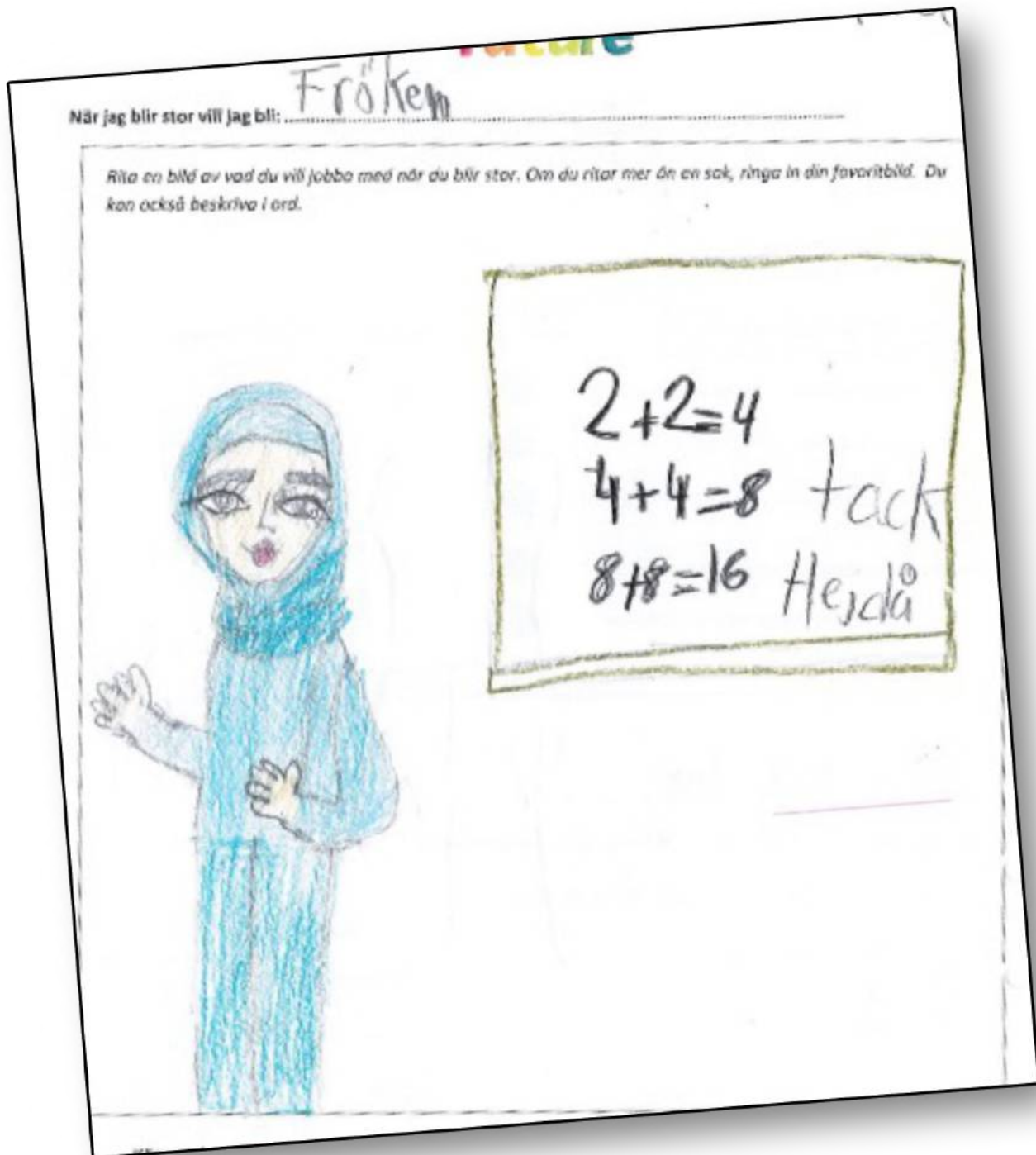


DRAWING THE FUTURE

A study of what 6-11 year old students in Skåne, Sweden want to do when they grow up



PARTICIPATING ORGANISATIONS

from **Region Skåne**

Charlotta Levin

Ingrid Weimers Reader

Karolina af Kleen, Åstorps municipality

from **Education and Employers UK**

Nick Chambers, CEO

from **Mälardalen University**

Prof. Sarah Wamala Andersson

Dr. Karin Schölin Bywall

Dr. Matt X. Richardson

Therese Norgren, M.Sc.

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Forewords

Children and youth's knowledge of the work market and the career opportunities that exist are limited. Socioeconomic background greatly influences young people's future educational and career choices, and it has been proven that children identify professions as male or female-oriented already at 6 years of age.

This background is one of the reasons that Skåne has become involved in Drawing the Future. Drawing the Future is a global survey that examines children's dreams and motivations regarding their future study and career choices. The study was conducted with over 20,000 children in 20 different countries. Skåne is now the first region in Sweden to have conducted the survey.

The results from Drawing the Future point to the importance of collaboration between school and working life. This helps to raise ambitions, broaden horizons, challenge stereotypes and show the relevance of what children and young people choose to study for later in life. A clear connection to working life broadens opportunities and also contributes in the long term to children and young people's transition to the labor market.

Today, Skåne has several collaborative initiatives underway in the area of school-working life and through Drawing the Future we have contributed to more initiatives in the lower school years. Drawing the Future in Skåne also contributes to a knowledge base and a broader insight into children and young people's future dreams and images of the labor market and what opportunities they (don't) see and what norms govern. The results will, among other things, be used in the STEM UP project, where the goal is to increase children and young people's interest in STEM (science, technology, engineering and mathematics).

Drawing the Future has been an exploratory collaboration between Region Skåne, Education and Employers, Mälardalen University and Åstorp Municipality as well as all participating municipalities in Skåne. I would like to extend a special thank you to the schools with all the students and staff who, through their commitment, have made this initiative possible and thereby created a result for Skåne. And where Skåne, through this participation, is now part of a global context and development!

Anna Pettersson
Director of Development, Region Skåne



It has been a delight to work with colleagues from Region Skåne and Mälardalens University on this landmark report examining the career aspirations of children in Skåne, who or what is influencing these choices and how they compare with current and projected jobs.

To mark International Women's Day 2016 our charity released a two-minute video which showed children aged 5-7 drawing a picture of a firefighter, surgeon and fighter pilot. Having drawn the pictures, they were then asked if they would like to meet the people who did those jobs for real. The '[Redraw the Balance](#)' video captures their reaction when they realised that all three were female – 92% had drawn pictures of men. The video has been viewed over 100 million times and been recreated in a number of countries.

Wishing to get a better understanding of what children were thinking we developed the [Drawing the Future](#) methodology. We asked 20,000 children in 19 countries and results were surprising – gender stereotyping was evident in every country with the top choice of job being a footballer for boys and teacher for girl in nearly every country.

The results from Skåne are encouraging in showing that children have a strong belief that they will be able to choose any job they want when they grow up and that this belief is not influenced by gender or ethnicity. However, when it comes to the job they aspire to themselves then this is strongly influenced by gender. Given that Sweden is one of best regarded countries on gender equality it is very surprising that hairdresser is the number one career choice for girls. It shows how deep and ingrained the stereotypical views children hold about the jobs people do.

In common with other countries, Skåne children's career aspirations are strongly influenced by the people around them,

especially their parents. However media and online sources have a greater influence on children's career choices than we have seen in other countries and this something which is worth exploring in more detail.

The study shows a significant mismatch between the current and predicted demands of the labour market and children's career aspirations. We know from other research studies we have undertaken that the career aspirations of 7-year-olds are often similar to those of 17-year-olds so this mismatch is concerning. For example, only one of the ten most popular career choices (doctor) is directly linked to STEM.

So what can be done to broaden children's horizons and show them the myriad of career opportunities open to them? One easy and effective way is getting people from the world of work to go into schools (either in person or virtually) and chat to young people about their job and career route. Schools can play a pivotal role in this. This study shows that teachers want to help but don't have the connections with employers nor the time to find people. One option might be to establish an on-line database of willing volunteers doing a diverse range of jobs which schools could easily and quickly search – a bit like on-line shopping. It is an approach a number of countries have successfully adopted, often replicating the methodology and technology of [Inspiring the Future](#). And the ability for schools to connect with volunteers virtually is a real game changer, enabling their students to interact with an incredibly diverse range of volunteers from across the country in a way that has not been possible with before. It was the potential the revolutionise how young people can see the world and the opportunities open to them.

Nick Chambers
CEO, Education and Employers charity

Summary

Drawing the Future Skåne is the first study in Sweden that has used this internationally established method in its schools. The study shows that:

- Students strongly believe that they will be able to choose any job they want when they grow up and that there will be many options to choose from. This belief does not seem to be influenced by gender or ethnicity (based on the main language spoken at home).
- Many students have clear goals for the future when it comes to their career choices. Students' choices are influenced by how fun they think it will be, the motivation to help others, the strive for financial success and a care about people.
- There is a very weak connection between students' choices of future careers, current demand for skills, and expected needs for occupationally specific workforce in the future (2035).
- Students' choices of future careers show a weak connection to needs in the STEM area, green and digital transformations. This is despite the fact that many students believe that mathematics, English and science are important for getting a future job.
- The media has a significant impact on students' dreams of future careers, especially when they do not know anyone working in the profession they are interested in. About half of the students cited media and online sources as the primary source of information when it comes to career choices. School is rarely cited as a source of inspiration.
- Students' future career choices are influenced to some extent by people they know. One in four students in the study knew someone who worked in the profession they wanted. Parents were the most common source in these cases.
- A large proportion of students express that school is important, but many were unsure whether they want to continue to post-secondary studies.



