Does Rural Youths' Use of Online Information Resources to Learn About Education and Work Enhance Options or Increase Social Inequalities?

Anna Pallin

Department of Applied Educational Science, Umeå University, Sweden
Correspondence: anna.pallin@umu.se

Abstract

Using online information resources can increase both the quantity and scope of information available to rural youth regarding possible courses of action after completing schooling, beyond those available in their social spaces and physical places. Assisting their use of online information resources may be crucial for career guidance counsellors in times when information on education, occupations and the labour market are easiest accessed, and sometimes only possible to reach, through the internet. This paper focuses on the extent that young people living in rural areas use online information resources for career learning and specifically explores factors associated with a higher frequency of using such resources. Empirically, it is based on a cross-sectional survey conducted in spring 2021 of practices of Swedish upper secondary school students living in a rural community in their final year (n=267). Possible explanations for identified relations and their implications for career guidance practice are discussed.

Key words: Career learning, Rural youth, Information-seeking behaviour, Digital divide, Career information, Career guidance counselling

Abstrakt

Att använda digitala resurser för informationssökning kan utöka mängden och bredden av information gällande möjliga karriäralternativ efter slutförd gymnasieutbildning, utanför de egna sociala och platsbundna sammanhangen, för unga som bor i landsbygd. I tider då information om utbildning, arbete och arbetsmarknad lättast och i många fall endast går att nå via internet kan det vara nödvändigt för studie- och yrkesvägledare att stötta ungdomar i deras användning av digital information. Den här artikeln utforskar i vilken uträckning svenska landsbygdsungdomar använder digitala resurser för karriärlärande. Särskilt fokuseras vilka faktorer som är förknippade med en högre användningsfrekvens. Empiriskt baseras studien på en enkät som genomfördes under våren 2021 bland svenska tredjeårselever som studerade gymnasiet i en skola belägen i landsbygd (n=267). Möjliga förklaringar till identifierade relationer och deras implikationer för vägledning diskuteras.

Anna Pallin

Introduction

Young people are commonly referred to as digitally savvy, naturally adapting to technology and constantly connected (Wilkin et al., 2017). They may therefore be well suited to use the internet efficiently to support their career learning and development. A career is here understood as an 'individual's path through life' (Thomsen, 2014). Thus, career learning is the acquisition, analysis and organisation of knowledge and experiences related to individuals' personhood, education and work that can facilitate their passage through life by illuminating, facilitating, increasing or enhancing possible paths (Lundahl et al., 2020). However, although it may be generally true that youths are digitally savvy, relative to older people, several studies have revealed disparities in their internet use and linked them to their access to resources, including skills, competency, and motivation to use the resources (Eynon & Geniets, 2016; Micheli, 2015; Wilkin et al., 2017). Thus, this claim of generally digitally savvy, and therefore online participating, youth and some associated discourse can be questioned (Helsper & Eynon, 2010; Ståhl, 2017), and there is a risk that digital divisions will affect young people's career trajectories.

In research on youth career development and decision-making, young people navigating their career alternatives are described as negotiating opportunity structures in education and the labour market (Hodkinson & Sparkes, 1997). When exploring their options, the available information depends to some degree on their social and cultural contexts, which Robinson (2011) describes as information opportunity-structures that may influence an individual. Important contributors to these structures highlighted by several researchers include individuals' interactions with key elements of their immediate surroundings, such as their family (Aaltonen, 2016; Owen et al., 2020; Rosvall et al., 2018), educational settings (Delay, 2022) and the local community (Alexander, 2016; Rönnlund, 2020). As these interactions and settings strongly vary, both nationally and internationally, individuals' access to career information (understood here as the exchange of relevant knowledge that occurs in interactions between people and organisations) also varies.

Rural youths (here defined as young people living in a municipality with less than 15,000 inhabitants and a low level of commuting) in Sweden are disadvantaged, as they often have less access to sources of relevant information, as well as less variety of educational and occupational opportunities in their geographical vicinity, than urban peers (Rosvall, 2020). Thus, the career development of many young people living in rural areas is highly dependent on decisions to stay in or leave the place where they grew up (Farrugia, 2020; Rönnlund, 2020) and rural youths' educational aspirations are influenced by access to resources more than their urban peers (Rosvall et al., 2018; Stenseth & Bæck, 2021). Obtaining free and open access to career information outside the local community may therefore be particularly important for rural youths, especially for less privileged students who may have relatively limited economic or social resources within their families, such as parents or siblings 'paving the way' (Rosvall et al., 2018). Therefore, Galliott (2017) argues that students should be introduced to different sources of information through school. It has also been suggested that career guidance counsellors must support their clients developing the skills and competencies necessary for using online resources in career learning (Hooley, 2012; Milosheva et al., 2021; Sampson et al., 2019).

