MISSING THE MARK: EXPLORING PARTICIPATION RATES AND CHALLENGES TO ENGAGE LOW-SKILLED ADULTS IN EDUCATION AND TRAINING

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ABSTRACT: The demand for adult training opportunities is substantial as labor markets often require adult workers to obtain advanced skills. Opportunities to obtain advanced skills are often pursued by high-income and high-skilled workers whereas low-skilled or low-income adult workers are less likely to participate. For this study, we used data from the Program for the International Assessment of Adult Competencies (PIAAC) for the U.S., Canada, the Netherlands, Norway, and Sweden to compare participation rates in non-formal education (NFE) by 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. Major findings include (a) as compared to high-skilled adults, low-skilled adults are less likely to participate in NFE; (b) as compared to the U.S., low-skilled workers in Norway and the Netherlands are more likely to participate in NFE; and (c) non-formal education is often more acceptable to low-skilled adults due to previous negative experiences with formal education. Countries were selected based on qualitative findings that will inform best practices.

Keywords: Low-skilled adults, adult education and training, PIAAC

Globalization, advanced technologies, and demographic changes are having a great impact on work and skills required to succeed in the labor market. The ability of countries, firms, and individuals to adapt to these changes will depend on the availability of adult learning programs that provide opportunities for people to maintain and develop new skills over their careers (OECD, 2019b). Automation and technological advances will impact all workers, but low-skilled workers are most at risk for experiencing reduced prospects in the labor market (OECD, 2019a). COVID-19 may hasten job automation, which could further impact low-skilled workers and workers who perform routine tasks (Chernoff & Warman, 2020). Workers are remaining in the labor force at older ages, increasing the importance of learning over the entire life course (Field & Canning, 2014).

The three categories of learning activities include formal learning (learning that results in a recognized diploma or credential), non-formal learning (takes place in the workplace or in an educational setting but does not typically lead to a formal credential) and informal learning (learning that takes place in everyday life and is not necessarily intentional but

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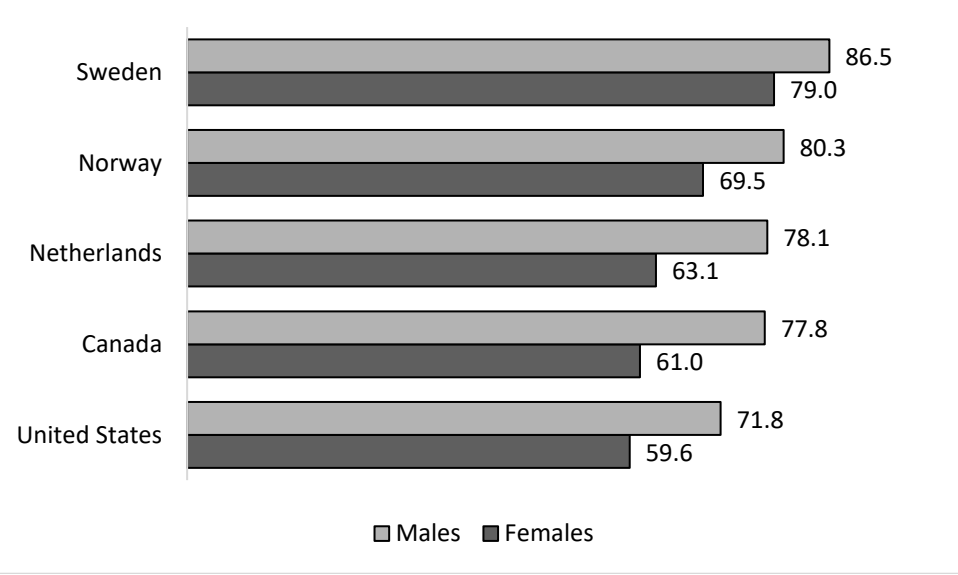
contributes to an individuals' knowledge and skills) (Commission of the European Communities, 2000). Most adults involved in learning activities participate in non-formal or informal learning rather than formal education (De Grip, 2015; Desjardins & Rubenson, 2013; Patterson & Paulson, 2016; Romi & Schmida, 2009). Opportunities for non-formal learning activities vary widely throughout the world. Availability of adult learning activities in Nordic Countries has long been recognized for providing multiple venues for participation in non-formal education, including employer-sponsored training, folk high schools, and study associations or groups (Desjardins & Rubenson, 2013; Laginder et al., 2013). Participation in adult learning has been linked to economic growth and high labor force participation rates (Desjardins & Rubenson, 2013). In this paper we compare opportunities for non-formal education (NFE) along with participation rates among five countries: Canada, the Netherlands, Norway, Sweden, and the U.S. In addition, we discuss the relationship between literacy skills and participation in NFE along with country-level programs and policies that support these learning activities. Participation in adult learning has been linked to economic growth and high labor force participation rates (Desjardins & Rubenson, 2013).We selected the Netherlands, Norway, and Sweden because the Nordic countries are long recognized for providing adult learning opportunities and Canada was selected because of its close proximity to the U.S. Of these countries, the Nordic countries (the Netherlands, Norway, and Sweden) have the highest labor force participation rates for both males and females, followed by Canada and the U.S. (see Figure 1).