“Archeologist”

Clear group differences exist for specific aspects

- Clear gender differences with stereotypical patterns are seen among children's career aspirations. Only a handful of professions are preferred by both boys and girls to a fairly similar extent.
- Girls are more influenced by their mothers and boys more by their fathers when it comes to choosing a future profession. Fathers and other male relatives generally have a greater influence on students' choice of future profession than mothers and other female relatives. This applies to both those who speak Swedish and those who speak other languages at home.
- Girls more often receive information about the profession they wanted through acquaintances/relatives or school, while boys more often receive information through media/online sources.
- Girls believe that they can do the same job as boys, while boys and those who speak a language other than Swedish at home are somewhat more often hesitant about this.
- When it comes to favorite subjects at school, a larger proportion of boys answer that they like sports, mathematics and natural sciences (NS), while a larger proportion of girls answer that they like crafts, art and English.
- When it comes to studying further after upper secondary school, the desire is stronger for girls than for boys. Those who speak a language other than Swedish at home also have a stronger desire to do so than those who speak Swedish at home.

Teachers and study- and career guidance counsellors want to do more

- Teachers and study- and career guidance counselors believe that schools play a crucial role in supporting students in their future career choices, but only four out of ten say that they actively work with support in this regard.
- They clearly emphasize that gender, socio-economic background, ethnicity, upbringing, parents' profession and level of education all play a role in how students shape their future career choices.
- Participating teachers and study- and career guidance counselors stated that the study contributed to increased insight into the dynamic relationship between students' dreams, thoughts and skills and their own role in supporting and guiding students through teaching and various activities.



“Librarian”

About the study

Drawing the Future Skåne is a research-based study that aims to gather knowledge of career ambitions among students in grades 1-5. This report describes these ambitions among students in Skåne through the use of an internationally established method of the same name.

Aims

The primary aims of the study were to investigate:

1. what professions students in grades 1–5 in Skåne dream of or aspire to;
2. what factors shape or limit their career ambitions, with a focus on gender, ethnicity, family relationships and socio-economic conditions;
3. how these ambitions align with labour market demand and educational trends in society, with a particular focus on digitalisation; and
4. the role the teacher and the study- and career guidance counsellor are believed to have in inspiring the students.

Conduct

The study was conducted in municipal and independent schools in Skåne over a 4-month period in 2023. Data was collected in two different phases: via a drawing activity for students in grades 1–5, and via an online survey among teachers and study and career counselors in the same schools.

The study was conducted by Mälardalen University in collaboration with Region Skåne and Education and Employers UK.

Recruitment

The recruitment of participants for the study was done through a targeted inquiry to all school principals in Skåne. The information in the mailing explained the purpose and method of the study, and that participation was voluntary. The principals were asked to in turn ask the teachers at the schools when the study would be carried out by class. If the feedback was positive, the teacher for the school class received instructions and all materials for carrying out a drawing activity, as well as a link to the online survey for teachers. The teachers also received an information sheet to give to the students' parents that informed them about the study and that the parents could request that the child did not have to complete it, and that the students could choose for themselves whether they wanted to complete the drawing activity. The students were in turn recruited by their class teachers at the drawing time, who could voluntarily choose whether they wanted to complete the activity.

Data collection

The drawing activity consisted of the students in the participating classes receiving brief instructions from their teachers and then filling out a drawing form at any time. The form was a Swedish translation with minor adaptation of the internationally used Drawing the Future template, consisting of a double-sided sheet of paper with a large drawing area on one side, and a few simple questions with open-ended answers or fixed choices (check boxes) on the front and back (see Appendix 1). The students were then given between 15–30 minutes to complete the drawing activity and answer the subsequent questions. The teacher then collected the drawings, which were scanned for compilation and analysis by the researchers

connected to the assignment. All information filled in was anonymized at the time of analysis so that the drawings and answers could not be linked to specific individuals or schools.

In connection with the invitations to participate in the drawing activity, an invitation was also attached to teachers and study- and career guidance counselors to voluntarily participate in a survey (see Appendix 2) regarding their views on their and the school's role in students' career ambitions. The invitation contained a link to an online survey, which took an average of 14 minutes to answer. The teachers were asked to answer the questions before the drawing activity, however, it was not mandatory to complete the activity in order to answer the questions. After the period for implementing the drawing activity, a follow-up survey was sent out with similar questions, where only those who had completed the drawing activity were asked to answer. The aim of the follow-up survey was to see whether implementing the drawing activity itself affected the respondents' views on their role in students' career ambitions. In all survey phases, the answers were anonymous and could not be linked to specific individuals or schools.

Analysis

After scanning the data from the drawing activity, the answers to the questions were entered into a structured database. The stated professional ambitions were compiled after correction so that closely related variants (e.g. "football player" and "football professional") were equated. The stated professional ambitions were linked to the Standard for Swedish Occupational Classification (SSYK) and the other answers were structured for future statistical compilation. Descriptive statistical reports were then carried out, followed by subgroup analyses for gender, language and multilingualism for various parameters. For some answers in the open-ended response field, a textual analysis was carried out using a special web application. A comparison with Statistics Sweden's official labour market and education statistics was carried out to identify



ABOUT THE METHOD

The internationally established Drawing the Future method has so far been used with children and young people in, among others, the United Kingdom, Australia, Belarus, Bangladesh, China, Colombia, Indonesia, New Zealand, Pakistan, Romania, Switzerland, Uganda, and Zambia.

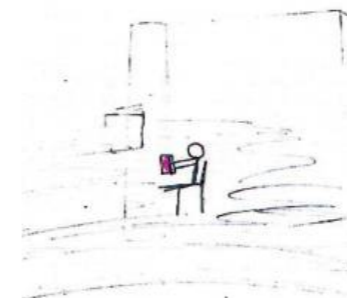
Tens of thousands of contributions have been submitted by children and young people in these countries.

www.educationandemployers.org/drawing-the-future/

SKÅNE FIRST IN

Skåne is the first region in Sweden to use the Drawing the Future method widely in its schools. The approach is part of a strategic regional development effort in the area of skills provision.

Read more here (Swedish): <https://utveckling.skane.se/regional-utveckling/verksamhetsomraden/kompetensforsorjning/medvetna-och-effektiva-utbildnings--och-yrkesval/>



Results

Drawing activity

1832 individual drawings by students were collected from a total of 28 schools in 14 municipalities in the region, out of 592 that received an invitation. There are approximately 102,400 students in grades 1–5 in the region.

- Of the students who responded, 48.7% were boys and 50.9% were girls. A few indicated a different gender. The age distribution among the respondents is shown in Figure 1.
- 11% of the students indicated that they spoke more than one language at home, and 26% indicated a language other than Swedish.¹
- The most frequently stated favorite subjects at school were mathematics, sports, crafts, and art (Fig. 2). Other responses received <10%.

Most frequently mentioned professional ambition
A total of 409 unique professional titles were given.² The professional ambitions that were mentioned most often are listed in Table 1, and Table 2 lists the top 10 mentioned professional ambitions for boys and girls, respectively.

Table 1. Career ambitions³ named ≥ 20 times, in order of frequency.

Career	Times named
Footballer	245
Police	114
Youtuber	86
Medical doctor	85
Teacher	84
Hairdresser	78
Veterinarian	70
Animal caretaker	39
Artist	32
Pre-school teacher	27
Truck driver	25
Riding instructor	24
Pilot	22
Ice hockey player	22
Chef/cook	21
Dentist	20
Soldier	20

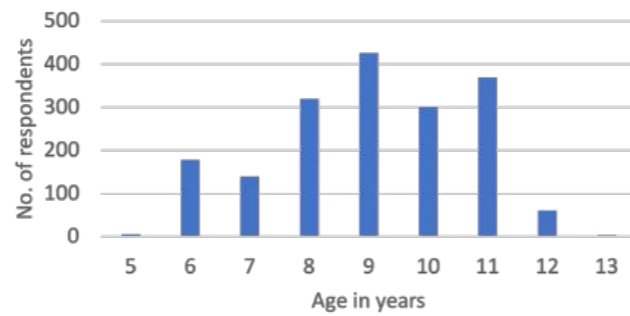


Figure 1. Number of responding students by age (N=1832).

