

Drawing the future

Exploring the career aspirations
of children in Northern Ireland

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A '*Drawing the Future*' study of children's career aspirations and how they compare with labour market demands and the future of the economy

Education and Employers Charity

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Foreword

High quality careers education and guidance is crucial in ensuring learners are aware of their future options and available pathways. The increased choice of career, education and training pathways available to young people, and projections that citizens will change job several times in their career, means that it is more important than ever for young people to be given the opportunities to develop key employability skills and receive high quality careers education and guidance.

Research has highlighted the need to ensure that careers-related learning starts much earlier, is informed by the future needs of the economy, and encourages children to broaden their career ideas and raise aspirations. Engaging children with the world of work has an impact on their academic achievement and makes an important connection between what they learn in the classroom and the world of work. It can be very influential in helping young people understand career options, broadening their horizons and inspiring them to think of opportunities they may never have imagined.

This is the first time that a study examining the career aspirations of primary school children has been undertaken for Northern Ireland. It considers how aspirations are shaped by gender, location and socio-economic background and also compares the survey findings with current and projected labour market demands. This report has investigated who and what is influencing children's choice and provided an opportunity to learn from what is being done successfully in other countries to broaden children's horizons and raise their aspirations.

I welcome the report and I would like to express my thanks to everyone who contributed and authored the *Drawing the Future* report, especially the young people, without who, this research would not have been possible.



Paul Givan MLA
Minister of Education

Introduction

We are delighted to have undertaken this important study of children's career aspirations in Northern Ireland which has been made possible thanks to the 'A Fair Start' programme, the support of the Department of Education, the Education Authority, and of course the teachers and children who took part.

The study shows how much children value education, their belief in gender equality, their creativity, imagination, and hopes for the future.

However, it also reveals the lack of awareness many have about the opportunities open to them. Their knowledge is unsurprisingly heavily based on what they see around them – their family, people working in the local area, or on TV, the internet or increasingly on social media. There is very little alignment with current and the predicted jobs needed to ensure a vibrant and prosperous economy and society.

One might say does this matter, they are only primary-aged children.

Of course, at that age the focus must be on learning and helping them to develop skills and attributes that will enable them to make the most of their talents and achieve their potential.

I believe there are three findings in the study which show why it does matter:

- a) children growing up in wealthy middleclass areas typically aspire to more professional roles than those growing up in more disadvantaged areas – as the saying goes “*you can't be what you can't see*”;
- b) the career aspirations of 7-years-olds are remarkably similar to 11-years-olds. Other research we have done and published by the World Economic Forum shows that the career aspirations of 7-year-olds are often similar to 17-year-olds so we need to broaden horizons from an early age;
- c) people from the world of work help show children the relevance of the subjects they are studying, excite them about their learning, improve their motivation which in turn leads to improvements in attainment. But less than 1% of children have had that chance.

Changing 1% to 100%

However, there is something we can do to change the 1% to 100% so that all children have this opportunity: to encourage people from the world of work to give an hour a year to chat informally to them, either in person or virtually. People from a wide range of sectors and backgrounds, those at the start of their career or coming up to retirement, and from all levels – apprentices to CEOs. People who can answer children’s questions about their job – e.g. What was your first job? What subjects did you like at school? Did you do an apprenticeship or go to university? What’s the best and worst bits of your job? It helps challenge the ingrained stereotypes children and young people often have about the jobs people do based on their gender, ethnicity, and socio-economic background and opens their eyes to roles they may never have imagined before.

And there is a simple, quick, easy and effective way of doing this – utilising the approach, technology and resources developed over 14 years by *Inspiring the Future*. It is an approach that has been singled out by the OECD and been successfully adopted in other countries. The on-line match-making service connects employers and schools using state-of-the-art-technology, to connect at scale. In England some 12,500 primary and secondary schools and colleges have registered, together with over 90,000 volunteers from a very wide range of employers. It has already enabled over 4,750,000 encounters between the world of work and young people. This scale is possible because of a) the simplicity of the programme b) the cleverness of the technology c) using networks – of government, employers, professional bodies, and trade associations to recruit volunteers and headteacher and teacher associations to recruit teachers.

Pilots across Northern Ireland

This year, with support of the Department of Education we have organised a series of virtual multi-school classroom chats involving 30 primary schools. The aim has been to ensure that children are given the chance to interact with a diverse range of people from the world of work so that they get to fully understand why learning at school is important and be inspired.

These have demonstrated the high demand from schools and the impact on children - 84% of children from less advantaged backgrounds said that *“I now understand how learning Maths / English / Science can be useful in many jobs”*; 75% of children reported improved motivation; and 25% of children said they had changed their mind about what they want to do when older.