Figure 1

Labor Force Participation Rates for Males and Females Ages 25 - 65 in 2019 (percent)



Source: OECD (2020).

Theoretical Framework

This study is guided by three theories or frameworks: human capital theory, practice engagement theory, and constraints to participation in adult education. Human capital includes knowledge, skills and abilities of individuals, whether innate or acquired (Baptiste, 2001). Expenditures on education, job training, and health care 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, participation in adult education enhances productivity and increases employment opportunities (Becker, 1962). Employment opportunities will be limited for adults if they lack the skills desired by employers (Wanberg, et al., 2016). 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. Values ranged from 28 in Finland to 17 in multiple countries. Figure 2 compares this measure of expected human capital for the five countries. The U.S. had the lowest expected human capital in 2016 and experienced the smallest increase between 1990 and 2016. Understanding programs and policies that facilitate adult learning are critical to increasing human capital in the U.S.

Figure 2

Expected Human Capital in 1990 and 2016 for Five Countries

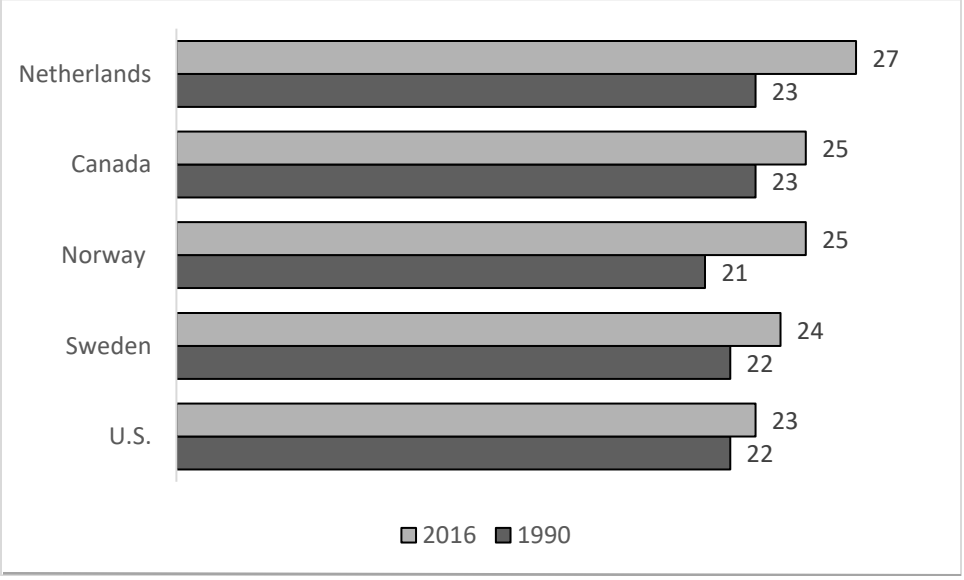


Figure is based on data published in Lim et al. (2018).

Practice engagement theory proposes that skill proficiency and engagement in literacy strengthen each other over the life course and engagement can occur in multiple settings (Desjardins, 2003; Reder, 2008; Sheehan, et al., 2000). 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). Moreover, Desjardins (2003) and Reder et al. (2020) suggested that engaging in literacy practices in multiple settings (e.g., formal, non-formal, and informal) is associated with improved literacy skills over time. In recent years there has been an increased focus in developed countries to recognize participation in non-formal and informal learning activities by awarding college credits (Andersson, et al., 2013; Colardyn & 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). Thus, participation in non-formal learning benefits individuals in multiple ways: there is the potential to improve literacy skills over time and their learning activities may be recognized by awarding formal credits.