In recent years, especially during the corona pandemic, digital solutions for sharing career information and offering support from career guidance counsellors online have increased in Sweden and other European countries (Cedefop, 2020; Lärarnas Riksförbund, 2020; SOU, 2019). Career information may be obtained from the internet through various types of information resources, such as official authorities' websites and diverse types of social media via various kinds of interactions, e.g., through written text, videos and direct conversations in private chatrooms or public webinars.

In career guidance research, online solutions are recognised with potential benefits for individuals and organisations, such as easy, faster and cheaper access to more diverse information resources than

traditional career guidance services at any specific place could offer (Bimrose et al., 2014; Hummel et al., 2017; Kettunen et al., 2020). These are assumed benefits that justify organisations' continued development of digital information resources (Kettunen, 2021; SOU, 2019) and bolster arguments for a digital transformation of education and other welfare services in rural areas (Park, 2017; Öjefors Stark & From, 2020). However, to what extent rural youth utilise such digital information resources is sparsely researched in a Swedish and Nordic context. Pesch et al. (2018) note that further attention to this process of students' information-seeking in career exploration is required to improve understanding of their career-related decision-making.

This paper explores rural youths' engagement with online activities and use of websites to learn about education and work, hereafter referred to as their use of online information resources for career learning. Particular attention is paid to factors that may be related to their frequency of using such resources. Thus, the study aims to gain knowledge about what factors are positively associated with rural youths' frequency of using online information resources to learn about education and work. It is acknowledged that a young person's use of online resources for learning may vary, depending on the context where it occurs, such as in school or at home (Beckman et al., 2019). In this paper, therefore, young people's career learning both informal and formal learning situations is considered.

Background

Stark differences in people's use of digital technology have been described using the term 'digital divide', initially in analyses focusing on technology access (van Deursen & van Dijk, 2014). A major cause of such divisions between rural residents and urban peers has been lagging behind in the development of infrastructure, such as broadband and mobile networks (Salemink et al., 2017; von Bergmann Winberg, 2019). Today, however, rural youths in Sweden (like peers in many other highly digitalized societies) commonly have good access to the internet through various digital devices such as computers and smartphones in school and at home, and uses the internet on a daily basis (European Commission, 2022; von Bergmann Winberg, 2019). In accordance with a shift in the focus of digital divide research, contributors to digital divisions recognized here include variations in young people's skills and use of digital technology, as well as outcomes of their use (Hargittai, 2002; van Deursen & Helsper, 2015). Divisions of particular interest are related to rural youths' relatively high or low frequencies of using certain websites and engagement in specific online activities for career learning. These divisions are primarily attributed to differences between rural peers' habits and uses of digital technology, as well as associated expectations, rather than access to the technology.

Social and Digital Divisions

Various categories of social inequalities are related to individuals' engagement with technology and hence may be either contributors to digital divisions or partial results of the divisions (Dijk, 2020; Ignatow & Robinson, 2017). Thus, social and digital divisions overlap and demographic characteristics (e.g., sex and socioeconomic status) and place are recognised as closely connected to the digital divide (Helsper & Reisdorf, 2017; Park, 2017). Previous research has noticed that young people with poorly educated parents, or who belong to a minority ethnic group, seem to be less frequent users of online career information resources (Galliott, 2017; Howieson & Semple, 2013; Micheli, 2015; Robinson, 2009). Sex also has identified significance, as girls seem to be more willing than boys to use online career resources when searching for career information (Levine & Aley, 2020; Owen et al., 2020). Which are patterns that Griffin et al. (2011) also identify in their study of rural youths' use of information resources for career learning.

In addition, Howieson and Semple (2013) detected an apparent lack of competency among many of their study participants when examining upper secondary school students' use of career websites. The major challenges for young people may thus be related to finding, sorting and knowing how to use appropriate career information from different resources rather than merely getting access to it (Borbély-Pecze, 2020; Sampson et al., 2019; Sampson et al., 2018).

Youths' Information-seeking Behaviours

Hultgren (2009) identifies four categories of information-seeking strategies that upper secondary students use when preparing for career choices: active information-seeking towards an occupation, extended transitions, avoiding risks, and avoiding career information. Regarding these strategies, she concludes that young people's career development-associated motivation affects their information-seeking behaviour. Similarly, Robinson (2011, 2014) found variations in young individuals' approaches to information channels, both online and at place, and their utilisation of information sources when learning about education and work. These included, for example, variations in the people and places or sites that they relied upon to receive career information and the extent of their adoption of largely exploratory or task-oriented habits when using the internet for career learning.