We are keen to build on the report findings on the learnings of the pilots. We have made *Inspiring the Future* and its version for primary schools, *Primary Futures* which we run in partnership with the NAHT, available to all schools in Northern Ireland. It means that today any of Northern Ireland's 794 primary and 192 secondary schools can access the on-line platform, and any employer /employee can sign up. Schools can very quickly, easily, and for free, search the database and invite people either in person or virtually. What is needed now is a campaign to recruit volunteers from across Northern Ireland and to support teachers and schools as we have with the pilots.

Revolutionising how children see the opportunities open to them

I believe a combination of in-person and interactive virtual classroom chats has the potential to revolutionise how children and young people across Northern Ireland see the opportunities open to them – giving them the chance to meet a diverse range of people doing different jobs, regardless of their background or family connections.

At the same time, it enables employers – government, private, and third sector to show young people the jobs and opportunities in their sectors – many of which young people will have very little awareness of.

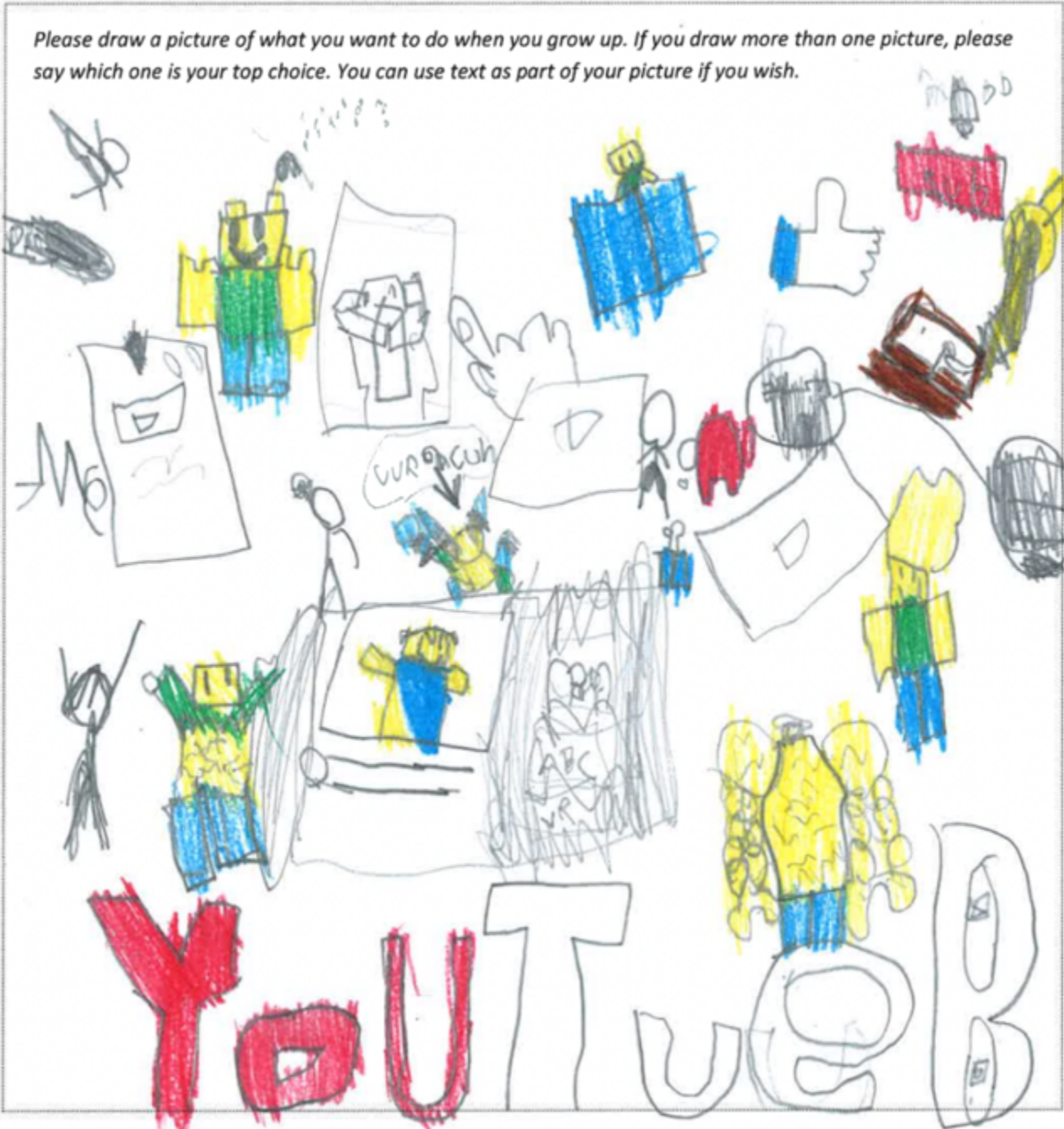
It means that where young people live will no longer limit who they meet. It will make a massive difference to improving social mobility, raising and broadening aspirations especially in the most disadvantaged areas of the country, tackling the barriers to opportunity and bringing about real progress and demonstrable change.



