12 Behind the slogan of "e-State"

Digital stratification in Estonia[1]

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Introduction

The post-socialist transition in Estonia is often viewed as a particular case among Central and East European countries. Specifically, the economic reforms in Estonia have been most radical, particularly with regard to highly liberal transformation policies, sometimes highlighted as the key component of the success of the Estonian case. Moreover, societal changes mixed with political aspirations and radical reforms enjoyed high legitimacy, largely due to the still-perceived "Russian threat" and narratives about the first period of independence (1918–1940) as the "good old days" (Vihalemm and Kalmus, 2009), enabling the presentation of the transition as a "return to Europe" or even as a "return to normality" (Helemäe and Saar, 2011). However, Lauristin and Vihalemm (2009) emphasize that the economy-centered transition culture has taken the perspectives of the most successful social actors and framed these as self-evident aims for the whole society, thus legitimizing the political approaches that prioritize the economic dimensions of the reform and devalue their social implications. Closely related to the economy-dominated paradigm, technological change has also been a crucial component of Estonian transition. "Internetization" has become one of the central symbols of the rapidly changing society, leading to a widely held perception of Estonia as a leading e-state (Runnel *et al.*, 2009).

Witte and Mannon stress the need for understanding "how the Internet is mapped onto existing social inequalities" and "the ways in which digital technology feeds off the social context wherein inequality plays a starring role" (Witte and Mannon, 2010, p. 51). In this chapter, we aim to analyze digital stratification in Estonia with the focus on different aspects of access to and use of the Internet. We place our analysis in the context of social stratification in Estonia to see whether the hopes prevailing in the information society policies about ICTs closing the gaps between different social groups can be confirmed.

Partially due to the 50-year-long Soviet regime, which almost totally eradicated class-based social differentiation, the class structure in Estonia is vague, unsettled and blended with different markers of social status. Therefore, our starting point for exploring (digital) stratification in Estonia is a cultural perspective, which turns "attention to the multi-dimensional nature of inequality" and "raises the issue of lifestyle and consumption, which become critical angles to evaluate the impact of new forms of information and communication technology" (Witte and Mannon, 2010, p. 86).

Stratification in Estonia

Max Weber has drawn a distinction between "class" and "status", arguing that classes are groups of people who, from the standpoint of specific interests, have the same economic position. Positively and negatively privileged status groups are formed on the basis of claiming social esteem or lack of it, which is typically practiced as well as expressed through a specific style of life. Status may rest on class position; however, it is not solely determined by it. Money and entrepreneurial position are not in themselves status qualifications, although they may lead to them, and the lack of property is not in itself a status disqualification, although this may be a reason for it (Weber, 1978 [1922], p. 306).

Similarly, Pierre Bourdieu accepts economic capital as the main principle of domination in capitalist society, but observes that the efficacy of economic capital as a principle of stratification is constantly challenged by fractions of the dominant class (e.g. artists, professionals and academics) who are relatively poor in economic capital, but who by nature of their social role, are rich in cultural and/or other forms of capital, striving to enhance their specific form of capital as a rivaling principle. Bourdieu, thus, extends the concept of capital with multiple forms of capitals, which are increasingly becoming a new basis of social stratification. He argues that members of the class share the same objective structures, which give them the same objective meanings of collective practices. These common practices include similarities in lifestyle or certain "taste" that is reflected in "habitus" (Bourdieu, 1984 [1979], p. 311). In contemporary societies where ICTs are becoming increasingly important in almost all spheres of life, differences in capitals, taste, and habitus manifest more and more in distinctive consumption patterns, self-expression, and cultural practices that are based upon unequal access to ICT products and digital services.

Patterns of social and digital stratification in Estonia need to be seen in the context of yet unsettled and somewhat paradoxical differentiation of classes and status groups, resulting from rapid changes in the political and economic order in the past century. After the collapse of the Soviet Union in 1991, emerging stratification manifested in significant income

differences. Processes of privatization and liberalization of the market resulted in a remarkable gap between different classes with regard to quantitative (e.g. Gini index) and qualitative (e.g. lack of social coherence) measures. Emerging economic inequality led to a discourse about "two Estonias" where the "winners" of the transformation enjoyed the benefits of the growing economy and the "losers" were lagging behind (Lauristin, 2003). Additionally, such division clearly reflected the mind-set and value system of the society, which highlighted economic means as the measure of success and emphasized individuals' responsibility in social mobility.