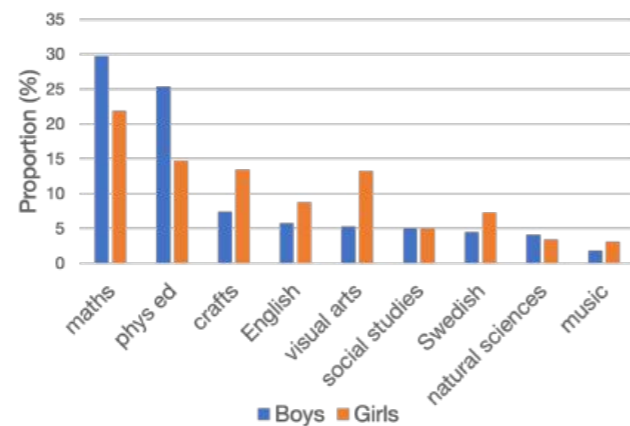


Figure 2. Favorite subject in school reported by students; proportion (%) (n=1825).

Table 2. Top-10 named career ambitions by gender; in descending order.

Girls	Boys
Hairdresser	Footballer
Teacher	Youtuber
Veterinarian	Police
Medical doctor	Ice hockey player
Police	Gamer
Footballer	Pilot
Animal caretaker	Soldier
Preschool teacher	Car mechanic
Artist	Medical doctor
Riding instructor	Game developer

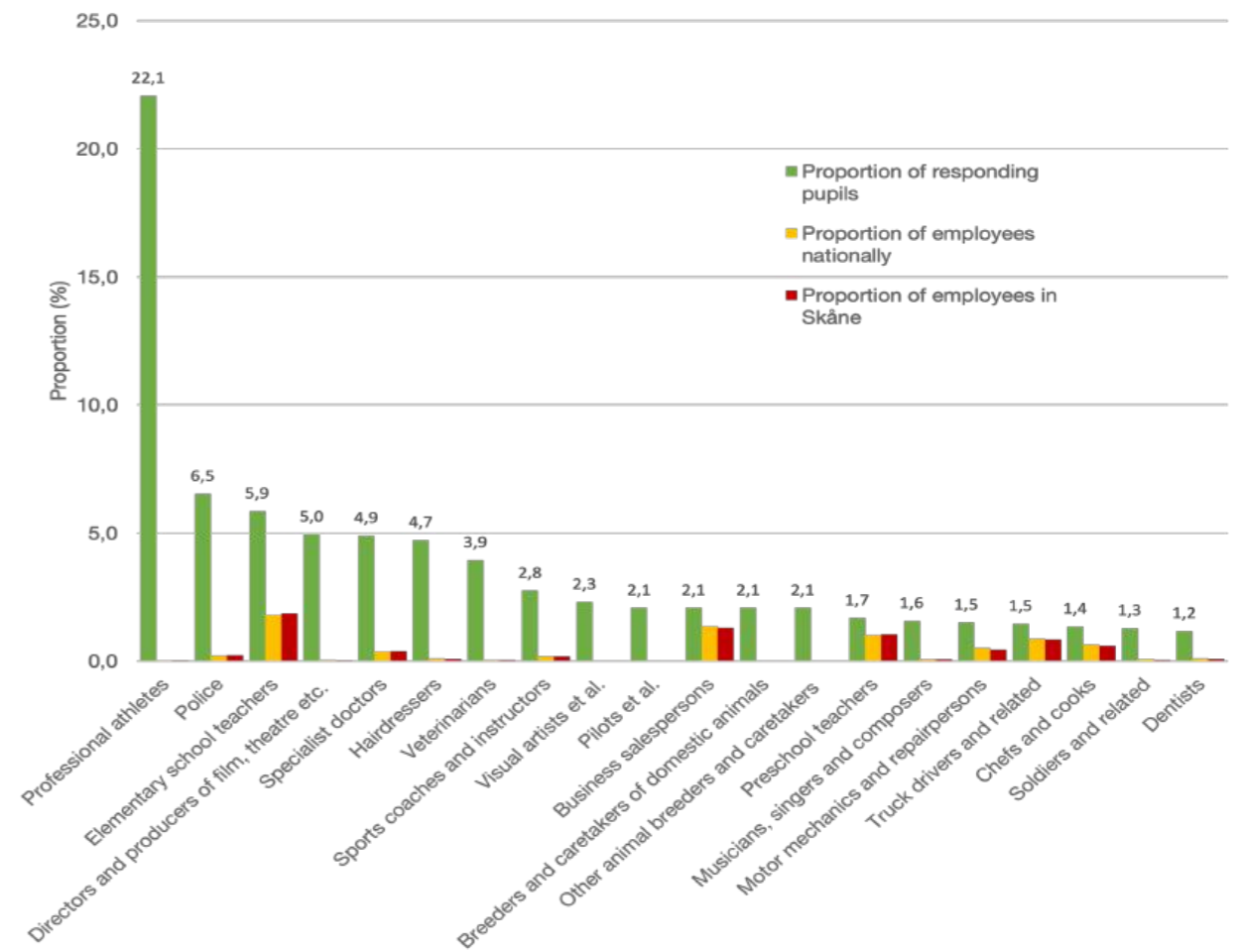
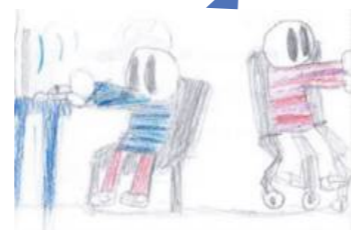


Figure 3. Proportion of first choice career ambitions named by students (n=1799), and current proportion of population ages 16-64 who have the profession in Sweden and Skåne respectively. Sorted by SSYK categories containing >1% of first choice career ambitions.

The occupational ambitions were also grouped under their respective SSYK categories. In total, occupations within 125 of 429 possible SSYK categories were mentioned by the respondents. Only six categories received more than 4% of the respondents' mentioned occupations, and about a quarter of all categories received more than 1% (Figure 3).

The most frequently mentioned occupational ambition by far fell under the SSYK category Professional athletes. Football players, hockey players, and equestrians were the types of athletes that were mentioned most often. The second most frequently mentioned occupation was Police, followed by Primary school

teachers, and Directors and producers of film, theatre, etc. (4.9%).⁴

The students' stated occupational ambitions differed significantly in almost all of the most popular categories compared to those in Sweden and Skåne who have occupations today.

Gender differences in occupational ambitions
There were large differences between boys' and girls' occupational ambitions (Figure 4). Of the 36 SSYK categories that were mentioned more than ten times, only 5 categories had a difference between boys and girls that was more than 40%.

Some explanations

¹ Because students probably had different opinions about how to answer the question What language do you speak at home?, it is not possible to report with certainty how many of them could not speak Swedish.

² After correction for spelling and meaning errors.

³ Some grouping was made by ambitions (e.g. "doctor", "doctor" and "cardiologist" were grouped into Doctors; "horse caretaker", "dog caretaker", and "zoo caretaker" were grouped into Animal caretaker; "football professional" and "football goalkeeper" were grouped into Footballers; etc.) but always within the respective SSYK category.

⁴ In this category, the most mentioned profession was "Youtuber", i.e. a producer of video material delivered via the online channel YouTube. This profession is probably most appropriately classified under the SSYK code corresponding to Directors and producers (2654), but depending on content could also be classified under related codes (Actors (2655), Musicians, singers and composers (2652) or Choreographers and dancers (2653)).