Barriers or constraints to participation in adult learning activities play an important role in individuals partaking in all types of learning activities. Cross (1981) identified three classifications of barriers to adult learning: a) ***situational barriers*** which include the cost of education, lack of time, lack of child-care, unavailability of transportation, and lack of support from family and friends; b) ***institutional barriers***, such as time required to complete an educational program, courses are not scheduled at a convenient time, lack of information about educational programs, difficult enrollment process, and strict attendance requirements; and c) ***dispositional barriers*** which include lack of confidence in ability, concern about being too old, 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. A triggering event, such as unexpected job loss, might be the impetus for a low-skilled worker to seek training and they often find non-formal learning to be less intimidating than formal education (Fouarge, et al., 2013; Illeris, 2006). Dispositional barriers are the hardest to overcome whereas situational barriers can be addressed through funding for training and offering programs and services (Desjardins & Rubenson, 2013). Country level programs and policies that address these constraints to involvement in adult learning are important to facilitate participation. The present study examines programs and policies in five countries that support adult learning, which can, in turn, result in increases 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 the Program for the International Assessment of Adult Competencies (PIAAC) for Canada, the Netherlands, Norway, Sweden and the U.S. In addition, we interviewed key informants and reviewed websites and documents to gain an understanding of policies and practices for adult learning in each of these countries. The research questions that were examined included:

1. What proportion of adults ages 25 – 65 in Canada, the Netherlands, Norway, Sweden, and the U.S. participate in NFE? Were there significant differences among the countries?
2. To what extent do adults ages 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 U.S.?

3. What programs and policies in Canada, the Netherlands, Norway, Sweden, and the U.S. facilitate participation in adult learning?

Methods

This mixed-methods project used data from the Program for the International Assessment of Adult Competencies (PIAAC) to address the first two research questions and newly collected qualitative data along with a review of documents and relevant research were used to address the third research question.

Data

We use 2012 international PIAAC data to examine the relationship between participation in NFE and literacy skills in Canada, the Netherlands, Norway, Sweden, and the U.S. PIAAC was coordinated by the Organization 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, 2019c). In the present study, we focused on typical working age (25 to 65) adults. To correctly estimate nationally representative results, PIAAC data include the sampling weight and replicate weights. In addition, PIAAC provides literacy presidency in 10 sets of plausible values (0 – 500 points), which are derived from the estimated distribution of literacy performance. (National Center 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).

Measures

Five non-formal education participation measures were considered in this study. Each was recorded in a dichotomous variable indicating whether or not one has participated in the following non-formal education in 12 months preceding the survey.

1. Any non-formal education participation
2. Job-related formal education participation
3. Non-job-related formal education participation
4. Participation in seminars and workshops
5. Participation in 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. A set of 10 plausible literacy proficiency levels was used in the analysis. The details about the proficiency levels in PIAAC have been published elsewhere (OECD, 2013).

Statistical Analysis

The IDB analyzer application (International Association for the Evaluation of Educational Achievement, 2017) was used for all analyses. IDB analyzer is capable of applying the PIAAC sampling weights and replicate weights in statistical analyses to produce nationally representative figures and significance test results. The weighted proportions of education participation were computed by country and by the literacy levels (low vs. medium & high), and weighted significance tests were conducted to formally evaluate the research questions 1 and 2. The alpha level of 0.05 was used for the significance test interpretation. For the comparative purposes, the U.S. was considered the reference group.

Results

Research Question 1

The estimated proportions for five types of non-formal education participation were reported in Table 1. The proportions of any NFE participation ranged from 53.83% (Canada) and 60.61% (Sweden). While Canada had a significantly lower participation rate in any NFE, Netherlands, Norway, and Sweden had higher rates than the U.S. The differences across countries varied depending on the type of non-formal education participation. For any seminar and lecture participation, there was not a significant difference between Canada and U.S. However, Norway (33.58%) and Sweden (33.20%) had significantly higher seminar and workshops participation rates than U.S. (30.25%). Netherlands had the lowest seminar and workshop participation (27.81%). Notably, U.S. had the highest 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 3.

