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Engaging Low-Skilled Adults in Education and Training: Exploring Participation Rates, Challenges, and Strategies

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Abstract The need for non-formal education (NFE), which does not result in a formal degree or certificate, is substantial as labour markets often require adult workers to take an initiative in advancing their job-related skills. Yet, NFE opportunities are more often pursued by high-income and high-skilled adults than their low-income and low-skilled counterparts. For this study, we used data from the 2012 Programme for the International Assessment of Adult Competencies (PIAAC) for Canada, the Netherlands, Norway, Sweden and the US, to compare participation rates in NFE by medium/high and low-skilled adults. Additionally, to gain insights of adult education and training policies that promote NFE, international key informant interviews (n = 33) and document reviews were conducted. Findings include (a) as compared to high-skilled adults, low-skilled adults are less likely to participate in NFE (b) as compared to the US, low-skilled adults in Norway and the Netherlands are more likely to participate in NFE, and (c) NFE is often more acceptable to low-skilled adults, possibly due to previous negative experiences with formal education. These findings are especially relevant to the increased need for retraining and reskilling as a result of the COVID-19 pandemic, which has negatively impacted low-skilled workers more than their higher skilled counterparts (OECD, 2020a).

Key words Low-skilled; adult education and training; non-formal education; skill proficiency; literacy

Introduction

Globalisation, advanced technologies leading to automation, and ageing societies are having a great impact on opportunities

for work and the skills required to succeed in the labour market. The ability of countries, firms, and individuals to adapt to these changes will depend on the availability of educational opportunities for people to maintain and develop new skills over their careers (OECD, 2019b). Although these changes will impact all workers, low-skilled workers are most at risk for experiencing reduced prospects in the labour market (OECD, 2019a). Additionally, COVID-19 may hasten job automation, which could further impact low-skilled workers and workers who perform routine tasks (Chernoff & Warman, 2020). Those with lower educational attainment tend to have negative attitudes toward adult education and training (AET), formal AET in particular, and have lower basic skills (i.e., literacy, numeracy), which indicates unpreparedness or unreadiness for subsequent and advanced AET (Fouarge et al., 2013; Illeris, 2006). As Fouarge et al. (2013) note, these attitudes toward AET could come from prior negative experiences in school, such as experiencing test anxiety or failing exams.

In a 2020 report of survey results from the European Centre for the Development of Vocational Training (Cedefop), 64% of respondents indicated improving job skills as the reason to participate in organised training, and 49% of respondents provided the same reason for participating in informal learning, characterised as learning on one's own. Low-skilled adults are less likely to participate in education and training than are adults with higher skills, and strategies to engage adults in these activities often exclude low-skilled individuals, both employed and unemployed (Desjardins, 2015; OECD, 2013b). Engaging low-skilled adults is challenging as access, awareness, and programme costs associated with education and training are barriers. In addition, low-skilled workers and those with low levels of education often have limited opportunities for employer-sponsored AET (OECD, 2019a; Osterman, 2019; Waddoups, 2016). Further, workers are remaining in the labour force at older ages, increasing the importance of learning over the entire life course (Field and Canning, 2014). The inequality in AET participation warrants implementation of opportunities and strategies to address challenges low-skilled workers and the unemployed face to pursue education.

The three categories of AET include formal (results in a recognised diploma or credential), non-formal (takes place in the workplace or in an educational setting but does not typically lead to a formal credential), and informal (takes place in everyday life and is not necessarily intentional but contributes to an individual's knowledge and skills, such as reading a book or listening to a webcast), (Commission of the European Communities, 2000). Most adults involved in AET participate in non-formal education (NFE) or informal AET rather than formal AET (de Grip, 2015; Desjardins and Rubenson, 2013; Patterson and Paulson, 2016; Romi and Schmida, 2009). Opportunities for NFE vary widely throughout the world. Availability of AET in Nordic Countries has long been recognised for providing multiple venues for participation in NFE, including employer-sponsored training, folk high schools, and study associations or circles (Desjardins and Rubenson, 2013; Laginder et al., 2013). In this paper, we compare opportunities for NFE along with participation rates among five countries. We chose Norway and Sweden as Nordic countries, the Netherlands due to its relative proximity to the Nordic countries as well as its similarity to these countries regarding a strong commitment to lifelong learning (Cheallaigh et al., 2002; Smit et al., 2009), Canada because of its close proximity to the US, and the US. In addition, we discuss the relationship between literacy skill levels, as measured by the Programme for the International Assessment of Adult Competencies (PIAAC), and participation in NFE, along with country-level programmes and policies that support these learning activities.