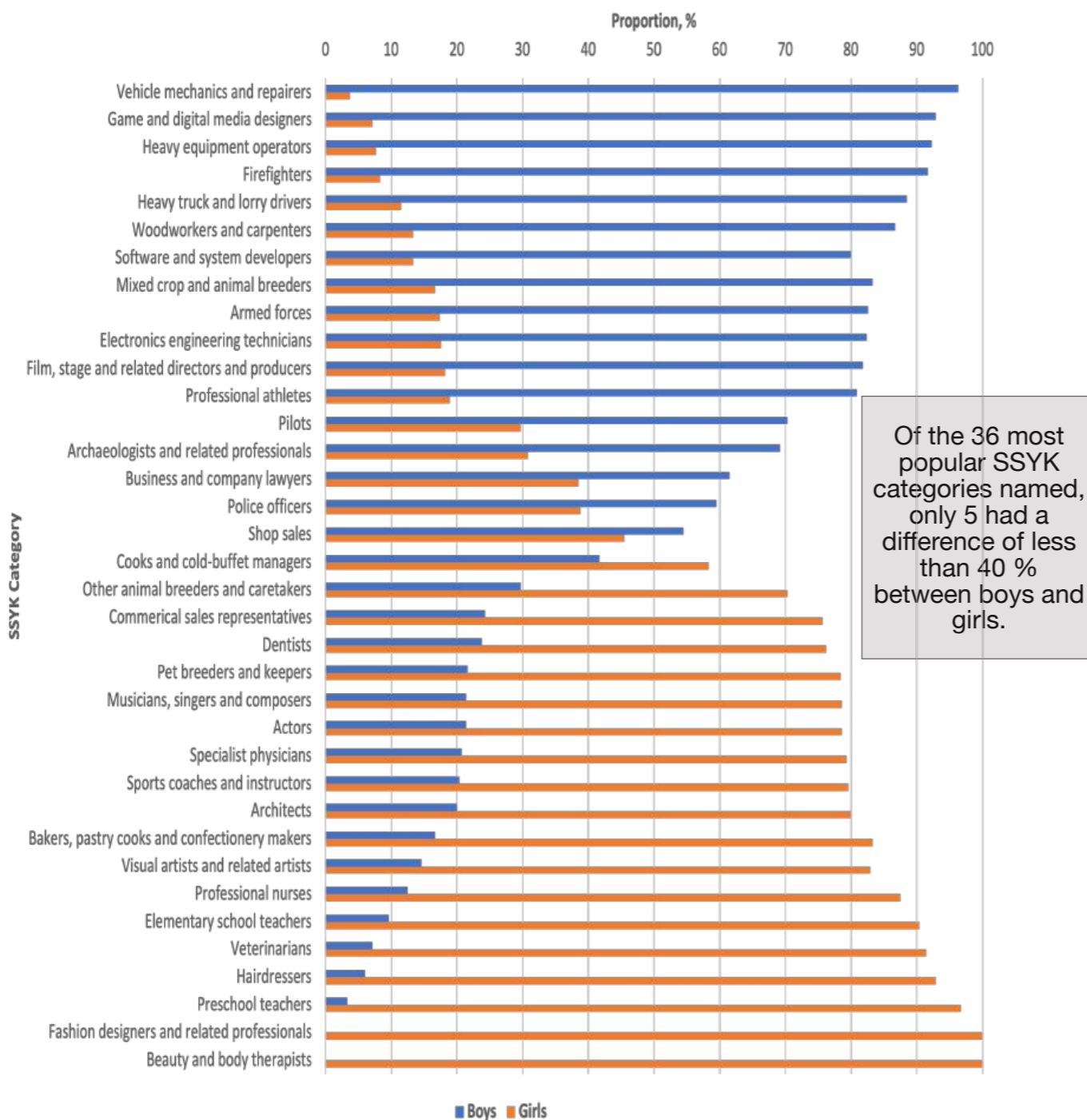


Figure 4. SSYK categories chosen more than 10 times, with proportion of boys and girls that chose them.

Other comparisons

There were only minor differences in career aspirations between those who indicated a language other than Swedish spoken at home and those who primarily spoke Swedish at home. Only four categories showed a difference greater than 1%: Specialist doctors (7%, in favor of another language at home), Police officers (2.8%, another language at home), Veterinarians (2.4%, Swedish at home) and Pilots (1.8%, another language at home).

Using the same analysis approach, but based on whether multiple languages were spoken at home, differences greater than 1% were found in slightly more categories (12) but generally smaller. The largest differences were Specialist doctors (4.2%, in favor of multilinguals), Primary school teachers (2.7%, multilingual), Business salespeople (1.9%, multilingual), Veterinarians and Police officers (1.9%, monolingual).

Motives for named career ambitions

The students were asked to answer why they wanted the career that was drawn in an open-ended response field. The answers contained a wide variation, but the most frequently occurring words of relevance are shown in Table 3.

Table 3. Most often appearing words (<10 times used) in student's motives, by number of uses (to left) and in word type groups as a proportion of total uses (to right).





“Riding instructor”

Career ambitions in relation to future needs

Region Skåne has made a forecast of which occupations will have the greatest excess demand in 2035, i.e. a shortage in the supply of suitably trained labour [1]. Based on the expected population development in the region until 2032 [2], the hypothetical supply of labour was calculated if the students' choice of occupation were to remain unchanged for the same group of students if they all entered gainful employment in 2035. The results of the calculation exercise show that significantly larger gaps would arise for occupations that are estimated to have the greatest excess demand (Table 4).

Table 4. List of occupations with the greatest excess demand in 2035 in Skåne County, according to forecast [1], with gap in demand (%) according to current forecast and if the students' choice of career would be fulfilled at the same time.

Occupations with greatest excess demand 2035	Difference in demand according to actual prognosis	Difference in demand if students choices would be fulfilled upon entering the work force
Nurses ¹	-19 %	-34 %
Casters, welders and sheet metal workers et al.	-10 %	-27 %
Elementary school teachers	-8 %	-13 %
Secondary school teachers	-7 %	-25 %
Blacksmiths and toolmakers et al.	-7 %	-25 %
Caregivers, residential support workers, Other health and care personnel	-6 %	-25 %
Carpenters, bricklayers, and construction workers/supervisors in construction and mining	-5 %	-22 %
Motor mechanics and repair persons/Flight mechanics et al.	-5 %	-12 %

¹“Nurses” is a combination of nursing assistants, registered nurses, and district nurses, as students almost always provided the term “Nurse” and cannot be expected to discern the difference between these career titles.

Table 5. Sources given for information about the mentioned career ambitions (How did you find out about this job?), percentage (%) of the total (n=890). Separate reporting of the sources is only done for categories with more than 5% of the responses. All below this level are placed in Other interaction. The difference in the proportion of girls and boys who stated the source is on the right.

Source of information	Proportion	Named more often by
Media and online Tv, movies, social media, YouTube, and other websites	41%	Boys 20 % more than girls
Other interaction Participation in activities (e.g. Ice hockey); visit to a work setting (e.g. hair salon), etc.	35%	
Family and friends Parents, siblings, relatives, friends and friends' families	18%	Girls 16 % more than boys
School Teachers, study- and career guidance counsellors, lessons	6%	Boys 45 % more than girls

Knowledge of the profession

The students' stated professional ambitions were followed up with questions regarding knowledge of the profession. When the answers were given in an open-ended response field, related and related answers were compiled into categories (Table 5). The most mentioned category, Media and online, is also reported based on the type of media in Figure 5.

There were no differences greater than 3% in the proportion who stated that a language other than Swedish was spoken at home than only Swedish-speaking for any of the response options regarding source of knowledge. For multilingual homes and monolingual homes, the largest difference in proportion was 11.7%, in favor of multilingual homes.

Of those who answered the question whether they knew anyone who had the profession they had drawn (n=1727), 40% knew someone. Of these, Dad was the most common answer, followed by Mom (Figure 6). In the category Other, other roles and people were given, e.g. "my coach", "Zlatan". There were significant differences between boys and girls on this issue (Figure 7, page 19).

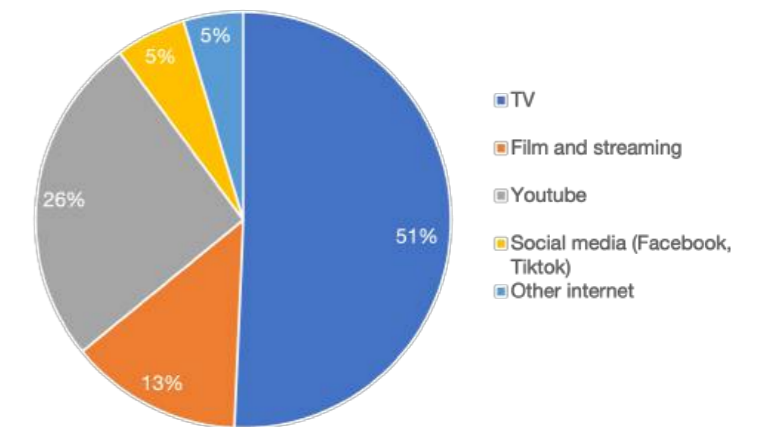


Figure 5. Media and online types named as sources of information regarding the chosen career ambition (n=365)¹.

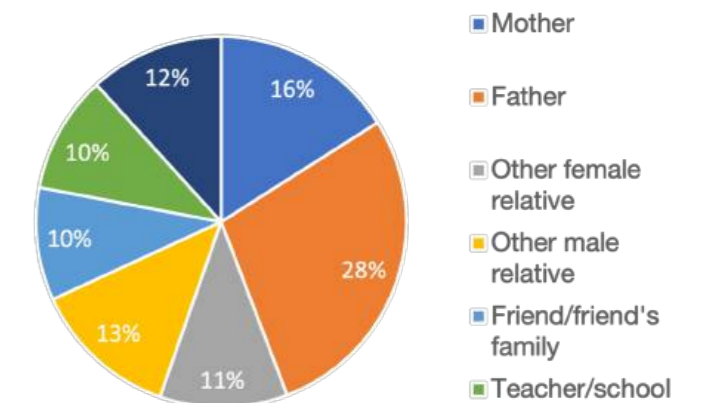
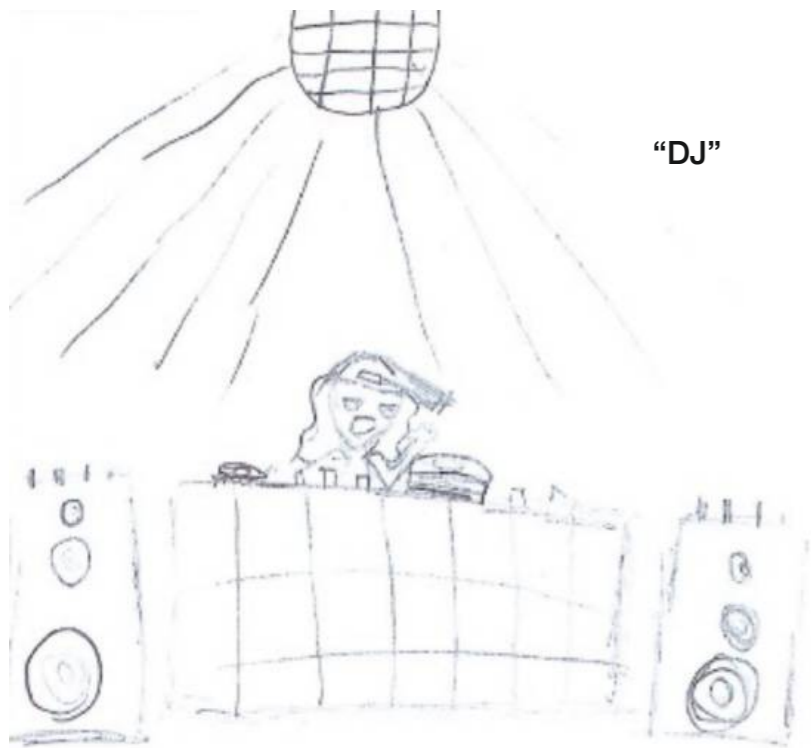


Figure 6. Sources named by the students who knew someone with the profession that was drawn (n=695)¹. The responses under the categories Other male/female relative (e.g. cousin, aunt/aunt, brother/sister), friend/friend's family and teacher/school were groupings of corresponding open-ended responses.