Chief Executive
Education and Employers Charity

When I grow up, I would like to be: a YouTuber

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.



Do you know anyone personally who does this job e.g. aunt or neighbour? YES NO

If YES, who are they?

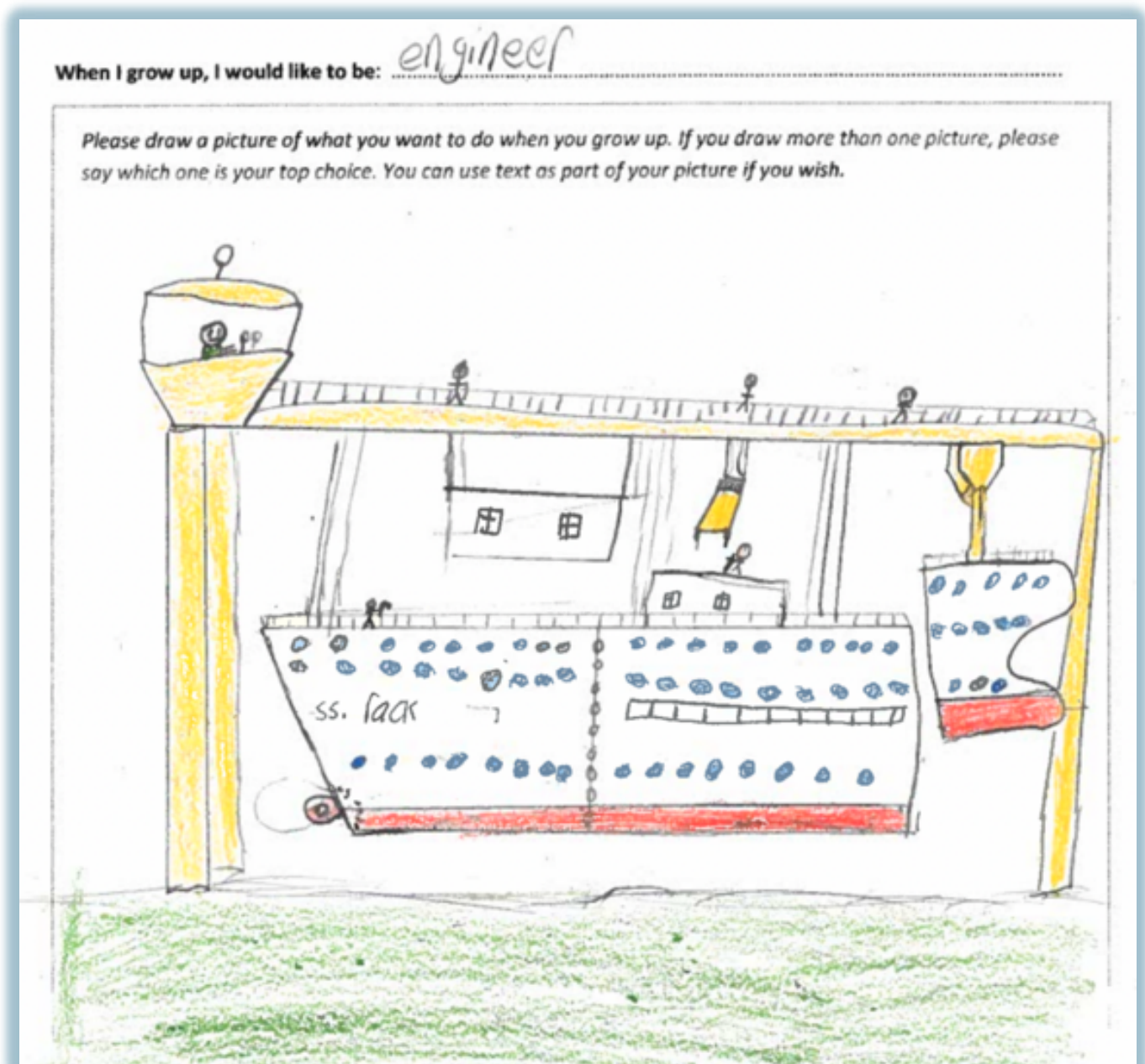
If NO, how did you hear about the job? YouTuber

Acknowledgements

Our thanks go to all the teachers and children from across Northern Ireland for taking part in this study. A list of all the schools can be found in Appendix 2.

We would also like to thank the Department of Education and its 'A Fair Start' programme for funding the study and to the Education Authority teams, without which this report would not be possible.

Special thanks also go to Damian Eannetta for supporting the project and for providing data to enrich the analysis.