Theoretical Framework

This study is guided by two theories or frameworks: human capital theory and constraints to participation in AET. Human capital includes knowledge, skills, and abilities of individuals, whether innate or acquired (Baptiste, 2001). Expenditures on education, job training, and health are examples of human capital investments (Baptiste, 2001; Schultz, 1961), and are becoming increasingly necessary due to technology advances and skill obsolescence (Bishop, 1998; Schultz, 1961). In this context, human capital benefits individuals, through employment opportunities, as well as society, by enhancing productivity and

economic growth (Becker, 1962; Schultz, 1961). In addition to building human capital for these purposes, adult education opportunities must also aim to better meet the diverse personal needs and ambitions of the adult population (Reder, 2020). By doing this, adult education can have an empowerment role at the individual, group, and societal levels, thereby allowing persons to take charge of themselves and the world they live in (Boyadjieva and Ilieva-Trichkova, 2021). Boyadjieva and Ilieva-Trichkova (2021) stress the importance recognising educational achievements of low-skilled individuals and of individuals' capability to participate in educational opportunities they value which acknowledges the intrinsic and functional aspects of AET. At the same time, framing the empowerment role of education within the perspective of the sociological imagination (Boyadjieva and Ilieva-Trichkova, 2021) encourages consideration of institutional barriers in tandem with inter- and intra-level issues that constitute situational and dispositional barriers at the individual level (Boeren, 2016). Employment opportunities will be limited for adults if they lack the skills desired by employers (Wanberg, et al., 2016). There have been increased efforts in recent years to attempt to measure human capital (Kraay, 2019; Angrist et al., 2021). Following a call from the World Bank for measurement and annual reporting of human capital, Lim et al. (2018) created a measure of expected human capital that considers educational attainment, learning or education quality, and functional health status for 195 countries in 1990 and 2016. The purpose of this measure is to hold governments accountable for investments in health and education which, as stated previously, impacts productivity and economic growth. In 2016, values for all countries measured ranged from two to 28. Figure 1 compares this measure of expected human capital for the five countries. The US had the lowest expected human capital in 2016, and experienced the smallest increase between 1990 and 2016. The educational attainment component of the measure was the primary reason for the 2016 US ranking; average years of education was 13 years in 1990 and declined to 12 years in 2016, while the average years of education in the Netherlands, for example, increased from 12 years to 14 years over the same period (Lim et al., 2018). Understanding programmes and policies that facilitate adult learning are critical to increasing human

capital and economic growth in the US, and are the focus of this study.

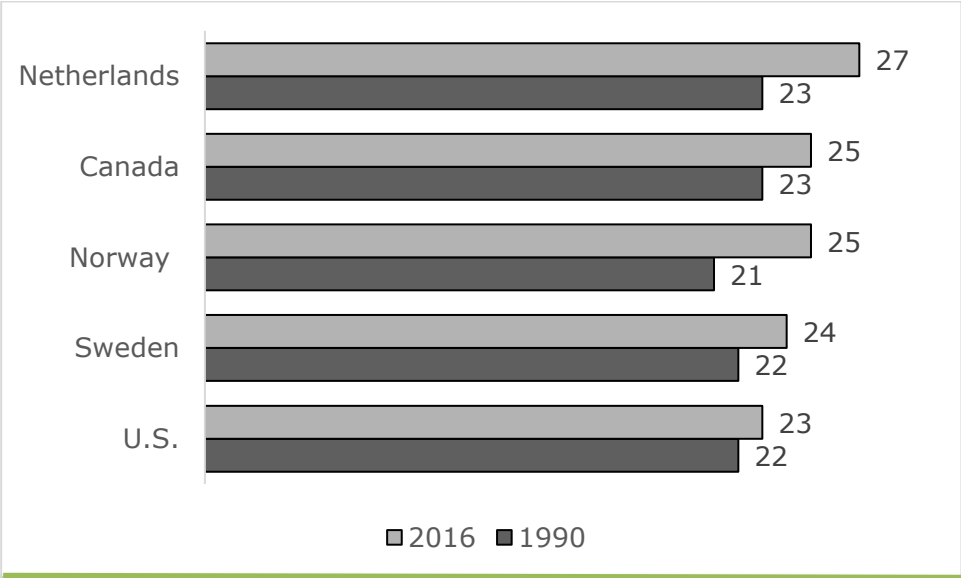


Figure is based on data published in Lim et al. (2018)

Figure 1: Expected Human Capital in 1990 and 2016 for Five Countries

Barriers or constraints to participation in AET play an important role in individuals participating in all types of learning opportunities. Cross (1981) identified three classifications of barriers to AET: a) **situational barriers**, which include the cost of education and lack of time, child-care, transportation, and support from family and friends b) **institutional barriers**, such as time required to complete an educational programme, courses not scheduled at convenient times, lack of information about educational programmes, difficult enrolment processes and strict attendance requirements, and c) **dispositional barriers**, which include lack of confidence in ability, concern about being too old, being tired of school, and lack of enjoyment in studying.

Prior negative experiences in education at younger ages can influence the willingness of low-skilled workers to participate in training, and is an example of a dispositional barrier. Tharenou (2001) and Illeris (2006), both indicate that one primary reason for not participating in training is previous negative experiences in school. A triggering event, such as unexpected job loss, might be the impetus for a low-skilled worker to seek training, and they

often find NFE to be less intimidating than formal education (Fouarge, et al., 2013; Illeris, 2006). Additionally, experiencing success in NFE may motivate an individual to engage in additional training (Brown and Bimrose, 2018). Dispositional barriers are the hardest to overcome, whereas situational barriers can be addressed through funding for training and offering programmes and services (Desjardins and Rubenson, 2013). Country-level programmes and policies that help to mitigate constraints to AET, including situational barriers, are important in order to improve participation rates. The present study examines programmes and policies in five countries that support AET, which can, in turn, result in the increase in human capital and improvements in literacy skills.