Table 1

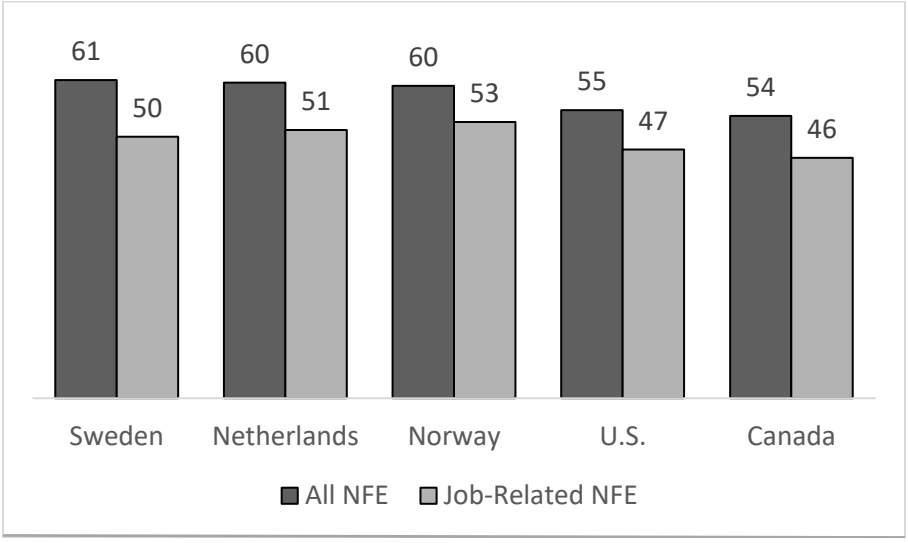
Weighted Descriptive Statistics by Country

	Canada	Netherlands	Norway	Sweden	U.S. (reference)
	n = 19,142	n = 3,638	n = 3,562	n = 3,207	n = 3,593
Any non-formal education participation	53.83%*	60.07%*	59.49%*	60.61%*	54.93%
Job-related non-formal education participation	45.81%*	51.08%*	52.59%*	49.83%	47.40%
Non-job-related non-formal education participation	8.00%	8.98%	6.61%*	10.79%*	7.54%
Any seminar and lecture participation	32.44%	27.81%*	33.58%*	33.20%*	30.25%
Any distance learning participation	10.48%*	14.04%*	5.52%*	14.04%*	16.15%
Literacy skills (0-500)	274.26	284.47	280.73	279.32	270.42
Literacy proficiency level (low)	28%	37%*	38%*	30%*	33%

* $p < 0.05$ (vs. U.S.)
Notes:
The estimation is based on the samples for ages 25-65 years old.
The sample size is unweighted.
*PIAAC's sampling weight and 80 replicate weights were applied.

Figure 3

Participation in all Non-Formal Education and Job-Related Non-Formal Education Ages 25 – 65 (percent)



Research Question 2

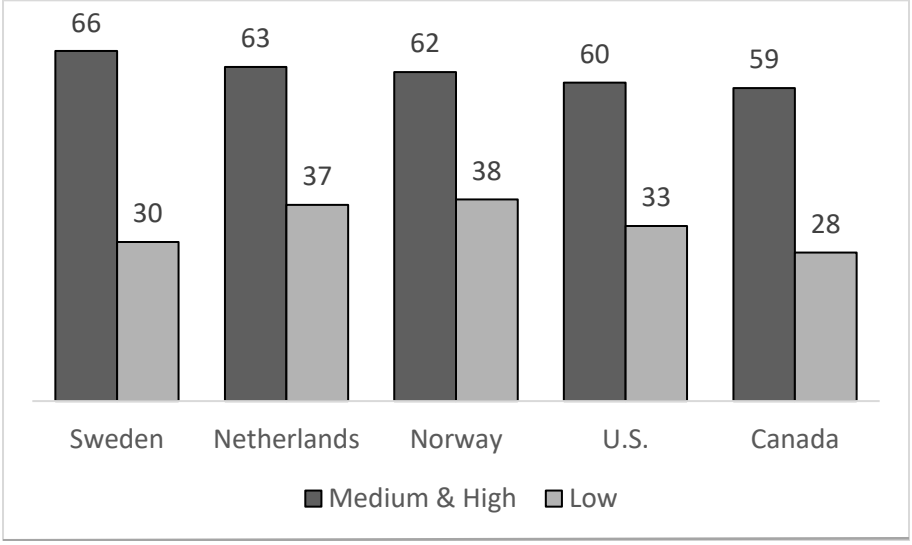
Table 2 presents the proportions of non-formal education participation rates and the significance test results for low vs. medium and high literacy proficiency levels. Overall, those with medium and high literacy proficiency were more likely to participate in non-formal education. As can be seen in Figure 4, there were large gaps in NFE participation rates between low vs. medium and high literacy proficiency levels in all of the countries. In Netherlands and Norway, there was no significant difference in the non-job-related non-formal education participation between low and medium & high proficiency levels.