The concept information habitus, developed from the habitus concept and theory of practice presented by Bourdieu (1977), has been applied in attempts to improve understanding of individuals' habits of using different information resources. Since then various authors, including pioneers such as Böck (2004) and Robinson (2009), have used the term information habitus in considerations of individuals' habits associated with use of online and mobile technologies to obtain information. It directs attention to the internalised principles of information acquisition, or in the words of Böck (2004, p. 284), "… the schemata of perception, thought and action that relate to access to, acquisition of, and uses of information…". Böck (2010) subsequently explained that information habitus includes schemata of an individual's recognition of what information to use, and how to use it. Interactions between these schemata, contextual factors, and outcomes of their information searches and use lead to the evolution of subjective evaluations of information resources and information-seeking strategies. Thus, what is perceived as relevant knowledge, and the information regarded as possible and necessary to obtain, are related to an individual's past experiences but also interplay with the current context (Böck, 2010). Hence, variations in young peoples' habits of using digital resources to acquire information are strongly related to their previous and current experiences within their specific contexts. For example, Mathiesen (2022) shows that a career guidance counsellor's disbalance with a student's demand for information could create an information-seeking behaviour directed towards online information resources rather than personal meetings with a career guidance counsellor.

Beckman et al. (2014) and Robinson (2009, 2014) note that both informal and formal learning contexts can play significant roles in youths' development of information-seeking behaviours. Particularly important factors they identify include economic, social and cultural resources in the home context, such as access to digital devices and parents or siblings who regularly use such equipment for professional purposes. However, Apps et al. (2019) suggest that formal learning contexts, such as school, may bridge inequalities among students in such factors, by providing them with knowledge and learning experiences that enable them to expand their information-seeking habits.

Research Design

The study reported here was part of a larger project on rural youths' online career learning. The same methodology and sampling procedures were applied as in previously reported parts of the project, addressing other research questions (Pallin, 2022). Data were collected between April and June 2021 through a 23-question online questionnaire using Survey & Report software. During this period, corona pandemic-related restrictions obstructed the questionnaire's distribution and the strained situations in schools aggravated attempts to reach students. Due to social distancing restraints, all contacts with school officials (mainly principals and career guidance counsellors) to initiate the survey were made by telephone and email. Subsequently, the questionnaire was distributed to students and completed online, despite preferences to do this at appropriate sites in their schools. This approach raised several procedural issues, such as difficulties in offering non-digital response options, ensuring even representation of included school units, and obtaining satisfactory response rates due to the relatively low control of the sampling process. However, the online survey approach was also beneficial in terms of respondent anonymity and

voluntariness of participation in the study. Ethical considerations were addressed by following the Swedish Research Council's Good research practice guidelines.

Sampling

The sample (n=267) included rural youths in their final year of upper secondary school (age 18-19 years). Table 1 provides an overview of the sample. A clustered simple random sampling procedure was used to identify 21 schools, in which students were invited to participate in the survey. They were intended to represent students from 21 municipalities spread over the country, identified as rural by their number of inhabitants (less than 15 000), with a low level of commuting and with or without tourism industries (SALAR, 2016). In total, the population identified in this study included around 8,600 rural students in their 12th year, of whom about 1,600 were invited to participate in the survey. About 57 % of the respondents participating were studying at a higher education preparatory program (HEP) while about 43% were studying at a vocational education training program (VET). The former confers eligibility for higher education while the latter prepares students for a direct transition to working life. However, VET students can take extra courses to meet the requirements for higher education and there are many students both from VET and HEP programs who usually intend to continue in higher education (SCB, 2022).

The questionnaire was sent by email to the officials of the selected schools, who shared a link to the questionnaire with their students. If possible, the career guidance counsellor or a teacher shared the link with their students in a group meeting at school, and otherwise online through their school's online platform or email. However, to ensure an even geographical spread of respondents and to increase the response rate, it would have been preferable to administer the questionnaire on the spot in the schools instead of through distance communication.

Table 1. Characteristics, numbers, and valid response frequencies of the sample of rural youths.