Research Questions

To better understand the relationship between participation in NFE and literacy skills, we used data from PIAAC for Canada, the Netherlands, Norway, Sweden, and the U.S. We focused on working age adults, which we define as aged between 25 to 65. In addition, we interviewed key informants and reviewed websites and documents to gain an understanding of policies and practices for AET in each of these countries. The research questions that were examined included:

1. What proportion of adults aged 25 – 65 in Canada, the Netherlands, Norway, Sweden, and the U.S. participated in NFE? Were there significant differences across the countries?
2. To what extent did adults aged 25 – 65 with low literacy skills participate in NFE as compared to those with high literacy skills in Canada, the Netherlands, Norway, Sweden, and the US?
3. What programmes and policies in Canada, the Netherlands, Norway, Sweden, and the US facilitated participation in adult learning, especially NFE?

Methods

This mixed-methods study used quantitative data from PIAAC to address the first two research questions. Qualitative descriptive design was used to analyse documents, relevant research, and

newly collected qualitative data from key informant interviews to address the third research question.

Data

We used 2012 PIAAC data to examine the relationship between participation in NFE and literacy skills in Canada, the Netherlands, Norway, Sweden, and the US. The 2012 PIAAC data is one of the most recent available datasets for international comparisons. PIAAC was coordinated by the Organisation for International Cooperation and Development (OECD), and implemented by member nations. PIAAC is an international assessment of literacy, numeracy, and problem-solving skills in technology-rich environments (PSTRE). PIAAC also includes an extensive background questionnaire. The background questionnaire includes basic demographic data along with information on participation in NFE (OECD, 2014). To correctly estimate inter/nationally representative results, PIAAC data include a sampling weight and replicate weights. In addition, PIAAC provides literacy skill proficiency scores in 10 sets of plausible values (0 – 500 points), which are derived from the performance on the literacy assessment (National Centre for Education Statistics, 2016; OECD, 2014, 2016). PIAAC defines literacy as ‘understanding, evaluating, using and engaging with written texts to participate in society, to achieve one’s goals, and to develop one’s knowledge and potential’ (OECD, 2012: p. 3).

Data was also collected from 33 key informants from Canada (n=7), the Netherlands (n=6), Norway (n=6), Sweden (n=7), and the US (n=7), through semi-structured, one-hour, video conference interviews. Key informants included AET experts, such as researchers, educators, policymakers, and government employees, and they were recruited by email using purposeful (Palinkas et al., 2015) and snowball sampling (Johnson, 2014). In addition, our team, comprised of multiple researchers with graduate-level research training, conducted a document review including publications, organisation reports, and government documents (e.g., Cedefop, Commission of the European Communities, National Skills Coalition, OECD). Additional documents were provided by key informants to support statements made in the interviews.

Measures

Five NFE participation measures were considered in this study. Each was recorded as a dichotomous variable indicating whether or not one had participated in the following NFE activities in the 12 months preceding the survey.

1. Any non-formal education participation
2. Job-related non-formal education participation
3. Non-job-related non-formal education participation
4. Participation in seminars and workshops
5. Participation in non-formal open or distance education

Literacy proficiency levels were recoded as a dichotomous variable for low (below Level 1 and Level 1), and medium and high (Levels 2-5) proficiencies (Grotlüschen et al., 2016). The details about the proficiency levels in PIAAC have been published elsewhere (OECD, 2013a). In this study, we define low-skilled adults as those with PIAAC literacy proficiency of below level 1 or level 1, which, according to Brown and Bimrose (2018), are generally those who leave initial education and training with few formal qualifications.

Statistical Analysis

The IDB analyser application (International Association for the Evaluation of Educational Achievement, 2022) was used for all analyses. The IDB analyser is capable of applying the PIAAC sampling weights, replicate weights, and plausible values in statistical analyses to produce nationally representative figures and significance test results. The weighted proportions of NFE participation were computed by country and by the literacy levels (low vs. medium and high), and weighted bivariate significance tests were conducted to evaluate research questions 1 and 2. The alpha level of less than 0.05 was used for the statistical significance cut-point. The US was considered the reference group in all analyses.