¹ Sometimes more than one source of information about the chosen career ambition was named; the sums in these two charts are therefore higher than the number of respondents in Table 5.



“DJ”

The students' career ambitions were notably different in almost all of the most popular categories compared with others living in Sweden and Skåne.

Figure 3, page 11



“Ice cream truck driver”

När jag blir stor vill jag bli: inom sjukvårde helst körtide

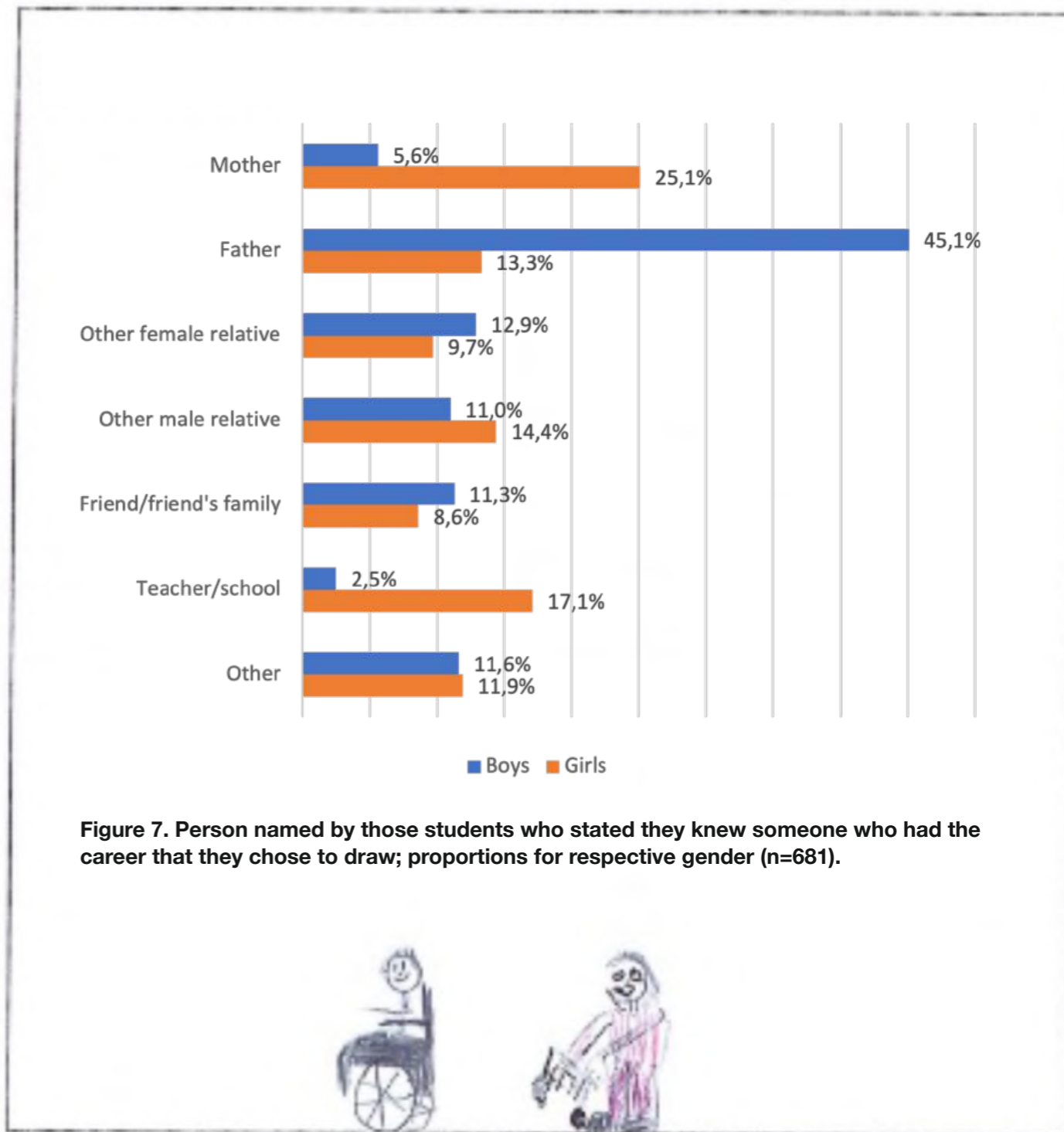


Figure 7. Person named by those students who stated they knew someone who had the career that they chose to draw; proportions for respective gender (n=681).



Känner du någon som har detta jobb (till exempel en släkting eller granne)? JA NEJ

Om ja, vem är det? min mamma jag ser upp till

Views on future opportunities

When asked whether students believed they could choose any job they wanted when they grew up, most agreed (Figure 8). There were no differences >5% in the proportion of boys and girls who believed in this possibility. Similarly, differences were small between those who spoke a language other than Swedish at home and those who spoke Swedish at home, and between multilingual homes and monolingual homes, at less than 8% and 6% respectively.

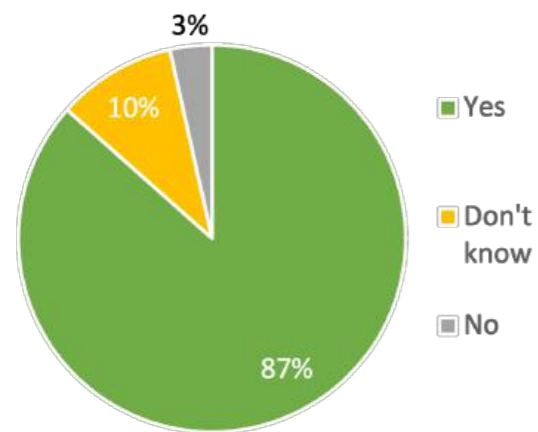


Figure 8. Students' (n=1798) answers when asked to reflect on the statement *I can do whatever job I want when I grow up.*

A large majority of students also believed that there would be many jobs to choose from when they become adults (Figure 9). There was no noticeable difference in the proportion between boys and girls, those with a language other than Swedish at home and Swedish at home, or multilingual homes and monolingual homes.

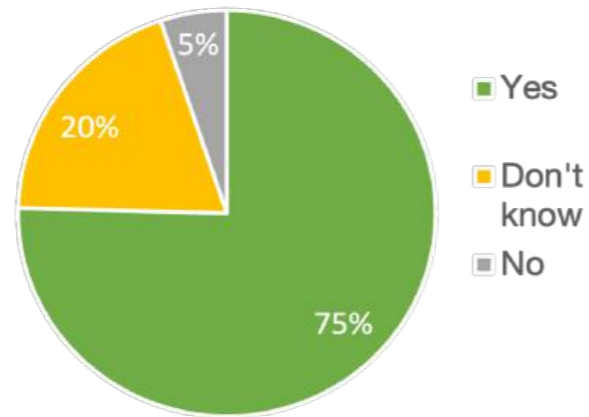


Figure 9. Students' (n=1789) answers when asked to reflect on the statement *There will be many jobs for me when I grow up.*

View on the importance of schooling

The students were also asked if they thought that school was important for getting a job, to which a large majority answered that they did (Figure 11). There were also asked if they thought that English, mathematics and science would be helpful when they grew up, to which a large majority also answered that they did (Figure 12).