Characteristics	Subgroup	N	Valid responses (%)
Study program	Higher Education Preparatory program (HEP)	148	56.7
	Vocational Program (VET)	113	43.3
	Missing	6	
Sex	Female	156	63.2
	Male	91	36.8
	Missing	20	
Total number of participants		267	

Because of the low response rate (267 of 1600 invited participants intended to represent a total population of 8600 rural students), the rural sample cannot be stated representative. However, the participants included sufficient numbers of students enrolled on both HEP and VET programs to provide at least indications of possible behavioural patterns of the larger population of rural students. The conclusions may also provide valid contributions to discussions on the prevailing digital divide and its consequences for rural youths' career development.

Analysis

Since all the studied variables are categorical and have nominal or ordinal scales, indexes were created to ease their use as continuous variables in inferential tests. Factor analyses were performed to generate indexes that were then subjected to reliability analysis to evaluate internal coherence (indicated by Cronbach's α values >0.8). The item concerning student sex included 'other' as a possible response. Such responses were coded as missing values in the analysis because given how those respondents answered in the remaining parts of the questionnaire, with very distinctive frequencies compared to the rest, there was reason to believe these respondents were not completely sincere. For the items concerning parents'

occupation, interest in studies and employment, information competency and career confidence, possible responses included 'I do not know'. Such responses occurred randomly, and, in the analysis, they were first substituted by imputing the variable sample mean and later coded as missing values, however with similar results. Here the results are presented with 'don't know' excluded from the analysis (Cohen, 2003).

To explore possible effects of various factors on the respondents' frequency of using certain information resources, linear regression analysis was applied. Initially, effects of the independent variables on the dependent variables were individually tested for comparative purposes, then analysis continued with models. Pearson correlation coefficients (r) and coefficients of determination (R^2) were calculated and are reported in the following text.

Independent Variables

Model 1. Demographic characteristics: Respondents were asked to state their sex (male, female or other) and their parents' occupation. A parents' occupation index was then created by merging values for occupations of both their mothers and fathers, based on estimated levels of education (ranging from 1 to 4) associated with types of occupations listed by Statistics Sweden (SSYK 2012). The vast majority of respondents indicated that their parents had level 3 or 4 occupations. Thus, in further analysis all occupational groups were coded into two skill levels: 0 ('low education', encompassing SSYK levels 1-3, from elementary education to 2-3 years of practical or vocational tertiary education) and 1 ('high education', encompassing theoretical or research-oriented tertiary education and third-cycle programs at least 3 years long). The merged parents' occupation index has three levels: 1 (if both parents had low education), 2 (if one parent had low education but the other had high education) and 3 (if both parents had high education).

Model 2. Career orientation: Respondents were asked which upper secondary program they were taking and their levels of interest in continuing studies and employment after finishing upper secondary school. The study programs were merged into two categories: Higher Education Preparatory (HEP) and Vocational Education Training (VET) programs. Levels of interest in studies and employment were ranked from 1 (not interested at all) to 4 (very interested).

Model 3. Skills and competency: Respondents were asked to provide estimates of their own level of competency for finding career information by responding to the question "Do you consider that you have knowledge in the following areas". This was followed by statements describing six areas: "where to find information about what education are available, "how to determine if information is reliable" and four others. Scores for these statements ranged from 1 (for I need much more knowledge) to 4 (for I have very good knowledge).

Model 4. Career confidence: Respondents were asked to state concerns about their confidence in the process of decisions regarding a future career in answers to six items, including statements such as "I feel certain about my future career direction" and "I feel confident about the future". An index was then created from the scores, which ranged from 1 (for disagree) to 4 (for totally agree).

Dependent Variables – Frequency of Using Online Career Resources

Respondents were asked to rank their level of experience with 10 types of career websites and engagement with 12 online career learning activities provided by official authorities and private organisations during their 12th year in upper secondary education. The career learning activities were divided into accessing information on education and work, individually and in conversations with others. Respondents were asked to indicate how often they had engaged in such activities or used a website on a 6-point Likert scale: 0= never, 1=a few times a year, 2= a few times a month, 3= once or twice weekly, 2= a couple of times a week, 5= every day.

Individual use: Six items concerned individuals' searches for information, watching online videos and reading others' posts and comments in social media about their career experiences, to learn about education and work. An index was then created of individual use scores ranging from 0 (never) to 100 (daily).

Group use: Six items concerned individuals' learning from conversations with others on social media, through commenting and asking questions, participating in social media groups and sharing own posts on the topic, divide to learning about education and work. An index was then created of group use scores ranging from 0 (never) to 100 (daily).

Websites: Reponses to items on use of 10 websites (three and two official government websites providing information on higher education and practical or aesthetic education, respectively, three providing information on working life and two general career information websites) were dichotomously coded (0=no use and 100=use). The websites are named and briefly described in the appendix.