Research Question 3

Research Question 3 was addressed through a review of scientific literature along with published reports by government and private organizations 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 between October 2, 2018 and August 14, 2020 in each of the countries. Interviews were web-based (e.g., Skype, Zoom, WebEx, etc.) and all were recorded and transcribed.

Figure 4

Participation in Non-Formal Education by Adults Ages 25 – 65 with Low and Medium & High Literacy Skills (percent)



Sweden

For low-skilled adults in Sweden, Komvux (Komvux Norrkoping, 2020), an adult education organization mentioned by several KIs, provides adult education from first

grade level, basic education, up to upper secondary education for adults. Many immigrants in Sweden take advantage of education provided by Komvux. These services are free after meeting certain requirements and are also incentivized. For example, one cannot receive social benefits unless they attend the required courses.

Popular education, such as folk high schools, also plays an important role in advancing opportunities for low-skilled adults. 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.

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%

* $p < 0.05$ (low vs. Medium & High literacy skill level). A weighted significance test was used for each type of education participation within a country.
Notes:
The estimation is based on the samples for ages 25-65 years old.
PIAAC sampling weights and replicate weights were applied.
A more detailed table with two decimal points is available upon request.

In general, there are no fees for students to pursue education and training opportunities, including non-formal education, in Sweden. Several KIs indicated there are occasional fees for study circles that provide individual interest classes such as a class to learn a foreign language, or how to play a musical instrument, or paint. Even when there is a fee, it is typically minimal due to government subsidies provided to the study association. 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.

> 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 is supported by another KI who said, "An employee has the right to take a leave [from work] to re-educate themselves and get subsides for that. These grants allow someone a modest living while studying." Although the first quote speaks specifically to higher education, the opportunity for study leave extends beyond academic courses at institutions of higher education and includes vocational, trade union courses, and even recreational courses (Gould, 2004).

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 program 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 programs, and well, they have problems of course, but compared to what we had in the 1990s it's good progress.

In Norway, for those who want to complete their upper secondary education, they have statutory rights to do so, and it is 100% subsidized. 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."

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 U.S. and other OECD countries (Desjardins & 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."

Yet another KI indicated low-skilled adults are the least inclined to participate in adult learning because they are not motivated to participate, which is consistent with "dispositional barriers" described by Cross (1981). Several organizations/programs attempt to address this problem; Competency Plus program, 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 should be in place to motivate low-skilled workers to participate in workforce training.

The Netherlands

Similar to the Nordic countries, the Netherlands has programs and policies in place to support lifelong learning for the low-skilled, but there are still major challenges with participation.

> 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 behavior 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.

There has been an effort over the last 10 to 20 years to recognize previously acquired competencies (EVC) similar to the U.S.'s prior learning assessment (National Knowledge Center 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 labor market. "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."

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 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 labor market value currently and people will be presented with advice on how to build a future-proof skill set …"

Finally, although programs like individual learning accounts (and other program mentioned by other KIs) are available and intended for low-skilled adults, studies on these programs show that they do not reach low-skilled adults with these programs. They reach those who already have a willingness to learn. Strategies are needed to ensure the programs are reaching the intended audience – low-skilled adults.
An interesting note - one KI indicated there is now an intentional effort to use the term "practically educated" verses low-skilled or less educated.

Canada

As opposed to KIs in other countries, one KI in Canada does not believe additional support for low-skilled workers is needed. 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 programs, and there's a huge network in Ontario of free or very affordable employment services/providers. Services include meeting with a counselor, building a resume, building literacy and basic skills, and gaining access to English language training. In addition, there is "quite generous" funding to support attending a college or vocational program. It is important to note that adult education in Canada is under provincial jurisdiction, so there is not one policy across the country. A key informant noted that "Ontario recently had a provincial change in government last June, 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."

There are programs available for literacy and basic skills. "Quite often if they have really low skill levels, they'll start at a community-based program and once their proficiency is such, they can get into a pre-credit program." For post-secondary training, programs 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 programs are free-of-charge for adults returning to get 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 utilize night school. Some have separate adult learning centers. 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. Our KIs indicated the current challenge is making the process flexible for adult learners.