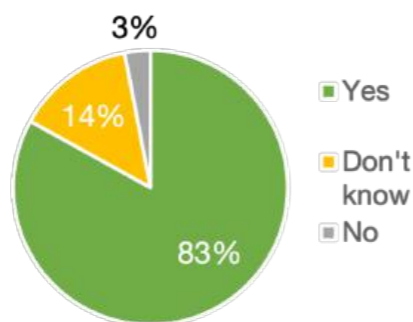


Figure 11. Students' (n=1785) answers when asked to reflect upon the statement *Learning things in school is important to get a job.*

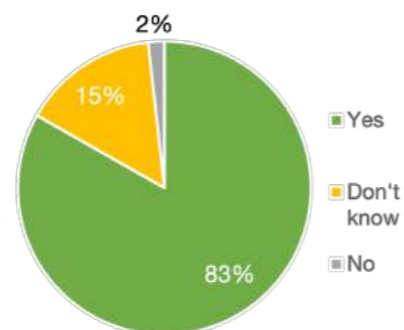
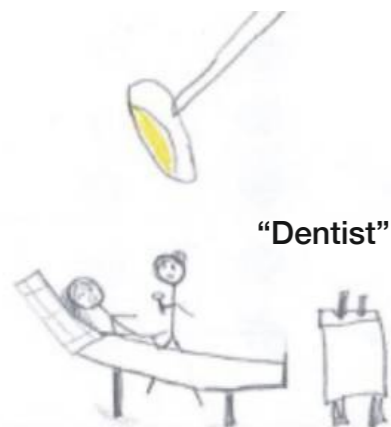


Figure 12. Students' (n=1799) answers when asked to reflect upon the statement *English, maths, and sciences can help me when I grow up.*



Opportunities for boys and girls

The vast majority of students believed that boys/men and girls/women could have the same profession (Figure 10). Among boys, more did not believe that boys and girls could have the same job, or were unsure about it (Figure 9). The same tendencies were even greater among those who indicated that they spoke another language at home than those who spoke only Swedish; 5.5% said no and 15.3% were unsure among those with another language at home compared to 2.8% and 8.1% for Swedish speakers. There were no noticeable differences between multilingual and monolingual homes.

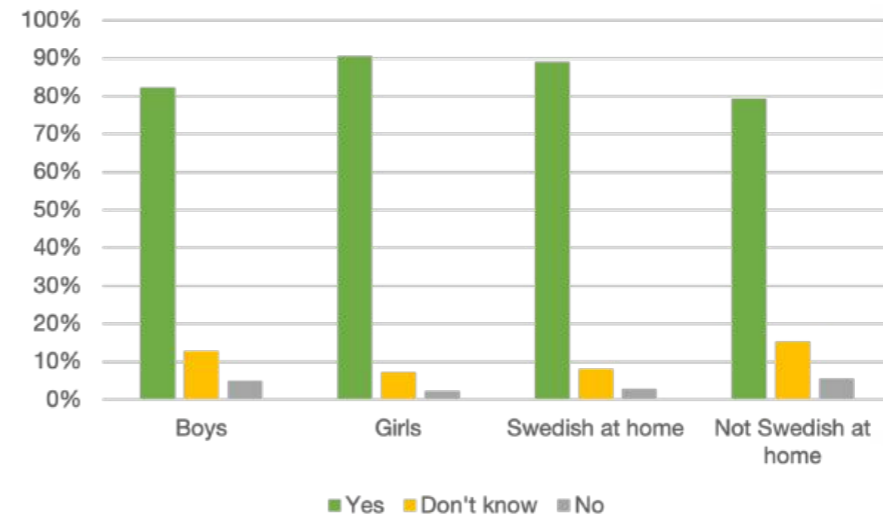


Figure 10. Students' (n=1789) answers when asked to reflect upon the statement *Boys and girls can have the same jobs.*



Views on higher education

Students were asked if they would like to attend college or university after completing high school. A minority said they would; almost as many said they were unsure. (Figure 13).

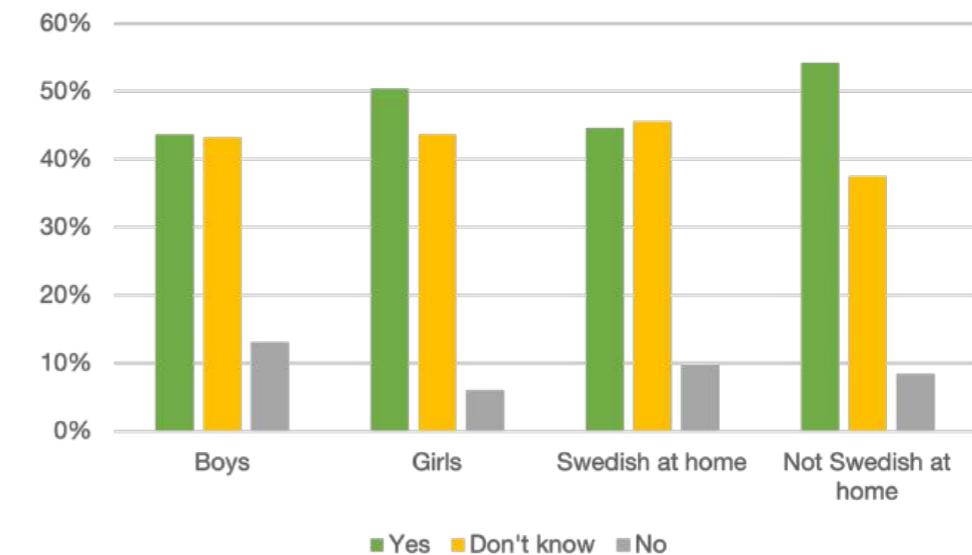
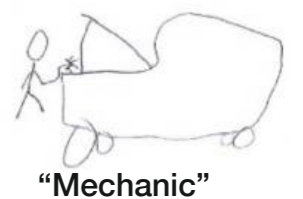


Figure 13. Students' (n=1658) interest in attending college or university after high school, presented by gender and language spoken at home.



Online survey of employees

A majority of respondents indicated that they had thought quite a bit or a lot about their role in students' reflections on career ambitions (Figure 14), and that they also felt that they could influence this role (Figure 15).

In the open-ended response field for these questions, answers regarding their role in students' reflections on career ambitions were developed, with some main themes arising.

–My role is to lay the foundation for the students so that they can reach where they want to be.

- By practicing independence, they also practice making their own decisions. By practicing making their own decisions, we teach the students how to influence their lives and future.

Inform and provide insight

Some teachers mentioned specific activities and lessons about professional roles to help inform the students:

-At our school we work according to our SYV plan (where we) invite parents who get to talk about their jobs and interview different professional groups at the school.

economic, cultural or ethnic background determines what one works with. It is important to help students see their strengths and abilities.

- I want students to feel that they gain greater knowledge and power about their study and career choices... and that their choices are equivalent to other young people in Sweden.

Inspiration and curiosity

For some, encouraging dreams and new thoughts was an important part of the role:

-(I want) to show and inspire what jobs there are... and

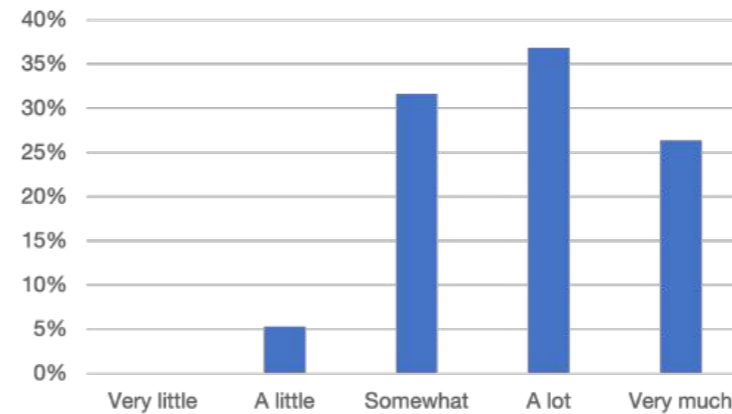


Figure 14. Teachers and study- and career guidance counsellors' (n=19) answers to *How much do you consider your role in students' future dreams and self-realization regarding jobs and career?*

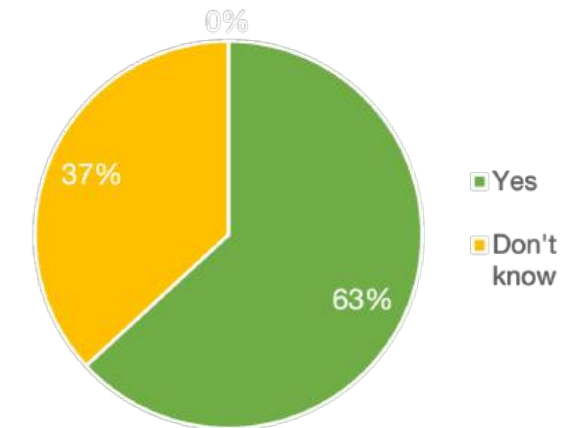


Figure 15. Teachers and study- and career guidance counsellors' (n=19) answers to *Do you feel you can influence your role in this regard?*



–My task is to awaken the students' awareness and curiosity about the future, and to try and increase their confidence when making choices.

Teacher, employed for 10-15 years

Basic knowledge and abilities.

Some teachers responded that through normal teaching according to the curriculum, the greatest effort was made to get students thinking about careers. A few examples:

- We talk about why you should be able to write and read... Sometimes I mention it while we are doing (that, for example) now it is good to know if you are going to work as...

–Work theme "Occupations" in social studies class

–Youth work internships are important

Power och equality.

Providing equal opportunities for self-realization was mentioned in some responses as a priority in their roles.