Results

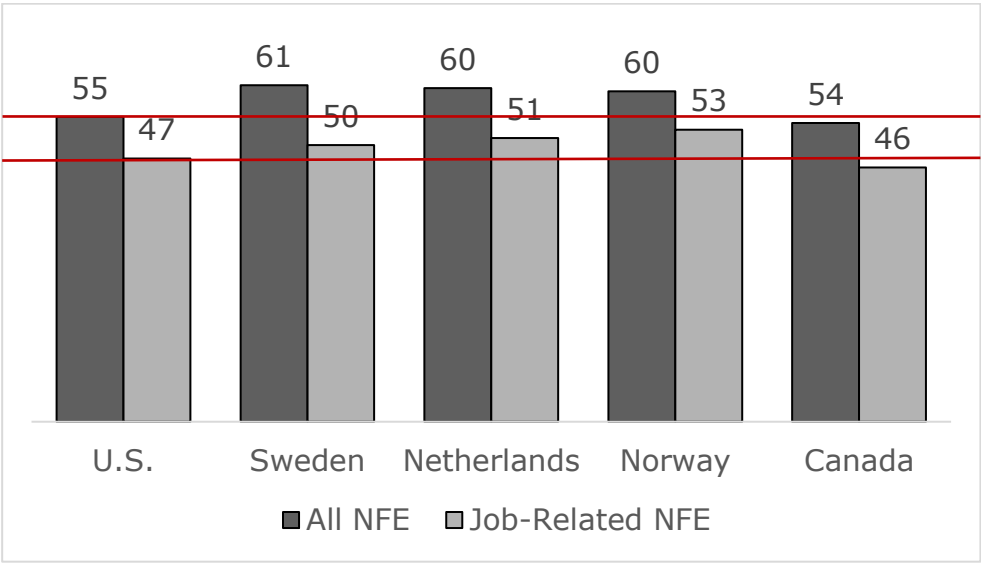
Research Question 1

The estimated proportions for five types of NFE participation are reported in Table 1. The proportions of any NFE participation ranged from 54% (Canada) to 61% (Sweden). While Canada had

a significantly lower participation rate in any NFE, the Netherlands, Norway, and Sweden had significantly higher rates than the US. The differences across countries varied depending on the type of NFE participation. For any seminar and lecture participation, there was not a significant difference between Canada and the US. However, Norway (34%) and Sweden (33%) had significantly higher seminar and workshop participation rates than the US. (30%). The Netherlands had the lowest seminar and workshop participation (28%). Notably, the US. had a significantly higher-distance learning participation rate than all other nations. We note that the majority of NFE in all countries was job-related, which is clearly shown in Figure 2.

Table 1.
Weighted Descriptive Statistics by Country

	Canada	Netherlands	Norway	Sweden	US (reference)
	n = 19,142	n = 3,638	n = 3,562	n = 3,207	n = 3,593
Any non-formal education participation	54%*	60%*	59%*	61%*	55%
Job-related non-formal education participation	46%*	51%*	53%*	50%	47%
Non-job-related non-formal education participation	8%	9%	7%*	11%*	8%
Any seminar and lecture participation	32%	28%*	34%*	33%*	30%
Any distance learning participation	10%*	14%*	6%*	14%*	16%
Literacy skills (0-500)	274.26	284.47	280.73	279.32	270.42
Literacy proficiency level (low)	28%	37%*	38%*	30%*	33%
<p>* p < 0.05 (vs. U.S.) Notes: The estimation is based on the samples for ages between 25-65 years. The sample size is unweighted. PIAAC's sampling weight and 80 replicate weights were applied. This table uses PIAAC 2012 data.</p>					



Note: This figure uses PIAAC 2012 data.

Figure 2: Participation in all Non-Formal Education and Job-Related Non-Formal Education, ages 25 – 65 (percent)

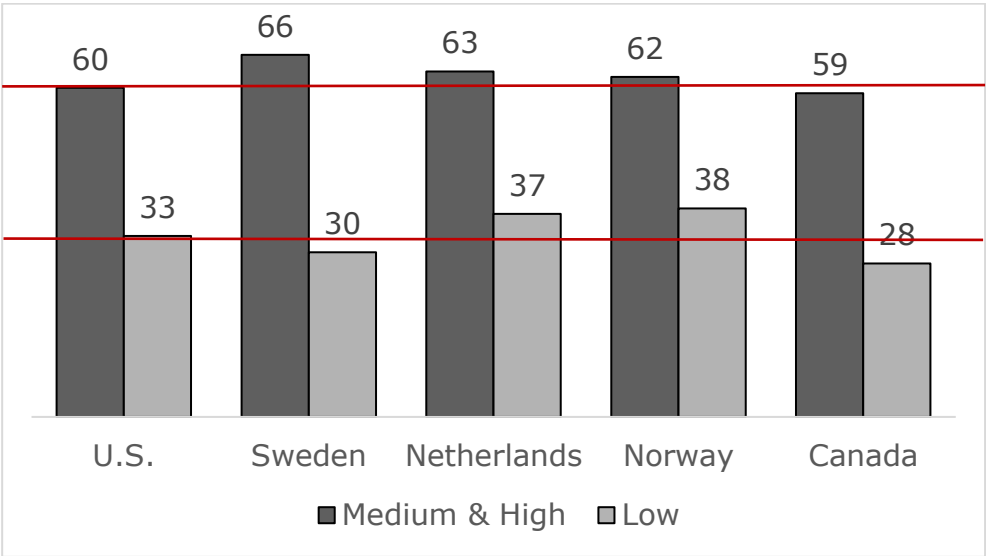
Research Question 2

Table 2 presents the proportions of NFE participation rates and the significance test results for low vs. medium and high literacy proficiency levels. Overall, low-skilled adults are less likely to participate in NFE as compared to those with medium and high skills. As can be seen in Figure 3, there were large gaps in NFE participation rates between low vs. medium- and high-literacy proficiency levels in all of the countries. In the Netherlands and Norway, there was no significant difference in the non-job-related NFE participation between low versus medium- and high-proficiency levels.

Table 2.