Although stratification is still largely explained by the economic aspect, studies have indicated the diversification of stratification and emergence of the gaps between class-based and status-based social esteem (Lindeman, 2011). Perceived social status is more clearly shaped not just by labor market success as measured by income, but is also dependent on demographic predictors such as age, gender, and ethnicity. Increased risks and vulnerability to transformation were shifted towards more disadvantaged social groups. For example, it is argued that Estonia experienced a change from a "gerontocratic" to a "youth-oriented" society (Tallo and Terk, 1998). Studies of perceived social status (e.g. Lindeman, 2011) indeed have shown significant differences from Western countries with Estonian young people estimating their social position to be higher, compared to other age groups, regardless of education and income. The oldest age group that mostly includes pensioners has the lowest perceived social status. Such differences may seem surprising, taking account of the fact that the youth unemployment rate in Estonia is one of the highest in Europe. The paradox can be explained by considering that status-based stratification is related to lifestyle and social practices. Studies of consumption and media use in Estonia (Lauristin, 2004) demonstrated that perceived social status was strongly influenced by the level of adaptation to the standards of the emerging consumer and information society. Consumerist orientation and digital skills as new success markers were most rapidly adopted by younger generations, while more inert elderly people experienced a decline in social status and even marginalization.

Status-based stratification is also influenced by complex and multidimensional inequalities between men and women. On the one hand, women have, on average, higher education levels than men, and they enjoy equal participation in jobs. On the other hand, gender segregation on the labor market, a high gender pay gap, and unbalanced gender roles in the domestic sphere (Vainu *et al.*, 2010) are still marking the reproduction of traditional patriarchal structures and gender stereotypes in the society.

After 1991, Russians and other ethnic minorities faced a double challenge of self-determination: in terms of post-socialist transition and

the restored Estonian nation-state (Vihalemm and Kalmus, 2009). The new situation set the Russian-speaking community into a marginalized position, characterized by objective indicators such as higher unemployment rates and job insecurity, as well as subjective feelings of inequality and exclusion, and non-activism in politics.

Education and employment status are also important resources for sensing oneself higher in the social hierarchy. Compared to people with higher levels of education, those with lower levels of education are more likely to give a lower estimation of their social status. People who are employed are more likely to estimate their social position significantly higher than the unemployed or retired people, even when income is controlled for (Lindeman, 2011).

To sum up, the most privileged group in Estonia regarding both the class and status characteristics is young, employed ethnic Estonians with high education and income levels (Lindeman, 2011). In the following analysis, we explore whether this pattern also holds with regard to digital stratification.

From digital divide to digital stratification

The term "digital divide" was coined to indicate the gap between "haves" and "have-nots," resulting directly from lack of access or related skills to use ICTs in order to maximally gain in terms of information, various types of capital, and other socially desirable benefits. Lack of access will result in "digibetism" (that is, lack of digital literacy), which in turn will lead to societies divided between the information rich and the information poor (Carpentier, 2003).

Access-related questions dominated in digital divide research in the 1990s. In the next decade, the focus shifted to more diverse and rich descriptions of various shades of inequalities related to the new information and communication technologies. For example, Jan van Dijk (2006) has drawn attention to skills, knowledge, and motivation as important aspects of creating digital stratification. Furthermore, the digital divides are no longer seen as a problem of an individual but rather as resulting from contextual and social resources (Tsatsou *et al.*, 2009). Deepening digital divides, in turn, reproduce and aggravate social stratification, thus effectively hindering information society developments, especially in the context where both public and private sphere services are increasingly becoming available exclusively online. Hence, the digital divides are both seen as a symptom and a cause of broader economic inequality and social exclusion (Parayil, 2005).

In proceeding to analyze digital stratification in Estonia from the cultural perspective, we view digital inequality as multi-dimensional, that is, as being related to class position and status differences (Witte and Mannon, 2010). On top of that, we assume that differences in Internet use

are conditioned by a number of other factors such as individuals' lifespan, their social roles and duties, and social capital and integration in the society. These factors vary greatly depending on demographic characteristics that are, together with indicators of social class and status, the focus of our chapter.

Our analysis is based on data from the third wave of the survey Me. The World. The Media, conducted in October 2008. The survey covered the Estonian population aged 15 to 74 years, with a total sample size of 1,507 respondents. A proportional model of the general population (by areas and urban/rural division) and multi-step probability random sampling (realized through primary random sampling of settlements with a proportional likelihood related to the size of the settlement, followed by random sampling of households and individuals) was used. In addition, a quota was applied to include a proportional number of representatives of the ethnic majority and the minority, differentiated according to the preferred language of the survey interview (Estonian or Russian, respectively). A face-to-face interviewing method was used.

