. There are also associations with language region that may be related to different financial socialization processes. For instance, Brown et al., (2018) found associations between parental economic socialization patterns and linguistic regions, with parents in German-speaking Switzerland placing more emphasis on learning by doing than those in French-speaking Switzerland, which may explain the higher number of German-speaking Swiss among *Regular Consumers*.

Inequalities in Digital Financial Practices and Digital Skills

Consistent with previous studies (e.g., Hargittai 2010), our results show that classes of digital financial practices and digital skills were associated, confirming our third hypothesis. Specifically, emerging adults with higher digital skills tended to regularly engaging with Internet for economic activities (i.e., *Regular Consumers*). The opposite was observed for emerging adults who enjoy fewer online financial opportunities: those with low digital skills were more present in the *Occasional Consumers* and *Moderate Managers* classes. Taken together, our results suggest that the most expert emerging adults frequently use digital financial services for consumption and associated money management, while those who are less equipped benefit from a more limited offering. This is consistent with previous studies that have shown that youth with high digital skills are likely to make broader use of online opportunities (e.g., Livingstone & Helsper 2007). In other words, higher digital skills may help emerging adults take advantage of more online financial opportunities and, in turn, more varied and broad use of financial services may contribute to digital skills development through experimentation and learning by doing (Hargittai, 2010). With the available data, however, it is difficult to know whether the least digitally skilled emerging adults are not taking advantage of online economic opportunities, either because they are not sufficiently skilled to access them or because they are exercising a form of caution and self-discipline by avoiding digital financial practices that could put them at risk financially. Nonetheless, the links between digital financial practices and digital skills are consistent with financial literacy studies that have emphasized the central role of experimentation and tinkering in the learning process and skill development (Amagir et al., 2017; Henchoz et al., 2014).

Implications

Our results contribute to three main strands of the literature. First, they bring new knowledge to the recent literature on the financial practices of emerging adults (Henchoz et al., 2016; LeBaron & Kelley, 2020). Second, this study participates in the development of the emerging field of research on economic practices in the digital age, as the Internet literature has paid little attention to this issue, focusing until recently more on the legal and criminal risks that youth may face (Livingstone, 2011). Third, in line with the literature on the digital divide (Lutz, 2019), this study helps to reveal new potential forms of inequalities generated by the digitalization of economic life, whether in terms of inequality of access to the proposed offer or of skills. In this sense, our results also provide useful insights for social policies and financial education programs.

The existence of multiple classes of digital financial practices raises the need to take into account the heterogeneity of the emerging adult population when designing and implementing these programs. Indeed, given the diversity of ways in which emerging adults mobilize the Internet for financial consumption, management, and production activities, educational programs would benefit from developing specific and targeted training to best meet individual needs and practices, rather than addressing a universal and equal user of digital financial services. Our study suggests that occasional and moderate users are the least digitally literate and tend to come from less privileged backgrounds. While they are precisely the segment of the population that could benefit from digital financial services (OCDE, 2020a), they are the ones most in need of support and guidance. In other words, in addition to considering the socioeconomic background or socio-demographic characteristics of users (LeBaron & Kelley, 2020), it would be useful to identify the patterns of their digital financial practices in order to tailor the training offer accordingly. Overall, by helping emerging adults improve their digital financial practices and skills, these programs can indirectly help reduce inequalities in the benefits that young people derive from their digital engagement (e.g., Calderón Gómez 2020) and, at the same time, facilitate their financial inclusion (OCDE, 2020a).

Limitations and Directions for Future Research

This study has some limitations that will need to be addressed in future studies. As this study consisted of secondary analyses of data collected as part of a larger national project on Internet use, one such limitation relates to the limited range of questions available in the questionnaire. Although a variety of digital financial activities were assessed, allowing for the identification of subgroups based on similarities in the responses of emerging adults, this list is not exhaustive. For instance, it omits the use of smartphone apps or other electronic finance tools (Angel, 2018). In addition, although the skills assessed are the result of a European consensus, they were limited to digital skills and were not specific to digital financial literacy (e.g., Lyons & Kass-Hanna 2021). Future studies should examine the effect of digital skills and financial skills to explore which explains more variance in digital financial practices. In addition, some of the items assessing these skills also overlapped with the indicators selected to assess digital financial practices, so we did not use them to avoid redundancy.

Because of its cross-sectional design, this study provides a picture of the digital financial practices at a given point in time. However, emerging adults in the irregular digital financial activity profiles (*Occasional Consumers* and *Moderate Managers*) are younger than those in the more regular digital financial activity profiles (*Regular Consumers* and *Active Users*), which may suggest a transition from one pattern of digital financial practices to another. Future research based on qualitative and/or longitudinal approaches would be particularly useful to explore how patterns of digital financial practices build over time.

The role of the context (family but also political, economic, legislative) in which these patterns emerge would deserve to be further explored and better understood (Gudmunson et al., 2016; Lanz & Serido, 2020). To this end, the use of validated measures in order to compare findings across studies and cultures remains necessary. Furthermore, given the impact of the context, it would be interesting to study how digital and physical financial practices are combined in order to obtain a comprehensive and in-depth understanding of economic practices in countries such as Switzerland, Germany, or Austria where cash remains popular (Esselink & Hernández, 2017).

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

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