Weighted Descriptive Statistics by Country and Literacy Skill Levels (Low vs. Medium & High)

	Canada		Netherlands		Norway		Sweden		US	
Literacy skill level	Low	Medium & high	Low	Medium & high	Low	Medium & high	Low	Medium & high	Low	Medium & high
Any non-formal education participation	28%*	59%	37%*	63%	38%*	62%	30%*	66%	33%*	60%
Job-related non-formal education participation	24%*	50%	28%*	54%	29%*	55%	24%*	54%	28%*	52%
Non-job-related non-formal education participation	4%*	9%	9%	9%	8%	6%	6%*	12%	5%*	8%
Any seminar and lecture participation	13%*	36%	9%*	30%	13%*	36%	7%*	38%	13%*	34%
Any distance learning participation	5%*	11%	11%*	14%	6%	6%	6%*	15%	8%*	18%
<p>* $p < 0.05$ (low vs. Medium & High literacy skill level). A weighted significance test was used for each type of education participation within a country.</p> <p>Notes:</p> <p>The estimation is based on the samples for ages between 25-65 years.</p> <p>PIAAC sampling weights and replicate weights were applied.</p> <p>This table uses PIAAC 2012 data.</p> <p>A more detailed table with two decimal points is available upon request.</p>										



Note: This figure uses PIAAC 2012 data.

Figure 3: Participation in Non-Formal Education by Adults Aged 25 – 65 with Low vs. Medium & High Literacy Skills (percent)

Research Question 3

Research question 3 was addressed through an examination of peer-reviewed scientific literature, along with published reports by government and private organisations describing country-level policies and practices for the provision of adult education, especially occupational and work-based activities in the five countries. In addition, key informant (KI) interviews (n = 33) with adult education experts were conducted in each of the countries between October 2, 2018 and August 14, 2020. Interviews were web-based (e.g., Skype, Zoom, WebEx, etc.) and all were recorded and transcribed.

Sweden

Folk high schools and study circles play an important role in advancing opportunities for low-skilled adults in Sweden. Called folkbildning, folk high schools and study associations provide opportunities for NFE. Folkbildning could be translated as “popular education” and dates back to the 1800s (Fejes et al., 2021); by the 1930s these schools served as the only option for further education for the working class (Larsson, 2013). The Swedish state has provided financial support for folkbildning for the past 100 years; in 2020, approximately 4 billion Swedish kronor (\$480 million U.S.) from the state budget was spent on folkbildning with

the goal of lessening the education gap among the population (Fejes et al., 2021). Regarding folk high schools, one key informant indicated:

We have courses that could give you access to higher education. For instance, if you failed at upper secondary school and you could get the new chance to get not a degree but something similar that could give you access to university studies. That's, therefore, general courses. So, you attract people that have had, for instance, difficulties in formal education before, and they are giving them new shots, so to speak. ... This typically includes those who have failed upper secondary or high school, or they haven't had access, or have immigrated, or have some kind of problems.

This emphasises the important role of popular education in preparing adults for postsecondary learning, especially for those who have had previous negative experiences in school.

In general, there are no fees for students to pursue education and training opportunities, including NFE, in Sweden. Several KIs indicated there are occasionally fees for study circles that provide individual interest classes such as a class to learn a foreign language, to play a musical instrument, or to paint. Even when there is a fee, it is typically minimal due to government subsidies. Further, loans and financial aid are available to support living expenses while pursuing education, and adult learners can take paid leave from employment while they study. Noted a KI:

We haven't had fees in higher education ... for a long time. But it was ... a matter of class if you could go into universities, because you couldn't finance studying entirely without having a job on the side. But from the 1960s, we had ... state-funded loans and aids for students. So, it's free to go to university, and it's also free to get loans to be able to make a living during those years as a student.

This additional financial support is crucial to NFE participation, especially for lower income adult learners. The opportunity for study leave extends beyond academic courses at institutions of higher education and includes vocational, trade union, and even recreational courses (Gould, 2004).

For low-skilled adults in Sweden, Komvux (Komvux Norrköping, 2020), an adult education organisation mentioned by several KIs, provides adult education from first-grade level, basic education, to upper secondary education for adults. Many immigrants in Sweden take advantage of the education provided by Komvux.

These services are free after meeting certain requirements and are also incentivised. For example, one cannot receive social benefits unless they attend the required courses.

Norway

Skills Norway is a directorate for lifelong learning and belongs to the Norwegian Ministry of Education and Research (also known as Competence Norway and formerly known as VOX) with a vision of lifelong learning for an inclusive economy and society, and they work to ensure that adults have access to the skills and training they need (Norway Ministry of Education, n.d.). The Skills Norway website assists citizens in identifying training opportunities and needs, and also recommends policies to the government. Several KIs mentioned or worked for Skills Norway. One said:

The programme that Competence Norway runs gives an opening for people. And most of it is connected to the workplace. So, they are partly working on the basic skills, of course, but also in skills more directly connected to the daily work. But, there have been a lot of investments in these programmes, and well, they have problems of course, but compared to what we had in the 1990s it's good progress.

In Norway, those who want to complete their upper secondary education have statutory rights to do so, and it is 100% subsidised. A KI indicated:

Of course, adults have the right to get basic education if they haven't completed the school, especially migrants. So, they have the possibility to participate as adult students in the ordinary school education to get the degrees, getting the certification that they completed school.