Contents

Key findings

Executive summary	14
Introduction	17
Methodology	20
What do children think about jobs and the future?	24
How do children describe the jobs they want to do?	25
Second and third job preferences	30
Where do children learn about their preferred jobs?	32
How do children's interests line up to economic demand?	37
How to categorise job names	37
Most popular over-subscribed job roles by gender	37
Alignment by occupational group	38
Alignment by industry classification	45
Factors for better interest-demand alignment	48
Relationship with age	49
How children hear about the job	50
Attitudes towards school and the future	50
Influence by rural or urban areas	52
Relationship with economic deprivation	52
Moving forward	55
Appendix 1: Children's activity sheet	61
Appendix 2: Participating schools	63
Appendix 3: Example job choices	65
Appendix 4: Example reasons children gave for choosing a career	66
Appendix 5: Job categorisation and future research ideas	70

When I grow up, I would like to be: firewoman

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.



Do you know anyone personally who does this job e.g. aunt or neighbour? YES NO

If YES, who are they?

If NO, how did you hear about the job? A fireman came into our class and he really inspired me.

Key findings

- There is a significant misalignment between the jobs children aspire to and economic forecasts. For example, 35% of children aspire to careers in culture, media or sport but only 1% of projected jobs are in those areas
- Children’s aspirations cover only 31% of current employment in Northern Ireland
- Very few children aspire to jobs in key growth areas such as technology / robotics/ AI / Cyber and net zero
- Parents, TV, internet and social media are the biggest influence on children’s aspirations
- Fewer than 1% of children mentioned hearing about a job through visitors to the school coming to introduce their work
- Socio-economic disadvantage makes a big difference to children’s aspirations. For example, girls in high-rate FSM schools see much more interest in creative/performing arts than girls in low-rate FSM schools (21% vs 12%)
- Local environment also makes a difference for some interests. For instance, in rural areas 13% of boys want to be farmers compared to 0% in urban areas
- There are marked gender differences in the jobs children aspire to. The top choices for boys are Footballer, Farmer, Engineer and Builder whilst for girls they are Teacher, Vet, Hairdresser and Artist
- Expectations for going to university are higher for girls (50%) than boys (36%) while the expectation of doing an apprenticeship are lower than university for both boys and girls (25% for both groups)
- Levels of misalignment improve little among children aged 11 compared to aged 7, even if interest in specific jobs does. For instance, 40% of boys aged 7 want to be professional sports players or work in the uniformed services (police, firefighters etc), compared to 36% by age of 11. Meanwhile, 28% of girls aged 7 want to work with animals or in creative or performing roles – unchanged at 28% at age of 11
- Schools can play an important role in compensating for the lack of understanding children often have of the opportunities open to them which can set self-imposed limits on their ambitions for the future
- Programmes such as *Inspiring the Future* (and the version for primary schools – *Primary Futures*) that use technology to connect schools and employers at a national scale provide easy to organise, cost effective virtual and in-person opportunities for children to meet inspirational people doing a wide range of occupations and sectors. It helps to broaden horizons, raise aspirations and increase children’s motivation to learn

Executive summary

1,476 children from 32 schools across Northern Ireland participated in the ‘*Drawing the Future*’ Study. They were asked about the job they aspired to, why that was of interest, who or what inspired them, and a series of questions about the subjects they were studying and their attitudes to learning.

Teachers, parents, employers and policymakers should feel pleased to see how strongly children in Northern Ireland believe in gender equality, the importance of education, and the diversity of jobs available for them in the future, with between 70% and 90% agreeing to these key attitudinal questions.

This study of children’s aspirations are pivotal in understanding the potential future landscape of Northern Ireland’s workforce - today’s children are of course key to the country’s future economic success. The study finds a significant disconnect between children’s interests and projected future jobs available, with little sign of this disconnect materially reducing among older children. For instance, 40% of boys aged 7 want to be professional sports players or work in the uniformed services, barely changed by age 11 at 36%. Meanwhile, 28% of girls aged 7 want to work with animals or in creative or performing roles – unchanged at 28% at age 11. These are important jobs, and some children will hopefully go on to have fulfilling careers in these sectors. However, actual projected employment in these areas is a small fraction of the overall Northern Ireland economy and cannot meet the aspirations of around a third of all children.

Analysing the disconnect across all high-level occupational categories suggests worsening alignment with age. Among children wishing to work in over-subscribed occupations, (the majority of all children), the average number of implied applicants per vacancy increases from around 23:1 aged 7/8 to around 29:1 aged 10/11. Breaking the data down into specific occupational areas paints the underlying reality: there were 45 interested children per job opportunity in culture, media, and sports occupations, 6 per job in the protective services, and 3 per job in leisure/travel occupations.