Results

Statistical analysis of the responses indicated that several factors were related to the respondents' frequency of using online information resources for career learning. The results are presented below, according to the level of frequency of engaging in the considered activities and use of considered websites.

Online Career Learning Individually and in Groups

Generally, many respondents reported having experience of using online information resources individually for career learning, including searching the internet, watching videos and reading others' posts and comments on social media to learn about education and work. The mean number (M) of participants reporting some experience of each mentioned activity was 43.3, 58% reported engaging in such activities at least occasionally (a couple of times per year or less), and 39% reported engaging in them regularly (a couple of times per month or more) during their final year of upper secondary school. They did not seem to engage as often in online group activities for career learning purposes, such as participating in social media groups, commenting, asking questions or making their own posts. In terms of the respondents' engagement with group activities, the majority (69.1%) were classified as occasional users, mostly with experience of such activities a few times during the year (median per activity=13.33). Similar shares of respondents were classified as regular users (15%) and non-users (15.9%).

Linear regression analysis was applied to the respondents' reported frequencies of engaging in individual and group career learning activities to explore associations between demographic characteristics, career orientation, self-assessed information competency and career confidence. Results regarding their engagement with individual and group activities are presented in Tables 2 and 3, respectively.

No significant relationships between respondents' demographic characteristics and their frequency of engaging with online career learning activities were detected, although girls seemed to engage slightly more frequently than boys in individual activities and boys to use social media conversations for career learning slightly more frequently than girls. The results provide no clear indications that either students' sex or their parents' level of education was significantly associated with their engagement in either individual or group career learning activities online. In further analytical steps student sex was used as a control variable while parents' occupation was excluded as a control variable to avoid excessive frequencies of missing cases.

Table 2. Linear regression B coefficients for the respondents' engagement with individual career learning activities. Range from 0-100 (never to daily use). Standard variances in parentheses. *p <0.05; **p <0.01; ***p <0.001

		Model 1. Demographics	Model 2. Career orientation	Model 3. Skills and competencies	Model 4. Career confidence
Sex (0=boys, 1=girls)	0.60 (3.17)	0.86 (3.46)	2.52 (3.16)	2.62 (3.12)	1.35 (3.55)
Parents' occupation		0.30 (0.63)			
Study program (0=HEP, 1=VEP)			11.30*** (3.29)		
Study interest			27.18*** (4.67)		
Work orientation			-4.48 (4.60)		
Information competence				39.09*** (6.40)	
Career confidence					35.55*** (9.23)
Intercept	43.94*** (2.56)	41.43*** (4.99)	23.85*** (4.89)	21.75*** (4.42)	20.20** (7.05)
N	234	194	204	210	189
R2	0.00	0.00	0.17	0.15	0.07

Table 3. Linear regression B coefficients for the respondents' engagement with group career learning activities. Range from 0-100 (never to daily use). Standard variances in parentheses. *p<0.05; **p<0.01; ***p<0.001

		Model 1. Demographics	Model 2. Career orientation	Model 3. Skills and competencies	Model 4. Career confidence
Sex (0=boys, 1=girls)	-2.66 (2.96)	-1.63 (3.11)	-0.06 (2.91)	-1.39 (3.10)	-0.32 (3.30)
Parents' occupation		-0.25 (0.57)			
Study program (0=HEP, 1=VEP)			17.12*** (3.05)		
Study interest			16.32*** (4.36)		
Work orientation			0.65 (4.27)		
Information competence				26.50*** (6.40)	
Career confidence					26.88** (8.56)
Intercept	21.29*** (2.39)	19.53*** (4.49)	1.03*** (4.55)	6.24 (4.34)	1.42 (6.50)
N	229	191	199	204	185
R2	0.00	0.00	0.17	0.08	0.05

The B coefficients for model 2 shown in Tables 2 and 3 indicate that respondents' level of interest in continuing education increased with their engagement with online career learning activities. Thus, students with a higher interest in continuing education seem to be more likely to engage with online career learning activities regularly, both individually and in groups. A relationship was also detected between respondents' study program and frequency of use, indicating that students on a vocational (VET) upper secondary program are more likely to engage with online career learning activities, individually and in groups, than peers on a Higher Education Preparatory (HEP) program. Regression slopes of the independent variables in model 2 indicate that the respondents' level of interest in continuing education was most strongly associated with their engagement with individual learning activities. This variable was also the strongest predictor (Pearson R=0.336) of the frequency of engagement in individual learning activities according to this model.