These views that basic education is a right enables adults to pursue learning opportunities, be it basic skills or job training.

Another KI noted, '... compared to lower educated, twice as many higher educated individuals participate in different learning opportunities in Norway.' This might indicate lower educated individuals have more barriers. However, participation rates are still higher in Nordic countries than in the US and other OECD countries (Desjardins and Rubenson, 2013). One KI indicated this is not because barriers are different but because 'there are policies in place that help individuals, and in some cases, employers also, to help people overcome the barriers.' This is also

supported by an earlier quote indicating progress in education policy since the 1990s.

Yet another KI indicated low-skilled adults are the least inclined to participate in adult learning, because they may lack motivation to participate, which is consistent with 'dispositional barriers' described by Cross (1981). Several organisations and programmes attempt to address this problem; Competency Plus programme, a competence reform sponsored by the government, provides financial support for employers who offer employee basic skills training (numeracy, literacy, and digital skills). Support is provided by the national public institution tasked with stimulating adult and lifelong learning. One KI indicated the need to determine what incentives need to be in place to motivate low-skilled workers to participate in workforce training.

The Netherlands

Similar to the Nordic countries, the Netherlands has programmes and policies in place to support lifelong learning for the low-skilled, but there are still major challenges with participation. As noted by one key informant:

And I did find that there's a huge difference in the willingness, so higher educated workers are far more willing and have a higher intention ... to show this learning behaviour than the less educated workers do, and I've been looking for the cause of that difference. And I found that the main reasons for this or one of the main reasons would be the building of negative learning experiences in the past, in initial education, for instance, which did not suit their learning ... preference.

The relationship between negative learning experiences in the past and reluctance to pursue AET is consistent with previous findings (Desjardins and Rubenson, 2013; Illeris, 2006).

There has been an effort over the last 10 to 20 years to recognise previously acquired competencies (EVC) similar to the US's prior learning assessment (National Knowledge Centre EVC, 2020). Initially it was meant to be used by adults in later life who had been 'let off' from their jobs and needed to have some kind of credential or certificate to increase their chances of finding employment, and remain active in the labour market. A key informant described the complicated nature of EVC: 'But, it was hugely administrative ... This EVC trajectory is one of the

examples of instruments that we are trying to simplify in order to use them throughout the career in relation to the lifelong learning thing.’ Recognition for prior learning includes multiple benefits, such as increased self-confidence and motivation for continued learning (Miguel et al., 2016).

As stated by a KI, an initiative, House of Skills (n.d.) of the metropolitan area of Amsterdam, is mainly funded through European subsidy schemes such as the European Regional Development Fund (ERDF). The aim is to find ways to reach the self-employed and the employed, as well as the employers, to prevent skills mismatches through skills assessments (House of Skills, n.d.). According to the KI, “Every citizen ... can ... be advised on their labour market value currently, and people will be presented with advice on how to build a future-proof skill set ...”

Finally, although programmes like individual learning accounts (and other programmes mentioned by other KIs) are available and intended for low-skilled adults, studies on these programmes show that they do not successfully reach low-skilled adults; they reach those who already have a willingness to learn (Gautié and Perez, 2012). Strategies are needed to ensure the programmes are reaching the intended audience – low-skilled adults.

Canada

In contrast to KIs in other countries, one KI in Canada did not believe additional support for low-skilled workers was needed, which is inconsistent with low levels of AET participation by low-skilled workers in Canada (see Figure 3). Interestingly, that KI indicated, ‘... of all the groups in need of services right now, it's not the low-skilled workers.’ She shared that low-skilled workers have access to workforce development programmes, and there is a huge network in Ontario of free or very affordable employment services/providers. Services include meeting with a counsellor, building a resume, building literacy and basic skills, and gaining access to English language training. In addition, one KI noted there was ‘quite generous’ funding to support attending a college or vocational programme. It is important to note that adult education in Canada is under provincial jurisdiction, so there is not one policy across the country. A KI noted that ‘Ontario recently had a provincial change in government last June [2018]. The focus of this new government has great interest in

experiential learning, skills, and competencies for the workplace, ensuring that graduates have those workplace skills and competencies.'

As was noted by one KI, there are programmes available for literacy and basic skills. 'Quite often if they have really low skill levels, they'll start at a community-based programme, and once their proficiency is such, they can get into a pre-credit programme [such as adult basic education].' For post-secondary training, programmes tend to be more foundational, 'so we also tend to work with a lot of unemployed or displaced workers that find themselves in a situation where in order to get back into work or to get a better job [they need to] upgrade their skills.'

A KI indicated:

In our legislation, it says there are two reasons a person can return to school. Number one is to complete their high school diploma, and number two is to complete a prerequisite to further education ... if someone knocks on a school's door and says, 'I need this,' the school board is ... required to support those students whether they are 18 or whether they are 55.

Further, these programmes are free-of-charge for adults returning to complete their high school diploma or a prerequisite. KIs indicated there are many adult high schools, mainly in bigger cities. In some cases, they might share a facility or utilise night school. Some have separate adult-learning centres. If there is not an adult school, learners may take classes in the regular school, although this is fairly rare. Adult learners have exactly the same requirements as traditional students for high school graduation. KIs indicated the current challenge is making the process flexible for adult learners.