Examining specific industries reveals the inevitable inverse of this picture. 69% of current employment by industry is missing in terms of children’s interests. In this context, it is unsurprising that many employers complain about hiring difficulties and the battle to overcome negative stereotypes about their work. When considering the ambitions for the economy, what is very concerning is the low representation of technology-focused careers e.g., jobs in robotics, cyber security, AI, zero carbon technology; and careers in tourism, hospitality, or government.

While young children should be encouraged to explore their passions and dream jobs, the limited reduction in interest-demand disconnect from age 7 to age 11 suggests a need to do more to broaden children’s horizons starting at a young age. The study shows that who children know has an impact on their career aspirations. The overall alignment between interests and future job requirements is better among children who know

people in person who do the jobs they are interested in, among children who heard about their desired job through school, and among those who believe school is important for their future.

The influence of local community comes through strongly when examining rurality and local economic deprivation. Specific high interest jobs by gender are strongly patterned by rurality towards farming jobs for boys (13% of aspirations among boys in rural schools versus 0% in urban schools) and a moderate influence towards working with animals for girls (20% rather than 14%). By contrast, the desire to become a sports player is similarly popular across both rural and urban areas for girls and boys.

Concentration into gender-stereotyped jobs is also patterned by disadvantage. For boys, schools with a high rate of free school meals (FSM) eligibility see greater concentration into uniformed roles than the low FSM schools (12% rather than 5%). Among girls, high FSM schools see much more interest in creative/performing arts (21% vs 12%), balanced out by reduced interest in working with animals (12% vs 22%). Since high FSM schools were strongly concentrated into urban regions in this sample, this relationship may also reflect rural interests and exposures. Meanwhile, expectations for going to university are higher for girls (50%) than boys (36%) while plans for apprenticeships are lower (25%) for both boys and girls.

There are considerable opportunities for policy and practice development and much that primary and post-primary schools, employers (inc. small and micro businesses), entrepreneurs, and policymakers can do to help children explore the full, truly diverse range of opportunities in Northern Ireland's modern economy. With economic sectors and available volunteers unevenly distributed by geography, organising virtual events in schools, alongside in-person activities, will be essential for ensuring narrow local horizons do not restrict children's awareness, aspirations, and potential.

Our shared values and end-goal is to find solutions to tackle disadvantage, promote economic, social and environmental wellbeing. All children from an early age across Northern Ireland, particularly those most disadvantaged, must have greater access to inspirational role models and a more accurate picture of the world of work and growth jobs they are growing up alongside and will soon be shaping.

Programmes such as *Primary Futures* that use technology to connect schools and employers at a national scale make it easy to organise both virtual and in-person opportunities for children to meet inspirational adult volunteers from a wide range of occupations and sectors from across Northern Ireland. Such an approach has the potential to revolutionise who children get to see and interact with – so their horizons are not just limited to those of their families, neighbours, or social media influencers. No longer will it be a case of '*who you know*' which has for far too long favoured the elites. All children could have the same opportunity to be inspired and be shown what is possible, regardless of their background.

drawing the future

When I grow up, I would like to be: lead pilot

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.



Do you know anyone personally who does this job e.g. aunt or neighbour? YES NO

If YES, who are they?

If NO, how did you hear about the job? being on a aeroplane

Introduction



This study examines the career aspirations of children aged 7-11 years old in Northern Ireland. It considers how their aspirations are shaped by gender, location, and socio-economic deprivation. It compares children's aspirations with current and projected market demands and the future needs of the economy. It investigates who and what is influencing their choices.

Acknowledging the importance of investing in current and future economy, shaping the nature of employment in Northern Ireland, is recognised in the Northern Ireland Executive's New Decade, New Approach document (January 2020)¹, and within the Department for the Economy's 10X Economy - an economic vision for a decade of innovation and its Economic Recovery Action Plan (May 2021)². Within these reports there are calls for "a generation change" within a new decade that requires innovation on a new scale - unlocking the unique opportunity to drive growth and inclusion. A report of the Independent Review of Education (December 2023)³ sets out key recommendations designed to transform teaching and learning in the coming years.

Alongside these developments, it is imperative to recognise the pivotal role of promoting lifelong learning, in particular nurturing children's aspirations, hopes and dreams across Northern Ireland from an early age. Furthermore, recognising the dynamic changing nature of education and work in today's society, it is crucial to find effective ways of supporting teachers and parents and involving employers in the curriculum from across Northern Ireland.

Involving a wide range of employers of different size and sectors will not only help to ensure today's children are well-prepared for the challenges ahead but strengthen the collaborative efforts between educators, parents, and policymakers in building a more resilient and adaptable generation. Such an approach also contributes to reducing social inequalities and bridging the gap between the affluent and the disadvantaged. A strategic investment in the aspirations of children lays the foundation for a more equitable and prosperous future, aligning with broader social, economic and environmental wellbeing development initiatives.