The third and fourth models indicate that frequencies of respondents' engagement with individual and group career learning activities were significantly related to participants' estimated level of information competence and career confidence. However, information competence explained more of the variance than career confidence in students' engagement with individual activities (R2 values 0.15 and 0.07, respectively).

Use of Websites

The final part of regression analysis assessed relationships of the dependent variables indicating the respondents' frequency of using certain websites for career learning. Descriptive data show a distinction between users and non-users, as each of the websites had a large share of non-users (>30%). Websites providing information on higher education seemed to have more frequent users (M=35.25) than work-life-related and practical-aesthetic education websites (M=22.06 and 16.44, respectively). However, most respondents only seemed to use such websites occasionally.

To identify user characteristics, and compare uses of the considered websites, the dependent variables indicating respondents' website use were recoded dichotomously as 0 (no use) or 100 (use) in the linear regression analysis with the same models of independent variables as previously applied.[1] The 0-100 index was used for the websites to ease comparison and interpretation with previous analyses made of the respondents' engagement in individual and group activities. Similar results were found for the 10 websites, showing that respondents' career orientation, information competence and career confidence were related to likeliness of being a user of the suggested websites. Table 4 presents the result for the higher education institutions websites since they also indicate associations between their uses and the demographic variables in model 1. See the Appendix for the full results for all 10 websites.

As shown in Table 4 a similar trend was detected in respondents' use of the higher education websites as in their engagement in considered career learning activities. Respondents with a higher level of interest of continuing education or self-assessed higher level of career confidence and information competence seemed more likely to use them. Hence, this analysis revealed a significant relation between parents' occupation and the respondents' use of higher education institutions' websites: those who had at least one parent with a high skill level job seemed more likely to use higher education institutions' websites. Although it is a significant result, the effect is rather weak (B=3.88), so other factors may be more important for likelihood of being a user of higher education websites.

The results indicate that respondents' career orientation is strongly associated with their use of websites providing information on higher education. Perhaps not surprisingly, the analysis shows that HEP students (who had higher interest than VET students in continuing education, and low interest in continuing working immediately after upper secondary school) were more likely to use such websites. According to the R2 values obtained from the four models, the respondents' career orientation could

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[1] Logistic regression analysis was also performed with the dependent dichotomous variables, and almost identical results were obtained. Thus, to ease interpretation, results of the linear regression are presented for all dependent variables.

explain more of the respondents' variance in use than their information competence and career confidence. However, the B-values of the variables included in the second, third and fourth models indicate that their use of websites providing information on higher education is more strongly related to their self-assessed information competence and career confidence. Moreover, models 3 and 4 detected a significant relationship between the students' sex and use of such websites indicating that girls with higher self-assessed levels of information competence and career confidence could be more willing to use higher education websites.

Discussion

Similarly to Hultgren (2009), we detected significant differences between respondents who were most and less likely to engage in online information-seeking. The following discussion focuses on these differences and ends with reflection upon possible consequences of differences in youths' regularity of using online information resources for career learning purposes.

Table 4. Linear regression B-coefficients for the respondents' use of higher education institutions websites. Ranges from no use (0) to use (100). Standard variances in parentheses. *p<0.05; **p<0.01; ***p<0.001

		Model 1. Demographics	Model 2. Career orientation	Model 3. Skills and competencies	Model 4. Career confidence
Sex (0=boys, 1=girls)	8.74 (6.13)	9.43 (6.43)	5.38 (5.97)	13.49* (6.23)	15.28* (6.94)
Parents' occupation		3.88** (1.18)	-13.56* (6.22)		
Study program (0=HEP, 1=VEP)			35.28*** (8.85)		
Study interest			35.28*** (8.85)		
Work orientation			-40.26*** (8.76)		
Information competence				58.20*** (12.74)	
Career confidence					38.68* (18.03)
Intercept	65.12*** (4.91)	41.88*** (9.32)	75.70*** (9.35)	30.52*** (8.79)	34.56*** (0.12)
N	239	199	208	212	192
R2	0.01	0.06	0.24	0.11	0.04

Factors Influencing Use of Online Resources

According to Hultgren (2009), a group of frequent users engage in active information-seeking behaviour related to their personal interests in a career. Robinson (2011) found that some such users aim for an occupation requiring further education and/or a career for which information resources are not accessible in the immediate surroundings. This particularly applied to students interested in aesthetic careers in her focal context (an agricultural area of California), as relevant educational information was easiest for them to obtain from the internet. However, for rural youth in Sweden it may also apply to students interested in many careers requiring continuing education (Rosvall, 2020). Thus, a strong interest in continuing education is one of the identified factors with a strong association to respondent's use of a variety of online information resources. The information-seeking behaviour of youths interested in study can be

attributed to awareness of the lack of readily accessible information regarding continuing education in the local context (Böck, 2010; Rosvall et al., 2018; Stenseth & Bæck, 2021).