Although programmes and supports are available, especially when it comes to preparing the workforce for skills upgrades needed due to automation, it is not without challenges, as noted by one KI:

I mean, it seems to me that it has to be a workplace culture issue, primarily - that the workplace has a responsibility to talk with the people who are there about how things are changing. And the opportunities to upgrade their knowledge and skills will help them not only advance, but to kind of keep their ... job in a particular industry as it changes.

AET is especially important for individuals with low knowledge skills so they can remain employed as job demands change and technologies advance (Brine, 2006).

The United States

The more than 48-million workers with foundational skills (literacy, numeracy, spoken English, and digital skills) gaps in the US (Bergson-Shilcock, 2020), prevent the maximisation of human capital. More effort and funding are needed as only 30 states currently fund incumbent worker training (IWT). At the same time, the demand for training has increased as a result of the COVID-19 pandemic (Bergson-Shilcock, 2020). In addition to non-formal training offered through employers, more than five million students are enrolled in non-credit training (offerings that do not yield academic credit) in community colleges across the US. This represents approximately 40% of all community college enrolments (D'Amico et al., 2017). Adults enrolled in non-credit programmes at a community college are less likely to receive federal funding (e.g., Pell grants or Workforce Innovation and Opportunity Act [WIOA] training funds), compared to those enrolled in a credit programme that leads to a certificate (Xu and Ran, 2015). This can be due to the shorter length of non-credit programmes and laws that limit opportunities for federal funding to longer programmes. Non-credit programmes provided by career technical centres are also impacted by these restrictive guidelines.

One KI, working for an adult education provider, shared they largely focus on Adult Basic Education (ABE). They start with ABE 1 students, 'folks who have never even really learned to read, and we go all the way up to folks who already have their high school diploma or even some college (ABE 6), especially if they're not from the US.' These programmes may include essentials reading, essentials math, work-life reading, work-life math, academic reading, and academic math. In addition to ABE, they have two credential options. One is the GED (General Education Degree), and the other is the National External Diploma Programme, developed in 1970. It is a competency-based programme. Instead of taking the GED or a multiple-choice test, it looks at eight broad fields, and the competencies need to be achieved in all those fields:

Think of it almost as an online portfolio, lots of questions, and you're kind of doing these things one by one, and you could go out and you send it out to some people, they tell you what's wrong, you'd need to redo it. So, people could do it 10 times or so, and it takes people ... six months to 10 years or so."

Having multiple options allows adult learners the flexibility to choose what path will work best for them.

Another KI shared that her organisation uses in-depth labour market information to assist clients in determining how much a specific educational path will cost, how long it will take, and the return on investment – how many jobs are available in that field in the area and how much they pay. 'It can inform you not only on what jobs there are and what they pay, but what credentials are needed and how much they're worth.' This type of information needs to be available broadly. The next step is to prepare a one-page plan that tells the adult learner the exact steps needed to reach their goals. The challenge, she indicated, is that education providers need to look at the entire ecosystem [the family], not just the learner. The cost of the education itself is not usually the barrier. The barrier is the cost and arranging of childcare, securing transportation, and managing a household, which might be overcome with additional supportive services. This KI also indicated there is an underlying premise with low-skilled individuals: 'People like me don't do things like that' (Cummins et al., 2020). To counter this, she says there need to be strategies in place to ensure the people who are delivering services look like the people they are serving. For example, a student who is entering an educational programme from the criminal justice system should have a support person who has also been through the system and has succeeded (Cummins et al., 2020).

Research Question 3 Summary

There are wide variations in the provision of NFE across the countries included in this study. Nordic countries offer a variety of venues for NFE including folk high schools and study circles or associations. These programmes are publicly funded, and there is generally little or no cost for these activities. Depending on the nature of the learning, which may include vocational, employer-sponsored job training, and even personal interest courses,

participants are eligible for paid leave from their employer. Employers who offer basic skills training may also receive government funding to support these efforts. Although the Netherlands has similar types of programmes in place as Sweden and Norway, such as provisions for adult basic education, recognition of previously acquired competencies, individual learning accounts, and skills matching, the administrative burden of these programmes and the lack of uptake among the low-skilled seem to hinder progress.

Canada has opportunities for non-formal learning that include workforce development, literacy and basic skills training, and employment services, all provided at little or no cost. As with the Netherlands, the primary challenge seems to be uptake. In the United States, non-formal learning is often provided through employers or via enrolment in community colleges. Although some courses at community colleges may be funded by employers, many are self-funded by the learner. Adult education organisations offer basic skills training; although often subsidised, the learner still pays an out-of-pocket fee. Across the board, KIs indicated that more support, funding, and opportunities are needed to assist the low-skilled, including accurate labour market information.