Although programs and supports are available, especially when it comes to preparing the workforce for skills upgrades needed due to automation, it isn't without challenges:

> 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, you know, keep a job in a particular industry as it changes.

The United States

The more than 48 million workers with foundational skills (literacy, numeracy, spoken English, and digital skills) gaps in the U. S. create a drag on the economy. More effort and funding are needed as only 30 states currently fund incumbent worker training (IWT). 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 U.S. This represents approximately 40% of all community college enrollments. These non-credit offerings can be placed in four categories: occupational training paid for by individuals, occupational training paid for by employers, precollege remediation, and personal interest. Some institutions receive state funding to cover portions of these programs (D'Amico et al., 2017). Adults enrolled in non-credit programs at a community college are less likely to receive federal funding (e.g., Pell grants or Workforce Investment Opportunity Act training funds) compared to those enrolled in a credit program that leads to a certificate (Xu & Ran, 2015).

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 programs may include essentials reading, essentials math, work-like math, working life reading, academic math, and academic reading. In addition to ABE, they have two credential options. One is the GED (General Education Degree), and the other is the National External Diploma Program, developed in 1970. It is a competency-based program. 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."

Another KI shared that her organization uses in-depth labor 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 it pays. “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.

Research Question 3 Summary

There are wide variations in the provision of non-formal education across the countries included in this study. Nordic countries offer a variety of venues for non-formal learning including folk high schools and study groups or associations. These programs 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 have similar types of programs in place as Sweden and Norway, such as provisions for adult basic education, recognition of previously acquired competencies, ILAs, and skills matching, the administrative burden of these programs and the lack of uptake among the low-skilled seem to hinder progress.

Canada has opportunities for non-formal learning that includes workforce development, literacy and basic skills training, and employment services, all provided for free or with generous funding. 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 enrollment in community colleges. Although some courses at community colleges may be funded by employers, many are self-funded by the learner. Adult education organizations offer basic skills training, although often subsidized, the learner still pays an out-of-pocket fee. Across the board, KIs indicated more support, funding, and opportunities are needed to assist the low-skilled, including accurate labor 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. In this paper we focused on non-formal learning activities and compared the U.S. to four countries. As compared to the U.S., adults in Sweden, the Netherlands, and Norway participated in NFE at higher rates while adults in Canada slightly lagged the U.S. Moreover, as compared to Canada, Sweden, and the U.S., the Netherlands and Norway had higher rates of participation in NFE by adults with low levels of literacy skills. Low-skilled adults are more likely to experience dispositional barriers to participation in adult education, often due to poor

experiences with education at younger ages (Rubenson & Desjardins, 2013; Illeris, 2006). Situational barriers, such as the cost of an educational program or the lack of transportation or child-care are easier to overcome through the implementation of supportive services and public funding for education. The Netherlands, Norway, and Sweden have been successful in implementing programs to address situational barriers, especially program funding, which is likely the reason for their higher participation rates. While the U.S. funds educational programs through Pell grants and WIOA, they do not generally cover expenses for non-formal training programs, which results in low-skilled workers either relying on employer-funded programs or funding the programs themselves. Low-skilled adults are often also low-income and may not have the resources to fund NFE. Expansion of Pell and other programs to fund NFE is especially important for low-skilled workers.

Rising unemployment rates and a changing labor market resulting from the COVID-19 pandemic have increased the demand for training and at the same time created additional barriers to participation. Lack of child-care services and virtual learning for children has resulted in student parents facing additional obstacles in participating in NFE and other learning activities (Strada Education Network, 2020). Affordable and convenient child-care and other supportive services are necessary for many adult learners to enroll in and complete educational programs. In addition, paid leave to participate in NFE, similar to that available in Sweden, could facilitate participation. 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 programs that improve the self-confidence of adults in their ability to succeed might increase participation (Roosma & Saar, 2017). Gaining self-confidence through participation in NFE could also result in greater participation in formal education, especially if the NFE is recognized for college credits. Implementation of these and other programs to support adult learners is necessary to increase participation in and completion of educational programs and training.

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References

Andersson, P., Fejes, A., & Sandberg, F. (2013). Introducing research on recognition of prior learning. *International Journal of Lifelong Education, 32*(4), 405-411.