Strong engagement with online information resources may also apply to a habit of 'playing seriously', which Robinson (2009) describes as investing substantial time and resources in discovering career opportunities in a playful manner. Hence, it involves possession of the resources and development of the skills required to use the internet in such a manner, or possession of capital in Bourdieu's (1990) terms. The results indicate that respondents with relatively high self-assessed competence to find information are likely to use online information resources more frequently, and through varied activities and websites, than their peers. High information-acquiring competence could therefore be associated with development of a habit of playfully using the internet for career learning and an exploratory approach to online information (Robinson, 2009). However, our data do not allow us to tell whether such competence develops through regular use of the internet for career learning purposes, or if it is a prerequisite for developing such a habit.

A similar question remains for the relationship between rural youths' self-assessed career confidence and use of online information resources for career learning. We found a strong positive association between participating students' level of confidence in career development and the frequency of their use of a variety of online information resources. Rural youths' habitual use of online information resources may thus require more than development of relevant skills, as previously suggested by Milosheva et al. (2021) and Sampson et al. (2019). Individual's career learning processes itself could significantly influence their approaches to online information resources, and a question that requires further analysis is whether online information resources are used to develop career confidence or used by those who are already confident in their career choice.

Interestingly, vocational students among our respondents were apparently more likely than HEP students to use online information resources on a regular basis, actively use a variety of websites and engage in conversations on social media to learn about education and work. However, this may be related to habits developed by certain student groups and their current school context may significantly influence development of such a habit (Beckman et al., 2019).

Like previous studies concerning youths' use of online information resources for career learning, the results were expected to reveal divisions linked to the students' sex and parents' occupations (e.g. Levine & Aley, 2020; Owen et al., 2020). However, the only detected associations with these variables were in the respondents' use of websites providing information on higher education. Moreover, their effects are rather weak according to the regression analysis. Thus, the results do not provide unequivocal evidence that either sex or parental occupation strongly influence rural youths' use of online information resources. However, this does not necessarily mean that there are no significant relationships between social background variables and use of online information resources. It is possible that a stronger relationship would be detected between social background and rural youths' use of online information resources with a larger sample, more equal distribution of girls and boys, and/or inclusion of more relevant variables.

It should also be noted that the corona pandemic situation could have increased the respondents' use of online information resources. Similar to the career guidance counsellors, students who would not have used the internet for career learning under normal circumstances may have developed a more regular habit than otherwise (Lärarnas Riksförbund, 2020).

In addition, limitations associated with self-reported data must be acknowledged. Some respondents may have substantially under- or over-estimated the time they spent using the suggested resources, and some respondents' responses may have been influenced by their perceptions of desirable user patterns (such as using the internet more for learning than leisure). If so, strong engagement with online information resources may be an element of respondents' desired approach to learning generally and career learning particularly.

An Equalizing Space of Influence?

Development of a frequent habit of using online information resources for career learning may broaden rural youths' information opportunity structures (Robinson, 2011). In Bourdieu's (1990) terms, this study exemplifies that rural youths may be able to capitalise from online spaces by developing not only knowledge and competencies, but also confidence in making career decisions, thereby facilitating career transitions (Hodkinson & Sparkes, 1997). The results show that online information resources could be used by diverse young people living in rural areas, regardless of their social background, potentially complementing place-bound information resources, or compensating for their paucity. Thus, online spaces could potentially reduce inequalities in rural youths' access to information, not only in times of urgent need (such as during the corona pandemic) but also when key information resources are not available through family or school.

However, there are variations in rural youths' preferred information resources and careers that interest them (Griffin et al., 2011; Pallin, 2022). For a young person living in rural Sweden who is aiming for a career that does not require continuing education, and who wants to live in their local place, the most important information resources are probably embedded within the local community (Rosvall et al., 2018). In such cases development of habitually using physical information resources in their locality may not hinder their career development. It may even be preferable for learning about career opportunities in the local community (Griffin et al., 2011). Career guidance counsellors' requirements to balance meeting students' needs for information and reflection (Mathiesen, 2022), may also involve enabling them to access both the information sources they explicitly seek and resources that they are not currently aware of, but may need now or in the future. This is because online career information may lack perceived relevance for youths in their current situations, but they may require it in their future careers.