In our analysis, we employ three demographic characteristics: gender, age, and ethnicity. For the latter, we use the preferred language of the survey interview (Estonian for the ethnic majority, and Russian for the minority). In addition, we make use of two indicators of social class – level of education and income per family member – and an indicator of social status. The latter was conceptualized in the study as social representation of stratification, and operationalized as respondents' self-evaluated position on the imagined social ladder, visually presented in the questionnaire in the form of a stairway, rising from step one to step ten (cf. Lauristin, 2004). The resulting variable was shortened to a five-point scale, ranging from 1 – low stratum to 5 – high stratum. This indicator of social status, approximating to normal distribution, was not dependent on gender. Ethnic Estonians estimated their status somewhat higher ($M = 3.25$; $SD = 1.30$) than the Russian-speaking minority did ($M = 3.09$; $SD = 1.33$; $p < 0.05$). As expected, perceived social status was negatively correlated with age ($r = -.25$; $p < 0.001$). Furthermore, status was positively correlated with the number of years in education ($r = 0.24$; $p < 0.001$), but even more strongly with income per family member ($r = 0.33$; $p < 0.001$). This suggests that in Estonia, as a transition society, economic success still tends to dominate over educational and cultural factors in the formation of social representation of stratification, confirming the findings of the first wave of the Me. The World. The Media survey in 2002 (Lauristin, 2004).

To find out patterns of digital inequality, we first introduce a basic division of Internet users and non-users. Altogether 73 percent of the respondents were Internet users at the time of the survey. Figure 12.1 shows statistically significant differences based on language, age, education, income and social status. Thus, the divides in access and basic usage of the
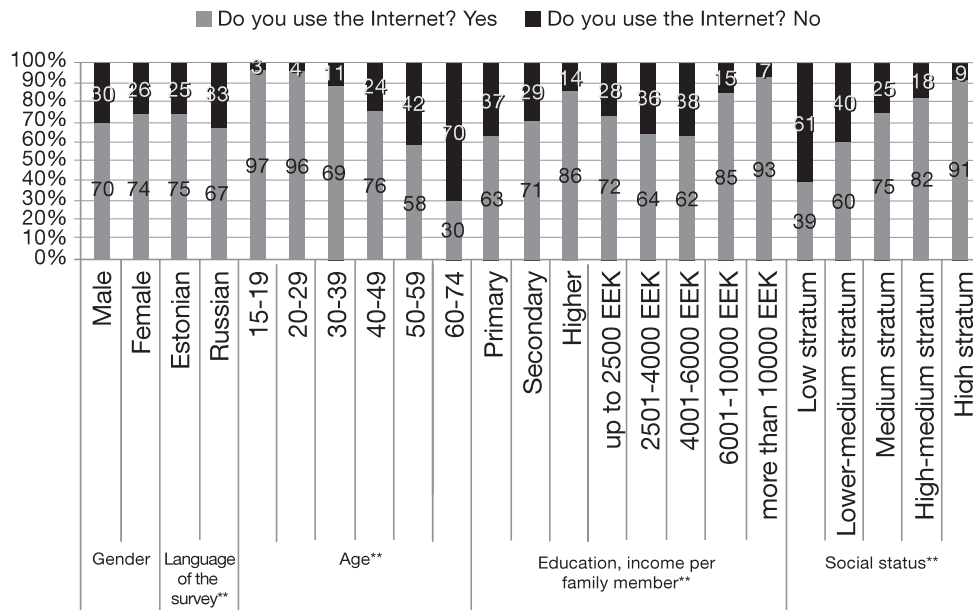
Figure 12.1 Internet users and non-users in Estonia (N = 1,507).
Note: ** p < 0.01.

Internet mirror quite adequately the patterns of social stratification described above. Compared to the results of the 2002 survey data (Runnel and Pruulmann-Vengerfeldt, 2004), according to which significantly more men were using the Internet, we can say that the gender gap in access has closed. The divides based on language, age and education have remained the same. The relationship with income was linear in 2002 with fewer Internet users among the low-income groups but showed a non-linear curve in 2008 with somewhat more Internet users in the two lower and the two higher income groups compared to the middle-income group. This may be explained by the fact that families with children tend to have lower income per family member, while being avid Internet users.