¹ New Decade, New Approach (2020). Northern Ireland Executive, Stormont, Belfast.

² DfE (2021). 10x Economy - an economic vision for a decade of innovation. Department for the Economy.

³ Independent Review of Education in Northern Ireland.

<https://www.independentreviewofeducation.org.uk/key-documents/investing-better-future>

Holding biased assumptions and having narrow aspirations can, and does, go on to influence the academic effort children exert in certain lessons (Flouri and Pangouria, 2012⁴; Bandura et al., 2001⁵; Gutman and Akerman, 2008⁶), the subjects they choose to study (Kelly, 1989⁷; Archer and Dewitt, 2017⁸), and the jobs they end up pursuing (Akerlof and Kranton, 2000⁹; Breen and Garcia-Penalosa, 2002¹⁰). Research has shown that early interventions can bring a lasting impact on children’s development and perceptions of different occupations and of the subjects thus enabling access to them (Howard et al. 2015)¹¹.

Findings from an international literature review (Kashefpakdel et al, 2019¹²) indicate childhood experiences are foundational in the construction of identity. Observations of attitudes towards work within families, cultural stereotypes, and influence of the media may influence children’s meaning of work and in turn their occupational identities. The term ‘career-related learning’ comprises early childhood activities in primary schools designed to give children from an early age a wide range of experiences of and exposure to education, transitions and the world of work. This is part of a lifelong learning and career development process and combines two desired outcomes:

- *Developing knowledge and excitement about work.* Learn and explore a number of careers, learning pathways and sectors.
- *Developing skills for work and life.* Specifically developing non-academic skills such as enterprise skills and social-emotional skills and behaviours that will benefit their own wellbeing and the wellbeing of others.

⁴ Flouri, E. & Panourgia, C. (2012) Do Primary School Children’s Career Aspirations Matter? The relationship between family poverty, career aspirations and emotional and behavioural problems, Working Paper, London: Centre for Longitudinal Studies

⁵ Bandura, A., Barbaranelli, C., Caprara, G.V., and Pastorelli, C. (2001) “Self-efficacy beliefs as shapers of children’s aspirations and career trajectories”, *Child Development*, 72: 187-206.

⁶ Gutman, L. M., & Akerman, R. (2008) *Determinants of Aspirations*, London: Institute of Education Centre for Research on the Wider Benefits of Learning. Halstead, M. J., & Taylor, M. (2000) *The Development of Values, Attitudes, and Personal Qualities*, Slough: National Foundation for Educational Research.

⁷ Kelly, A. (1989) “When I grow up I want to be a...’: A longitudinal study of the development of career preferences”, *British Journal of Guidance and Counselling*, 17: 179-200.

⁸ Archer, L., & Dewitt, J. (2017) “Participation in Informal Science Learning Experiences: The rich get richer?” *International Journal of Science Education, Part B: Communication and Public Engagement* 7 (4): 356-373.