-For me, it is important ... that neither gender, socio-

teach them to be themselves and dare to try new things.

-My task is to make students aware of and curious about the future, and to try to build the students' self-esteem in the different choices they make.

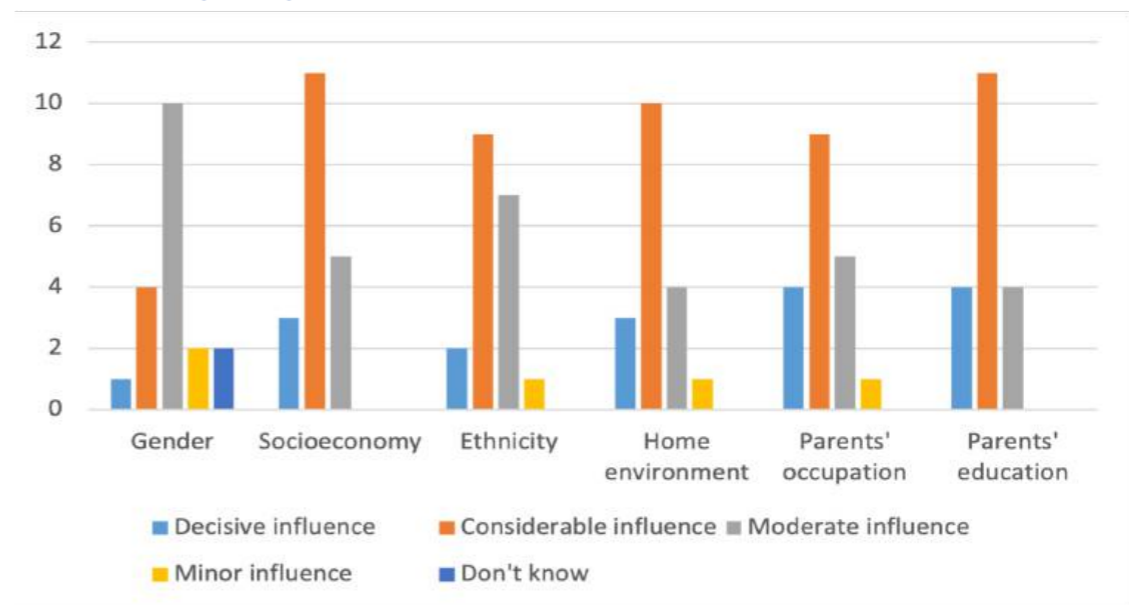


Figure 16. Teachers and study- and career guidance counsellors' (n=19) answers to *State how much you think the following aspects influence students' future dreams and self-realization regarding jobs and careers.*

Views on influences

All respondents considered school to be important, very important or crucial in helping students achieve their career aspirations. At the same time, around half said they had worked specifically with students' concerns about career aspirations. Teachers and guidance counsellors were also asked to indicate how they viewed a number of potential influencing factors on students' career aspirations and the possibility of achieving them (Figure 16).

NEED FOR SUPPORT

Some teachers and guidance counselors explained what kind of support they would like to have in working with students' career aspirations:

-I also need support/inspiration to keep myself up to date

-I need tips and ideas on an ongoing basis because sometimes it is difficult to capture the interest of some students

-I need to collaborate with other teachers to be able to use their lesson (to) work on the task

-Support from guardians is needed



"Carpenter"



"Firefighter"

Discussion

Drawing the Future Skåne is the first study of its kind in Sweden. The study included 44 schools with over 1,800 children aged 6-13. To get a comprehensive picture, a survey was also conducted among teachers and study and career counselors. Skåne also conducted a preliminary study between December 2022 and January 2023 with 19 schools and 374 students.

The significance of the study extends across several areas, including digital transformation, AI, STEM education and adaptation to globalization and climate change. Study and career guidance, choice skills, and collaboration between school and working life are affected by the study results.

The study results provide deeper insights into the children's thoughts and visions of the future regarding their dream job, influencing factors, perceived opportunities, views on the importance of school for their future and their desire to continue their studies after compulsory school. It is gratifying to see the children's positive belief that there will be many future jobs and opportunities, regardless of gender or language spoken at home.

What influences what students want to do when they grow up?

Many students in Skåne have clear future perspectives when it comes to their dream jobs, but there are clear gender differences in their choices with stereotypical patterns. The ten most popular professions differ significantly between the sexes. Students' motivations for their career choices vary and include fun tasks, the desire to help others, the pursuit of financial success and caring for people.

Students' future plans are strongly influenced by people in their environment, especially their parents.

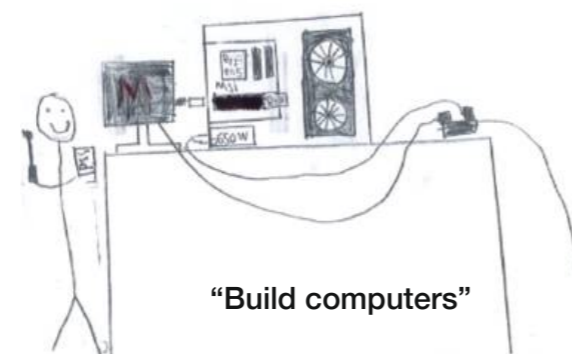
Previous research shows that parents act as role models for their children [3,4] and that their norms and values influence children's future dreams based on gender-specific expectations [4].

Media, especially TV, has a great influence on children's future career dreams when they lack personal contacts in the professions they are

interested in. Almost half of the students in the study identified media and online sources as their main source of information for career choices. The significant influence that media has on students' dreams about future careers, especially among boys, raises questions about the influences that children are actually exposed to.

Children's increased exposure to media and the internet has become a prominent public health challenge, affecting their cognition, language and socio-emotional skills [4-8]. The ongoing government mandate to compile knowledge on the links between health effects and digital media use [9] may also be relevant to how future working life is influenced by these channels.

School is rarely seen as a source of inspiration for students' future career choices. The influence of school was more evident among girls but was generally weak.



Differences with clear gender stereotypes

The study shows marked gender differences with clear gender stereotypes, which not only affect gender equality but can also have socio-economic consequences by creating imbalances in the labor market in the long term. In general, girls tend to want to work with people or animals, while boys prefer professions that have to do with "things". (Professional sports are popular among both sexes, however.) It is surprising to see clear gender stereotypes among students at such a young age in Sweden, despite decades of strategic investments in gender equality work within schools and society at large. This work is still not reflected in the children's future dreams. It is important to investigate and address the societal consequences this may have.

Although the gender distribution among students is almost even, the father and other male relatives are mentioned more often than the mother and other female relatives as sources of information, both among students who speak Swedish at home and those who speak other languages.

This pattern is found in both girls and boys, although girls more often mention the mother as a source of information than boys do. If not via their parents, girls usually receive information about their desired professions from acquaintances or relatives, or via school, while boys more often receive this information from the media or online sources. Although women in Sweden participate in the labor market almost as much as men, this does not seem to have the same influence on children's future dreams.

Over 90% of girls responded that they have the opportunity to do the same work as boys. Interestingly, a smaller proportion of boys and students whose main language is not Swedish show hesitation about this.

A higher proportion of boys express that physical education, mathematics and science are their favourite subjects, while a larger proportion of girls prefer crafts, art and English (see Figure 2).

Many girls show a strong desire to continue to post-secondary education, while boys are more hesitant about this. This pattern is also reflected in attitudes towards the importance of learning in school, where a large proportion of girls consider it important while a larger proportion of boys do not share the same opinion.

Previous studies have also shown how parents unconsciously contribute to gender socialisation through, for example, the extracurricular activities that are encouraged for girls and boys [3]. Previous studies have shown that gender stereotypes around intellectual brilliance or "smartness" begin at a young age [11]. Girls tended to associate their gender with achieving high grades through hard work and did not seem to connect this to their own intellectual abilities.

Thoughts on the importance of school for post-secondary studies

Eight out of ten students show a high awareness of the importance of school for future job opportunities, regardless of gender or language conditions at home (see figures 10-11). Despite this, they show hesitation towards further education, which confirms previous research in the field [12]. A large proportion of girls show a strong desire to continue their studies at post-secondary level, while boys are more hesitant about it. This pattern is also reflected in attitudes towards the importance of learning in school, where a large proportion of girls believe that it is important while a larger proportion of boys do not share the same opinion. CSN's report highlights the mechanisms that influence young people's choice of higher education and emphasizes that these mechanisms are important to consider when designing school-related initiatives for younger students [10].

School staff as community builders

The study shows that participating teachers and study and career counselors gained an increased understanding of the dynamic relationship between students' dreams, thoughts and skills, and their own role in supporting and guiding them through teaching and activities. This is a promising result that shows a willingness to do more to support students in their choice of future careers.

School is emphasized as crucial in supporting students' future career choices, but only four out of ten respondents say they actively explore and support students' reflections on this. Gender, socio-economic background, ethnicity, upbringing environment and parents' profession and level of education are considered to influence how students shape their future career choices (see Figures 13-14).