Inequalities in Internet use

In the following analysis we focus on socio-demographic differences in the intensity and versatility of Internet use. We employ the sub-sample of Internet users of the 2008 wave of the Me. The World. The Media survey. As 369 respondents answered that they had never used the Internet, and 38 respondents did not answer the question, 1,100 participants remained in this analysis with mean age of 38.29 years (SD = 14.76). Of the remaining sample, 55 percent were females; 70 percent of the respondents completed the questionnaire in Estonian and 30 percent in Russian, respectively.

For the indicator of the intensity of Internet use we employ an index of the frequency of Internet use, measured with three items: How frequently

do you use the Internet (1) at work or school, (2) at home, and (3) elsewhere (Internet cafés, public Wi-Fi hotspots, at friends' places, etc.). The respondents were asked to answer each question on a five-point scale, ranging from 0 – not at all to 4 – almost every day. The maximum value of the index is, thus, 12.

To compare the versatility of Internet use, extending to different spheres of life, we make use of an empirically robust and theoretically easily interpretable classification of online activities, drawn upon the same database in a previous analysis (see Kalmus *et al.*, 2011). Based on factor analysis of 30 online activities, the previous study proposed a simple and stable two-factor structure. The first factor, labeled as "social media and entertainment related Internet use" (hereafter, SME), contains variables such as searching for and managing information regarding friends and acquaintances on social networking portals; searching for entertainment; participating in forums, blogs, surveys, and writing comments; communicating with friends and acquaintances; and sharing music, films, and programs, and is indicative of personal need for entertainment, fun, self-expression, and maintaining social relations. The second factor, labeled as "work and information related Internet use" (hereafter WI), includes activities such as searching for information about public institutions, ministries, courts, etc.; using e-services (tax board, forms, citizens' portal, etc.); work-related communication with clients and colleagues; searching for practical information (weather, timetables, etc.); within-organization communication (intranet, lists, etc.); searching for information and tips on relationships, family, children, child-rearing, health and other aspects of personal life, and refers to people's motives to use the Internet for practical and work-, role- or institution-driven purposes. It can be suggested that these factors and, accordingly, two underlying motives for Internet use, correspond to two aspects of an information environment – a personal/relational aspect and an institutional aspect – delineated by Lievrouw (2001) in her insightful theoretical essay.

Table 12.1 presents the mean values of the index of Internet use frequency and the mean factor scores of two factors of online activities among gender and ethnic groups. The difference between men and women in the intensity of Internet use was not statistically significant. An interesting polarization between males and females, however, appeared with regard to the types of online activities: women scored significantly higher than men on WI, whereas men used the Internet more than women for SME. These gender differences might be explained by the so-called second shift (Hochschild and Machung, 1989): the gender regime, while favoring women's active participation in the labor market, simultaneously associates home-making and child-rearing mostly with females. This implicates that women have less spare time compared to men. Recent studies indicate that this phenomenon is particularly prominent in

Estonia: according to the 2010 Time Use Survey, women, on top of their daily paid labor, spend on average 4.1 hours a day on household duties, compared to men's 2.6 hours. At the same time, women have on average 5.3 hours a day as leisure time, while men have 6.1 hours (Tasuja, 2011). Thus, the overwhelming importance of institutional duties, including gendered role division in families, probably motivates women to use their time online for practical and work-related purposes, while hindering them from pursuing those motives for Internet use that are related to their agency and personal needs. Similar explanations to gender inequalities in Internet use have also been proposed by other authors (e.g. Hargittai and Shafer, 2006; Dutton *et al.*, 2009).

The difference between the ethnic majority and the minority with regard to Internet use frequency was not significant (Table 12.1). Those who completed the questionnaire in Estonian used the Internet significantly more for WI, that is, the institutional aspect of the information environment, than those who responded to the survey in Russian. Members of the ethnic minority, however, scored significantly higher on more personal uses of the Internet (SME) than Estonian-speakers did. These findings may be indicative of a weaker vertical integration of the minority group in the Estonian society, that is, their looser ties with state institutions (Ehin, 2009), and lower use of national online and offline news media (Vihalemm, 2008). Still, the findings point at the potential for horizontal integration of the ethnic minorities through social networking sites (SNS) and interpersonal online communication.

Table 12.2 displays Pearson's correlations between the characteristics of Internet use, age and indicators of social class and status. Age was strongly

Table 12.1 Characteristics of Internet use by gender and language (N = 1,100)

	Frequency of Internet use		Work and information related Internet use (WI)		Social media and entertainment related Internet use (SME)	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
Males	6.32	2.97	−0.15**	0.98	0.13**	1.01
Females	6.02	2.90	0.12**	1.00	−0.10**	0.98
Estonian speakers	6.26	2.89	0.09**	1.01	−0.04*	0.99
Russian speakers	5.91	3.02	−0.22**	0.94	0.10*	1.02

Note: * $p < 0.05$; ** $p < 0.001$.