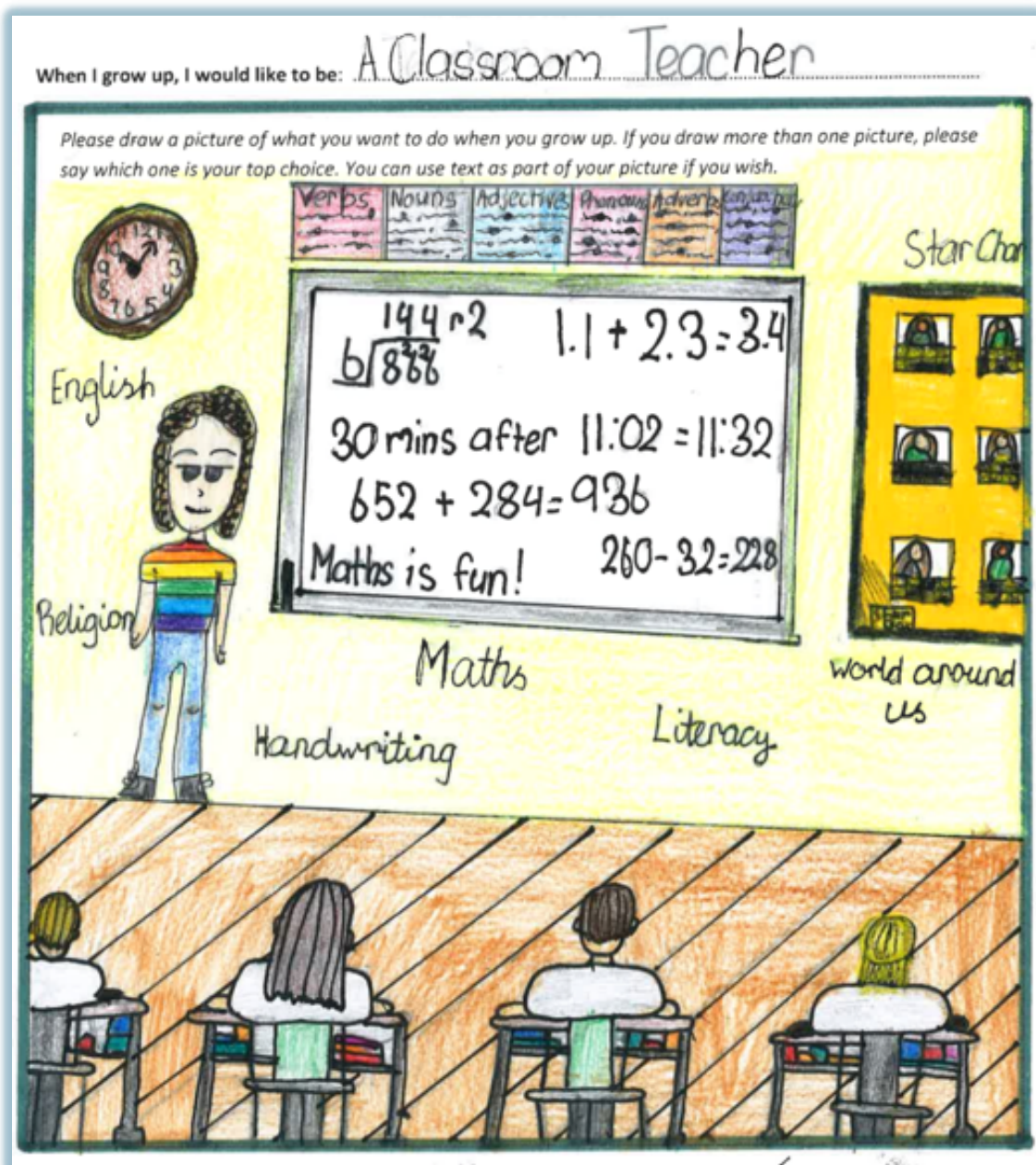
⁹ Akerlof, G. A. and Kranton, R. E. (2000) “Economics and identity”. *Quarterly Journal of Economics* 115 (3): 715-753.

¹⁰ Breen, R., & Garcia-Penalosa, C. (2002) “Bayesian Learning and Gender Segregation”, *Journal of Labor Economics*, 20 (4): 899-922.

¹¹ Howard, K. A., Kimberly, A. S., Flanagan, S., Castine, E., Walsh, M. E. (2015) “Perceived Influences on the Career Choices of Children and Youth: An exploratory study”, *International Journal for Educational and Vocational Guidance*, Vol.15/2, pp.99-111.

¹² Kashefpakdel, E., Rehill, J., & Hughes, D. (2019). Career-related learning in primary schools: The role of teachers in preparing children for the future. *Education and Employers with TeachFirst*.

In the primary phase there is a need to be cautious about the use of ‘career’ or ‘careers’. This is a period largely of exploration and children’s aspirations should, rightly, be tentative and imaginative. Yet there are a range of attributes, skills, and behaviours that can be instilled in this stage of child’s life that will leave them in the best possible position as they begin their transitions to post-primary education and to future life. The focus should be on broadening horizons and giving children a wide range of experience of the world – which includes the world of work – and diverse, exciting ideas about the many constructive roles they can play in our society, based on experience and insights about what those roles actually involve.



Methodology



In 2023, the Education Authority encouraged primary schools in Northern Ireland to carry out an activity with their children, based on the international study Drawing the Future which involved 20 countries. It follows the approach of New Zealand who did a dedicated county study supported by the Education and Employers Charity, who are currently working with a number of other governments on similar studies (2017 – present).

The activity asked children to “draw a picture of what you want to do when you grow up”- text could also be included. Multiple pictures could be drawn or ideas included but children were asked to specify their first preference. On the opposite side of the A4 piece of paper distributed in classrooms, there were a series of questions about where they heard about the job(s), their thoughts about the future, and some background detail.

The activity is designed as a fun way to get children thinking about their future and to enabling teacher-supported discussions about the breadth of possibilities open to all the children in their class and opportunities for exploring options and changing minds later. The activity sheet is provided in Appendix 1.

From a research perspective, the study helps to uncover children’s career aspirations, to gain a better understanding of the breadth of their career horizons, to explore what factors may be influencing their choices, and to examine how these preferences line up to projected economic demand in Northern Ireland. The exercise also explores whether children can see the relevance of what they are learning in the classroom to their futures.

We received 1,476 responses from 32 schools in Northern Ireland, ranging from 14 to 181 responses per school (see Appendix 2 for participating schools).