Research highlights the importance of paying attention to mechanisms and factors that can contribute to the gap between children's early dreams and the final outcome in their professional lives. It is emphasized that an individual's success and future depend not only on their own ambitions, experiences and abilities, but also on societal factors and available opportunities [13-15].

The gap between children's future choices and the expected needs of the labor market

The study's results point to a gap between students' dreams and the expected needs of the labor market. Skåne's labor market forecast for 2035 [1] shows primarily a lack of labor supply in healthcare, social care, and technical education. The forecast also indicates a balance of needs for preschool teachers, doctors, and people and education in data. A similar forecast was also presented nationally [20]. Children's future career aspirations in Skåne do not correspond to these future skills or labor market needs.

Children's future career choices are limited to a minority of SSKY categories (125 out of 429 possible), where only six categories received more than 4% of the drawn occupations. Children's job expectations remain relatively unchanged despite the disruptive changes in the labor market, such as digitalization, AI, globalization, and climate change [15-17; 21].

According to the PISA survey [18], many teenagers around the world expect to work in a limited set of occupations, resulting in a mismatch between supply and demand in the labour market [16-17].

There is also a significant proportion of occupations that children dream of doing in the future that are at risk of being automated by AI and robotics, widening the gap between supply and demand [22]. Educational efforts that raise awareness of these changes should therefore start from an early age.

In order to increase the motivation and interest of all students in subjects that are relevant to the needs of society, initiatives that start from an early age are necessary. Schools should be a central place for such an initiative, and collaboration between different actors is needed to create effective programmes.

STEM initiatives should take into account students' dreams of future career choices

The future will require a more diversified labor market with demands for STEM subjects [16-17]. Investments in STEM have increased in both high-income countries and fast-growing economies such as China and India [18].

The future career choices of students in Skåne do not sufficiently meet the growing needs in areas such as STEM, digital transformation and climate adaptation. Only one of the ten most popular professions, doctor, has a direct connection to STEM. For boys, however, three more of the ten most desired professions have an indirect connection to STEM: gamer, car mechanic and game developer.

The results also have significance for Sweden's economic growth, innovation and global competitiveness in terms of strengthening STEM skills. This requires targeted efforts and measures from an early age [19].

Drawing the Future - a potential preventive measure for children's future

Investigating children's future aspirations from an early age provides important information about their school performance and behavioral patterns. Previous studies show that primary school students with high future aspirations are less likely to develop behavioral problems [23]. In addition, identifying future aspirations at an early age leads to a positive self-image and success in school [24].

Future dreams of children in Skåne in an international perspective

The global Drawing the Future study [21] included 20,000 students aged 7-11 from 19 countries. The results showed that despite variations between countries, children's career choices tend to follow traditional gender patterns. For example, boys often choose careers such as police or military, while girls prefer careers such as teaching or nursing. Similar patterns are also seen when it comes to interest in STEM careers.

Skåne's results show a clear gender divide in career choices, which is surprising given Sweden's ranking among the top ten countries for gender equality according to the World Economic Forum [25]. This study emphasizes the importance of combating gender stereotypes and promoting a more diverse view of future career choices from a young age.

Globally, trends in STEM aspirations follow traditional gender roles. Mathematics and science are popular subjects for both girls and boys, except in Australia and China. In England, sports is the most popular career among students, followed by doctors and YouTubers, which is similar to the trend in Skåne. However, students in England show greater interest in STEM careers than students in Skåne, but gender differences are clear, especially regarding interest in STEM and the profession of doctor [21].

Parents and other family members were the primary influence when students stated that they personally knew someone in that profession, with the exception of situations in Uganda and Zambia, where teachers were often the main influencer. An interesting observation is that Skåne is the first study to show that media, including social media, the internet, TV and film, have a greater impact on students' future career choices than if the family had no influence [21].

The results confirm international findings on gender stereotypes influencing children's career aspirations. Differences in popular professions between England, Scotland and Skåne reflect gender stereotypes, despite Sweden's high gender equality ranking [25]. It is therefore important that schools implement initiatives to broaden students' perspectives on available careers and give them the opportunity to meet people who work in the professions they do not (yet) dream of.



“Woman scientist”

Afterword

Drawing the Future Skåne shows the way forward for Sweden by systematically exploring children's dreams and future career choices at a young age, which can sow seeds for the future and provide support to navigate them in the right direction. The implementation of the study indicates a strong commitment from the working world and schools in Skåne to supporting children's career dreams from an early age. The hope is that this study will serve as an inspiration for other regions to follow Skåne's initiative.

This study provides a unique insight into an age group that is rarely studied and points to areas where our understanding is limited. It is high time to expand the study to more regions to complement the PISA survey and get a more comprehensive picture of students' future perspectives.

Early interventions that broaden students' views of future careers are crucial to reducing the gap between the needs of the labor market (demand) and available skills (supply). Nuanced measures are needed to counter gender stereotypes, especially in STEM professions. Priorities are needed to combat outdated gender roles in children's dreams and visions of the future.

Schools have a central role in reducing the gap between the demands of the labor market and students' future perspectives. The schools of the future need teachers who not only highlight the possibilities in students' own future, but also encourage learning beyond traditional knowledge transfer. Initiatives such as Drawing the Future inspire schools, teachers and study and career counselors to actively guide students through imaginative and problem-based learning environments to develop their problem-solving skills and critical thinking.

School-based interventions that introduce students to different career opportunities and allow them to interact with professionals in these fields are effective in broadening their perspectives. To achieve this, broad cooperation is required between parents, schools, working life, municipalities, regions, authorities, politicians, academia and the voluntary sector.

Childrens' future career ambitions are of central importance for the economy, work force, public health and global competitiveness.

Prof. Sarah Wamala Andersson



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“Pizza baker”

Appendix 1.

Template for students' drawing activity, front and back (untranslated)



När jag blir stor vill jag bli:

Rita en bild av vad du vill jobba med när du blir stor. Om du ritat mer än en sak, ringa in din favoritbild. Du kan också beskriva i ord.

Känner du någon som har detta jobb (till exempel en släkting eller granne)? JA NEJ

Om ja, vem är det?

Om nej, hur hörde du talas om jobbet?



Varför vill du jobba med detta när du blir stor?.....

.....

Tror du att du kommer att gå på en högskola? JA NEJ VET INTE

Vad tycker du om följande påståenden?

Håller med Vet inte Håller inte med

Jag kan välja vilket jobb jag vill när jag blir stor



Flickor och pojkar kan utföra samma jobb



Engelska, matematik och naturvetenskap är bra att lära sig för framtiden



Att studera är viktigt för mitt framtida jobb



Det finns många jobb att välja på mig när jag blir stor



Ditt namn:

.....

Jag identifierar mig som pojke flicka annat alternativ

Hur gammal är du? 6 7 8 9 10 11

Vilket är ditt favoritämne i skolan?

.....

Vilket språk talar du hemma?

.....

Fylls i av din lärare:

Namn:

Skola:

Kommunal Privat

Kommun:

Ev. skolområde

Appendix 2.

Survey questions to educational employees (English translation)

Background information

4. Choose your area of responsibility or role that best describes your current job.

-
- Teacher
- Teacher's assistant
- School administrator
- Special education teacher
- Study and career counsellor

5. Indicate the number of years you have been in the area of responsibility/role you chose in the question above.

Enter the answer in numbers without text, e.g. 1, 0.5, 12

6. Indicate the organization under which your current school is run.

- Municipal school
- Independent school

Your thoughts about the future of students

7. How do you see your role in students' reflections on their future dreams and self-realization regarding jobs and careers?

Answer this question in your own words.

8. How much do you think about your role in students' reflections on their future dreams and self-realization regarding jobs and careers?

- Very much
- Quite a lot
- Sometimes
- Little
- Very little

9. Do you feel that you can influence the role you described in the question above?

- Yes
- No
- Don't know

10. How important is school, in your opinion, when it comes to preparing students for future dreams and self-realization regarding jobs and careers?

Choose one of the following.

- Not at all important
- Somewhat important
- Important Very
- Important
- Crucial
- Don't know

11. Give one or more examples of how you think the school prepares students for future dreams and self-fulfillment regarding jobs and careers.

It is okay to leave the field blank if you cannot provide an example.

12. Have you previously worked specifically to encourage students to think about jobs and careers?

- Yes
- No
- Don't know

13. Describe or give examples of methods or strategies you have previously used to encourage students to think about jobs and careers.

It is okay to leave the field blank if you cannot describe or give examples.

14. Indicate how much you think one or more of the following influences students to think about future dreams and self-fulfillment regarding jobs and careers.

Select one option for each row.

Rows:

- Student gender
- Student socio-economic background
- Student ethnic background
- Student upbringing environment
- Parents' occupation
- Parents' educational level

Columns:

- Does not affect at all
- Affects somewhat
- Affects a lot
- Has a decisive influence
- Don't know

Interest and support

15. Do you need support in your role to encourage students' reflections on jobs and careers?

- Yes
- No
- Don't know

16. Give examples of what type of support you need to encourage students' reflections on jobs and careers.

It is okay to leave the field blank if you cannot give examples.

17. Here you can leave comments or your own reflections on the project's focus area, or related issues, if you wish.