Table 12.2 Correlations between the characteristics of Internet use, age and indicators of social class and status

	Frequency of Internet use	Work and information related Internet use (WI)	Social media and entertainment related Internet use (SME)
Age	-0.41^{***}	0.01	-0.62^{***}
Education (in years)	0.16^{***}	0.36^{***}	-0.19^{***}
Income	0.17^{***}	0.17^{***}	-0.09^{**}
Perceived social status	0.28^{***}	0.19^{***}	0.08^{*}

Note: $^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.

and negatively correlated with the frequency of Internet use and SME, while the correlation between age and WI was near zero.

Figure 12.2 shows the mean levels of the two types of Internet use in age and gender groups. WI trajectory across the lifespan is better described as curvilinear, with this motive for Internet use being relatively low among the youngest and the oldest age group, and reaching its highest level around 30 to 44 years of age. This suggests that the importance of the institutional aspect of an information environment is related to one's lifespan and social roles, implicating that older age groups are still more deprived of the opportunity of interacting with societal institutions via new media.

SME was highest among the youngest age group, decreasing steadily throughout the lifespan. Our results, in line with the findings of other studies (e.g. Dutton *et al.*, 2009), thus, suggest that young people's motives for using the Internet indeed largely derive from their agency, free will, and interest in interactive opportunities offered by the new media.

Interestingly, differences between males and females are non-existent among 15 to 19 year olds, and become particularly notable between the ages of 30 and 54. These dynamics of gender differences lend support to the above-proposed explanation that the double workload, most acute at the age of parenting, leads women to use their time online for practical and work-related purposes, while limiting entertainment-oriented uses.

The intensity of Internet use was significantly positively correlated with the indicators of social class, that is, education and income, as well as with perceived social status (Table 12.2). Similarly, correlations between WI and all three indicators of social class and status turned out to be positive, being especially strong with regard to the level of education. Interestingly, the indicators of social class were negatively correlated with the personal aspect of Internet use (SME), while perceived social status, on the contrary, turned out to be weakly, but still significantly, positively correlated with
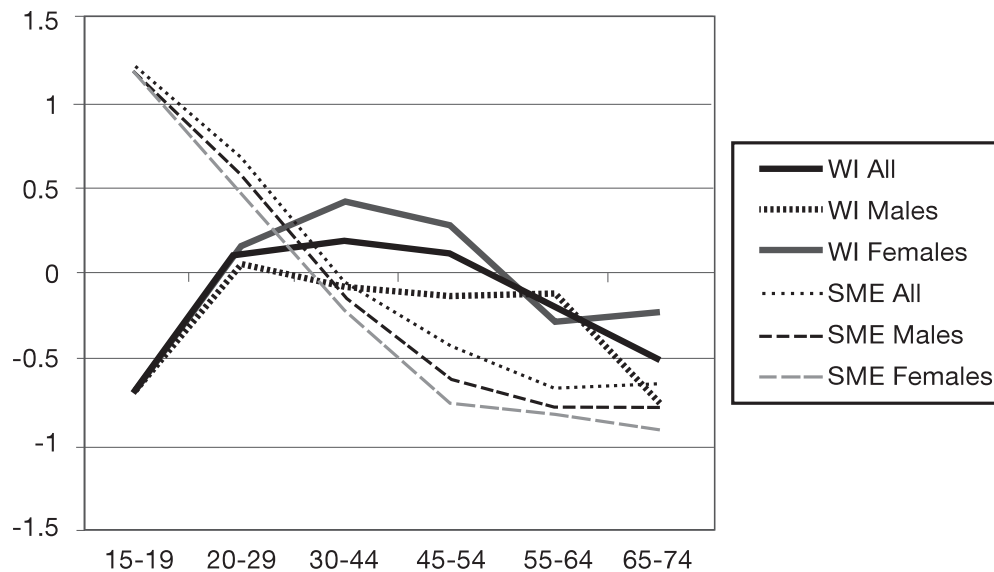
Figure 12.2 The motives for Internet use in age and gender groups (N = 989).

Note: The difference between age groups in WI and SME scores was statistically significant in the whole sample and among both gender groups at p < 0.001.