Discussion and Implications for Policy and Practice

Continuous skill upgrading over the entire life course has become increasingly important to ensure employability, and to have skills desired by employers, which aligns with human capital theory. Moreover, Desjardins (2003) and Reder et al. (2020) suggest that engaging in literacy practices in multiple settings (e.g., formal, non-formal, and informal) is associated with improved literacy skills over time. In this paper, we focused on NFE activities, and compared the US to four countries. As compared to the US, adults in Sweden, the Netherlands, and Norway participated in NFE at higher rates while adults in Canada slightly lagged the US. Furthermore, as compared to Canada, Sweden, and the US, the Netherlands and Norway had higher rates of participation in NFE by adults with low levels of literacy skills.

It is interesting to note that, in PIAAC, distance learning is measured as non-formal learning. That may change since, due to the pandemic, much formal learning has been provided remotely. In 2020 and 2021, due to the COVID-19 pandemic, countries throughout the world shifted all levels of education (i.e., pre-primary through upper-secondary) for both children and adults to some form of remote learning, with the learning format often varying by the income status of the country. For example, low-income countries tended to use low-tech modalities, such as television and radio, whereas high-income countries used higher-tech methods, such as online learning, resulting in a digital divide in learning based on income level of the country (Boeren et al., 2020; UNESCO, 2021). Increasing opportunities for distance learning will benefit some lower-skilled individuals, but it is unlikely it will solve non-participation by those most in need (Gorard et al., 2003). Advancing digital technologies in middle- and lower-income countries is important to global economic growth, and to improve the economic outlook of individuals (Ingram, 2021).

Situational barriers, such as the cost of an educational programme or the lack of transportation or child-care services are typically easier to overcome, as compared to dispositional barriers, through the implementation of supportive services and public funding for education. However, the COVID-19 pandemic has created additional barriers to participation as opportunities for childcare decreased and virtual learning for children resulted in student-parents facing additional obstacles to participating in NFE and other learning activities (Strada Education Network, 2020). These barriers increased even as high unemployment rates and a changing labour market resulting from the COVID-19 pandemic have increased the demand for training. Affordable and convenient child-care and other supportive services are necessary for many adult learners to enrol in and complete educational programmes. The Cedefop (2020) survey mentioned earlier supports this; 86% of survey respondents indicated that more support with social and family responsibility would encourage participation in work-related training, as would more flexible working hours (90%). In addition to family and social support, paid leave to participate in NFE, similar to that available in Sweden, could facilitate participation. Historically, the

Netherlands, Norway, and Sweden have been successful in implementing programmes to address situational barriers, especially programme funding, which is likely the reason for their higher participation rates. Popular education, such as folk high schools and study associations are considered part of the culture, especially in Sweden, and is also a likely reason for higher participation rates. While the US funds formal educational programmes through Pell grants and WIOA, they do not generally cover expenses for non-formal training programmes, which results in low-skilled workers either relying on employer-funded programmes or funding the programmes themselves. Low-skilled adults are often also low-income and may not have the resources to fund NFE, as supported previously by a KI in Sweden. Expansion of Pell and other programmes to fund NFE is especially important for low-skilled workers. Specifically, expanding Pell to cover short-term training programmes can reduce the financial barriers experienced by low-skilled adults seeking educational opportunities.

Low-skilled adults are more likely to experience dispositional barriers to participation in AET, often due to poor experiences with education at younger ages (Rubenson and Desjardins, 2013; Illeris, 2006), which was noted, repeatedly, by several key informants. As noted earlier, dispositional barriers to learning are perhaps the most difficult to overcome, especially for low-skilled adults. Efforts to reinforce the importance of NFE along with programmes that improve the self-confidence of adults in their ability to succeed might increase participation (Roosma and Saar, 2017). Participation in NFE benefits individuals in multiple ways: there is the potential to improve literacy skills over time, and their learning activities may be recognised by awarding formal credits. This is also supported in the Cedefop report; 90% of survey respondents indicated recognition of certificates by employers would encourage participation (2020). In recent years there has been an increased focus in developed countries to recognise participation in non-formal and informal learning activities by awarding college credits (Andersson, et al., 2013; Colardyn and Bjornavold, 2004; Klein-Collins, 2010), which has resulted in higher retention rates and reduced the time to complete a degree (Klein-Collins, 2010; McKay, et al., 2016). Although countries have implemented programmes to recognise

previously acquired competencies through prior learning assessments, these opportunities are under-utilised due to the administrative burden. Easing these burdens to enable low-skilled adults to take advantage of programmes designed to recognise previously acquired competencies could increase participation in and completion of educational programmes and training.

Interventions that promote skill use by low-skilled workers, both at work and elsewhere can be a successful strategy to improve skill levels over the long-term (Grotlüschen, et al., 2016; Reder, 2015). Drawing on the successes of the Nordic countries, if the United States adopted strategies to support low-skilled adults in the pursuit of NFE, participation rates might increase. This would allow low-skilled adults to gain knowledge, skills, and abilities, which are necessary due to technology advancements and skill obsolescence in order to enhance productivity and economic growth.

Future research could benefit from examination of policies and practices for NFE and distance learning in additional countries, such as in Australia and the UK. For example, Australia's programmes for Technical and Further Education (TAFE) are available through distance learning programmes in remote locations (Askov et al., 2003; TAFE Directors Australia, 2016). In addition, research that examines lessons learned regarding distance learning during the COVID-19 pandemic could provide valuable insights for learning modalities to benefit disadvantaged groups.

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