Baptiste, I. (2001). Educating lone wolves: Pedagogical implications of human capital theory. *Adult Education Quarterly, 51*(3), 184-201.

Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *Journal of Political Economy, 70*(5, Part 2), 9-49.

Bergson-Shilcock, A. (2020). *Funding resilience: How public policies can support businesses in upskilling workers for a changing economy*. National Skills Coalition. https://m.nationalskillscoalition.org/resources/publications/funding-resilience

Bishop, J. (1998). Occupation-specific versus general education and training. *The ANNALS of the American Academy of Political and Social Science, 559*(1), 24-38.

Chernoff, A. W., & Warman, C. (2020). *COVID-19 and implications for automation*. National Bureau of Economic Research. http://www.nber.org/papers/w27249

Colardyn, D., & Bjornavold, J. (2004). Validation of formal, non-formal and informal learning: Policy and practices in EU member states. *European Journal of Education, 39*(1), 69-89.

Commission of the European Communities. (2000). *Memorandum on lifelong learning*. https://uil.unesco.org/i/doc/lifelong-learning/policies/european-communities-a-memorandum-on-lifelong-learning.pdf

Cross, K. P. (1981). *Adults as learners.* Jossey-Bass, Inc.

D'Amico, M., Morgan, S., Katsinas, J., Adair, J., & Miller, M. (2017). A national analysis of noncredit community college education: Enrollment, funding, accountability, and contextual issues. *Community College Journal of Research and Practice, 41*(4-5), 288-302. 10.1080/10668926.2016.1251349.

De Grip, A. (2015). The importance of informal learning at work. *IZA World of Labor*. https://wol.iza.org/articles/importance-of-informal-learning-at-work/long

Desjardins, R. (2003). Determinants of literacy proficiency: A lifelong-lifewide learning perspective. *International Journal of Educational Research, 39*(3), 205-245. 10.1016/j.ijer.2004.04.004

Desjardins, R., & Rubenson, K. (2013). Participation patterns in adult education: The role of institutions and public policy frameworks in resolving coordination problems. *European Journal of Education, 48*(2), 262-280.

Field, J., & Canning, R. (2014). Lifelong learning and employers: Reskilling older workers. In S. Harper & K. Hamblin (Eds.), *International Handbook on Ageing and Public Policy*. Edward Elgar

Fouarge, D., Schils, T., & De Grip, A. (2013). Why do low-educated workers invest less in further training? *Applied Economics, 45*(18), 2587-2601.

Gould, A. (2004). 'Good luck and you'll be welcome back: Manual workers and study leave in Sweden. *Studies in the Education of Adults, 36*(1), 25-39. doi: 10.1080/02660830.2004.116611485

Grotlüschen, A., Mallows, D., Reder, S., & Sabatini, J. (2016). Adults with low proficiency in literacy or numeracy. https://doi.org/10.1787/5jm0v44bnmnx-en

House of Skills. (n.d.). *About House of Skills.* www.houseofskillsregioamsterdam.nl/about-house-of-skills/

Illeris, K. (2003). Adult education as experienced by the learners. *International Journal of Lifelong Education, 22*(1), 13-23.

International Association for the Evaluation of Educational Achievement. (2017). *Help manual for the IEA IDB analyzer* (Version 4.0). www.iea.nl/data.html

Klein-Collins, R. (2010*). Fueling the race to postsecondary success: A 48-institution study of prior learning assessment and adult student outcomes.* Council for Adult and Experiential Learning

Komvux Norrkoping. (2020). *About komvux.* Retrieved July 27, 2020 from http://www.komvux.norrkoping.se/om_komvux/about_komvux.aspx

Laginder, A.-M., Nordvall, H., & Crowther, J. (2013). *Popular education, power and democracy: Swedish experiences and contributions*: NIACE-National Institute of Adult Continuing Education. https://www.academia.edu/2760000/Popular_Education_Power_and_Democracy_Swedish_Experiences_and_Contributions

Lim, S. S., Updike, R. L., Kaldjian, A. S., Barber, R. M., Cowling, K., York, H., Friedman, J., Xu, R., Whisnant, J. L., Taylor, H. J., Leever, A. T., Roman, Y., Bryant, M. F., Dieleman, J., Gakidou, E., & Murray, C. L. J. (2018). Measuring human capital: A systematic analysis of 195 countries and territories, 1990–2016. *The Lancet, 392*(10154), 1217-1234. http://dx.doi.org/10.1016/S0140-6736(18)31941-X