Being an infrequent or non-user of online information resources may be problematic if such a habit is due to lack of the knowledge and skills needed to engage in online learning activities. However, in addition to individual preferences, variations in the identified habits of students' use of online information resources may reflect variations in their previous experiences and local contexts that influence the development of relevant skills and competence (Böck, 2010; Eynon & Geniets, 2016; Park, 2017). Increasing digitalisation of career information may thus reinforce existing disadvantages among youths associated with variations in their access to social, financial, and cultural resources.

As demonstrated by previous research on young peoples' access to career information in other key elements, such as their family (Aaltonen, 2016) and local community (Rönnlund, 2020), this study shows that young people's access to career information can also vary greatly in online settings. Young people internalise various information habitus, and as shown here their habits and abilities to use online information resources may substantially vary, so claims that youths are digitally savvy should be questioned (Helsper & Eynon, 2010; Ståhl, 2017). While the supposedly free and open access to career information may be true for some youths, possibilities to capitalise from the online space are apparently related to individual circumstances and the resources they possess.

For the internet to contribute to equalisation of rural youths' access to career information, individuals must develop a habit of using online resources in support of their career learning (Apps et al., 2019). Böck (2010) argues that such a habit should preferably be initiated by youths themselves, but they must be offered appropriate conditions to enable them to initiate and develop it. These include not only access to relevant equipment and infrastructure, but also the abilities to identify necessary information resources and possession of the skills and competency to use them (Hooley, 2012). Because youths' information-seeking practices develop in their social contexts (Beckman et al., 2019), so the school context is significant, there are opportunities to support rural youths' development of such skills and habits through their education (Galliott, 2017). Thus, development of a regular habit of using online information resources for career learning in the final year of upper secondary education may increase the likelihood of future regular use of such resources (Beckman et al., 2014). This may then broaden rural youths'

information-opportunity structures and make rural youths' access to career information more equal to those of youths living in other places.

Conclusions

Previous studies have explored variations in young peoples' use of digital technologies and some have described rural youths' general lack of resources in career choices, this study extends findings of such studies by contributing knowledge of potentially important factors for rural youths' engagement with online career learning and possibilities for it to equalise students' access to career information, now and in the future. The findings indicate that rural youths with interest in continuing education, high self-assessed information competence and/or career confidence will have internalised reliance on the internet for information acquisition, and thus a regular habit of using online information resources for career learning. Such a habit can enhance options in career learning and development by broadening information-opportunity structures for rural youth by providing access to career information beyond their immediate surroundings, thereby reducing their binding to information sources in their own social spaces connected to place.

However, rural youths' development of a habit of using online information resources may depend on their access to resources and previous experiences in place, at home and school. Accordingly, rural youths' use of online information resources could enhance options for those with high access to resources, but also increase social inequalities between them and others with less financial, social, or cultural resources. Digital divisions in career learning may thus reinforce or possibly create new inequalities in rural youths' current and future career learning and development. More research is needed to explore effects of these factors that may influence students' use of online resources, focusing (among other potential patterns) on similarities and differences between HEP and VET students.

Implications for policy and practice

Our findings identify various factors that may be important to consider when seeking to support rural youths' career learning. Therefore, we highlight several implications for policy and practice here, with three stages according to potential variations in rural youths' internet-based career learning.

First, although implicitly operational in this study, it should be stressed that it is essential to ensure that all students have access to equivalent digital equipment and infrastructure, regardless of their place of education. However, in a decentralised educational system like that of Sweden, with substantial variation in the municipalities' and schools' organisation and provision of education (Lundahl et al., 2020), this would require amendment of the political regime and regulations in addition to intervention by local-level actors.

In the second stage, the findings indicate a clear need for practitioners to provide students with opportunities to develop online information-seeking habits and assist their use of resources. As Galliott (2017) suggests, students should be presented with various resources and helped to use them by staff at school. In Swedish upper secondary education, career guidance counsellors could play a significant role through planning, implementing, and evaluating activities to support their students' use of online resources for career learning in cooperation with teachers. However, the execution and organisation of such activities need further exploration in research and practice to achieve the key long-term objective; helping students to obtain the abilities to recognise, acquire and use the information needed to meet their present and future needs (Böck, 2010).

Finally, in the third stage of counteracting digital divisions in rural youths' career learning, evaluating students' outcomes from their informational habits and use of resources in various places and spaces, may be important for improving their learning processes and adapt career guidance support with possibilities offered by contemporary technology.

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