SME. These correlation patterns demonstrate, in line with the cultural perspective presented in Witte and Mannon (2010), that the association between Internet use and social status is independent of the effects of class differences. It is possible that better-off and, in particular, better-educated users are driven by pragmatic motivation as they might benefit from WI related activities much more compared to SME related use in their pursuit to maintain the position of advantage (cf. Zillien and Hargittai, 2009). Accordingly, they may prioritize work and information related activities over more entertainment-oriented uses in allocating their scarce time resources. Scoring higher on *both* types of online activities as well as on the overall intensity of Internet use seems to be, somewhat differently, the function of higher social status and the corresponding values, habitus and lifestyle.

To find out to what extent the three characteristics of Internet use are predicted by demographic variables versus the indicators of social class and status we conducted a series of linear regression analyses (Table 12.3). Starting from the intensity of Internet use we can observe that younger age was the strongest predictor of Internet use frequency, followed by higher education levels, status and income. The ethnic majority status was a weak but significant predictor in the two regression models. Altogether, the indicators of social class and status increased the explained variance by 12 percent.

Due to the curvilinear relationship between WI and age, the age-squared variable was added to the regression models predicting work and

information related Internet use. Higher education levels turned out to be the strongest predictor of WI, with the ethnic majority status, being a female, higher social status, higher income and the age variables all significantly contributing to predicting this type of Internet use. Similarly, to the case of Internet use frequency, adding the indicators of social class and status considerably enhanced the model, increasing the explained variance by 13 percent.

Finally, SME was, by far, most strongly predicted by younger, followed by being a male, lower level of education, higher social status and, in one of the models, weakly but significantly by the ethnic minority status. Differently from the cases of Internet use frequency and WI, adding the indicators of social class and status did not enhance the model remarkably, suggesting that the more personal and agency-related aspect of Internet use is, predominantly, the function of inter-generational differences.

From our analytical perspective, it is important to note that perceived social status was the only variable that was significantly positively correlated with all aspects of Internet use, that is, with the intensive as well as extensive nature of online activities. This can be seen as a particularity

Table 12.3 Linear regression analysis exploring how demographic variables and indicators of social class and status predict the characteristics of Internet use

	Frequency of Internet use		Work and information related Internet use (WI)		Social media and entertainment related Internet use (SME)	
	Model 1	*Model 2*	*Model 1*	*Model 2*	*Model 1*	*Model 2*
Gender	0.03	0.01	-0.12^{***}	-0.11^{***}	0.09^{***}	0.08^{**}
Language	0.07^{*}	0.07^{*}	0.15^{***}	0.16^{***}	-0.04	-0.05^{*}
Age	-0.41^{***}	-0.45^{***}	1.34^{***}	0.90^{***}	-0.61^{***}	-0.60^{***}
Age squared	—	—	-1.36^{***}	-0.98^{***}	—	—
Education (in years)	—	0.19^{***}	—	0.32^{***}	—	-0.08^{**}
Income	—	0.12^{***}	—	0.07^{*}	—	-0.01
Perceived social status	—	0.17^{***}	—	0.09^{**}	—	0.06^{*}
R^2	0.17	0.29	0.10	0.23	0.39	0.41

Notes:
Language of the survey (1 = Estonian; 0 = Russian); gender (1 = male; 0 = female).
$^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.

of a rapidly informatizing transition society where higher perceived social status not only fosters and urges individuals to advance the intensity and scope of their online activities, but is also influenced by successful and swift adaptation to social and technological changes (cf. Lauristin, 2004).

Conclusions

Our analysis indicated that the socio-demographic differences in access to and use of the Internet largely correspond to the patterns of social stratification in Estonia. With regard to access and use frequency, more advantaged social groups (younger generations, well-educated and well-off people, those with higher social status, and, to some extent, the ethnic majority) have maintained their lead in adaptation to social transition. In terms of Internet uses, a clear differentiation has emerged, with females, the ethnic majority, middle-aged people, and better-educated and better-off people leaning towards the institutional aspect of an information environment, and males, the ethnic minority, the youngest generations, and people with lower education levels and income preferring the personal/relational uses. Somewhat differently from American society where the well-off and well-educated succeeded in the intensive as well as extensive nature of Internet use (Witte and Mannon, 2010), social status rather than social class predicted both the intensity and versatility of Internet use in Estonia. We may conclude that in a rapidly changing society where the class structure is still unsettled, a set of different resources such as economic and cultural capital, digital literacy and sufficient leisure time are needed to flourish in all aspects of the emerging information society, which, in turn, contributes to advancing one's capitals and the perceived social status.

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Note