McKay, H., Cohn, B., & Kuang, L. (2016). Prior learning assessment redesign: Using evidence to support change. *The Journal of Continuing Higher Education, 64*(3), 196-201. doi: 10.1080/07377363.2016.1229506

National Center for Education Statistics. (2016). *Program for the International Assessment of Adult Competencies (PIAAC) 2012/2014: U.S. National supplement public use data files household*. Retrieved from: https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2016667rev

National Knowledge Center EVC. (2020). *EVC strengthens position in the labor market*. Retrieved August 17, 2020 from http://www.nationaal-kenniscentrum-evc.nl/

Norway Ministry of Education. (n.d.). *Competence Norway*. https://www.kompetansenorge.no/

OECD. (2012). *Literacy, numeracy and problem solving in technology-rich environments: Framework for the OECD Survey of Adult Skills.* OECD Publishing.

OECD. (2013). *OECD skills outlook 2013: First results from the survey of adult skills.* OECD Publishing. http://www.oecd.org/about/publishing/Corrigendum-OECD-skills-outlook-2013.pdf

OECD. (2014). *Public data & analyses, online data [PIAAC public use data files]*. http://www.oecd.org/site/piaac/publicdataandanalysis.htm

OECD. (2016). *The survey of adult skills: Reader's companion* (2nd ed.). OECD Publishing.

OECD. (2019a). *Getting skills right: Engaging low-skilled adults in learning*. OECD Publishing. www.oecd.org/employment/emp/engaging-low-skilled-adults-2019.pdf

OECD. (2019b). *Gettings skills right: Future-ready adult learning systems*. OECD Publications Centre. http://www.oecd.org/fr/publications/getting-skills-right-future-ready-adult-learning-systems-9789264311756-en.htm

OECD. (2019c). *International codebook PIAAC public use file: Variables and values.* OECD Publishing. http://www.oecd.org/skills/piaac/publicdataandanalysis/

OECD. (2020). OECD statistics. Retrieved from http://stats.oecd.org/

Patterson, M. B., & Paulson, U. G. (2016). Adult transitions to learning in the USA: What do PIAAC survey results tell us. *Journal of Research and Practice for Adult Literacy, Secondary, and Basic Education, 5*(1), 5-27.

Reder, S. (2008). Scaling up and moving in: Connecting social practices views to policies and programs in adult education. *Literacy & numeracy studies, 16*(2), 35-50.

Reder, S. (2015). Expanding emergent literacy practices: Busy intersections of context and practice. In M.G. Santos & A. Whiteside (Eds). *Low Educated Second Language and Literacy Acquisition*: Proceedings of the 9th Symposium, San Francisco, CA.

Reder, S., Gauly, B., & Lechner, C. (2020). Practice makes perfect: *Practice engagement theory and the development of adult literacy and numeracy proficiency. International Review of Education.* https://doi.org/10.1007/s11159-020-09830-5

Romi, S., & Schmida, M. (2009). Non-formal education: A major educational force in the postmodern era. *Cambridge Journal of Education, 39*(2), 257-273.

Roosmaa, E.-L., & Saar, E. (2017). Adults who do not want to participate in learning: A cross-national European analysis of their perceived barriers. *International Journal of Lifelong Education, 36*(3), 254-277.

Schultz, T. W. (1961). Investment in human capital. *The American Economic Review, 51*(1), 1-17.

Sheehan-Holt, J. K., & Smith, M. C. (2000). Does basic skills education affect adults' literacy proficiencies and reading practices? *Reading Research Quarterly, 35*(2), 226-243.

Strada Education Network. (2020). *Strada Center for Consumer Insights Public Viewpoint Surveys: May20-June25*. https://www.stradaeducation.org/wp-content/uploads/2020/07/pv-charts-071420.pdf

Xu, D. & Ran, X. (2015). *Noncredit education in community college: Students, course enrollments, and academic outcomes. Community College Research Center*, Teachers College, Columbia University. https://ccrc.tc.columbia.edu/media/k2/attachments/noncredit-education-in-community-college.pdf

Wanberg, C. R., Kanfer, R., Hamann, D. J., & Zhang, Z. (2016). Age and reemployment success after job loss: An integrative model and meta-analysi. *Psychological Bulletin, 142*(4), 400-426. 10.1037/BUL0000019