Table 1 shows the breakdown by age and gender. The vast majority of respondents were aged between 7 and 11, with a fairly even gender mix. The surveys were generally well completed, with missing or illegible responses typically below 1% per question.

English was one of the confirmed languages spoken at home for 95.9% of the sample (see Table 2 for the full responses, classifying the non-English language where English and an additional language were specified).

When I grow up, I would like to be: An Archaeologist

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.

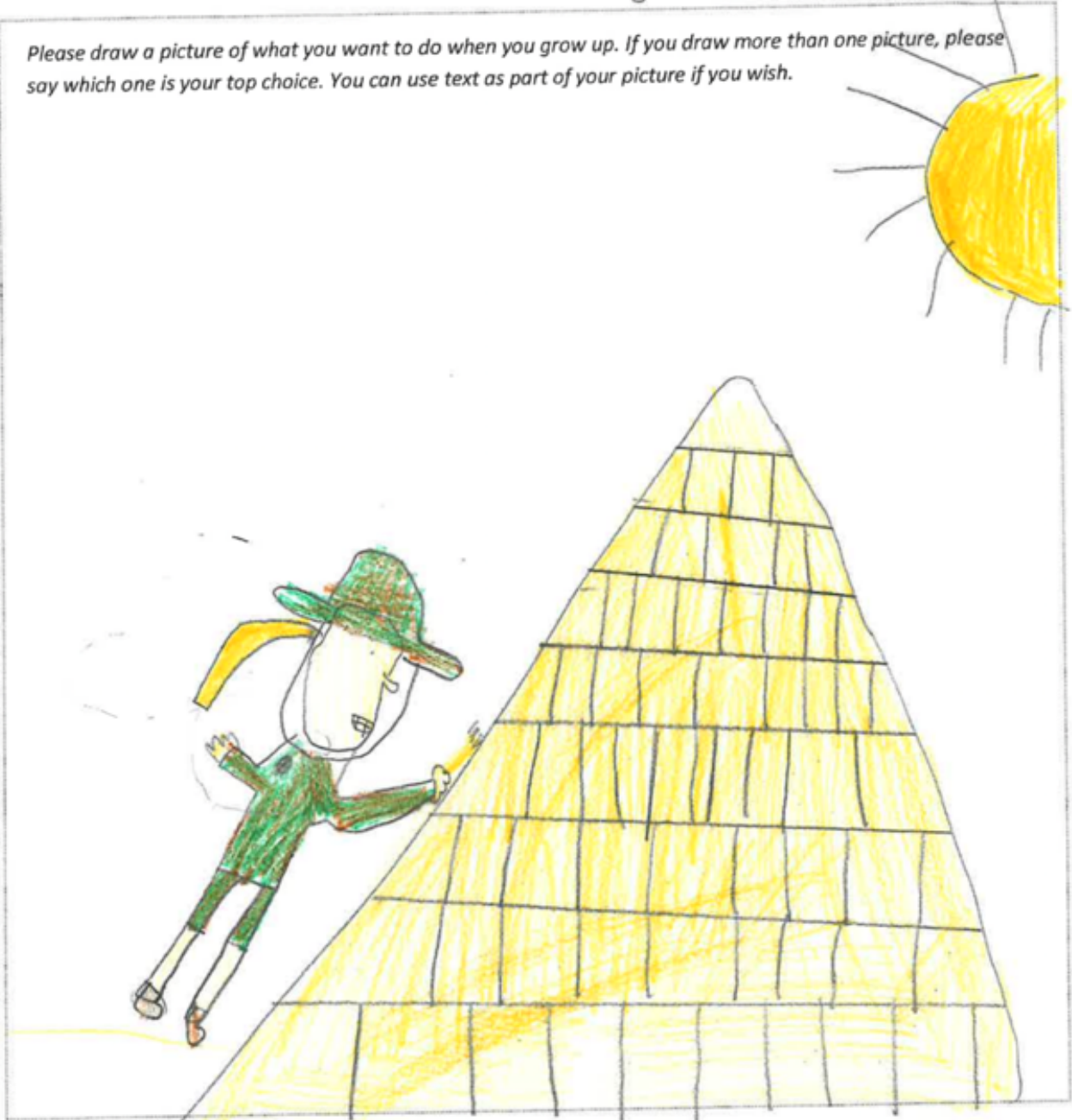


Table 1: Sample by age and gender

Age	Boy	Girl	No answer	Prefer not to say	Total
5	6	6			12
6	25	17		1	43
7	122	108	1	2	233
8	98	112	1	8	219
9	157	147	2	3	309
10	152	180	1	1	334
11	154	140	1	1	296
12		1			1
No answer	7	12	7	3	29
Total	721	723	13	19	1476

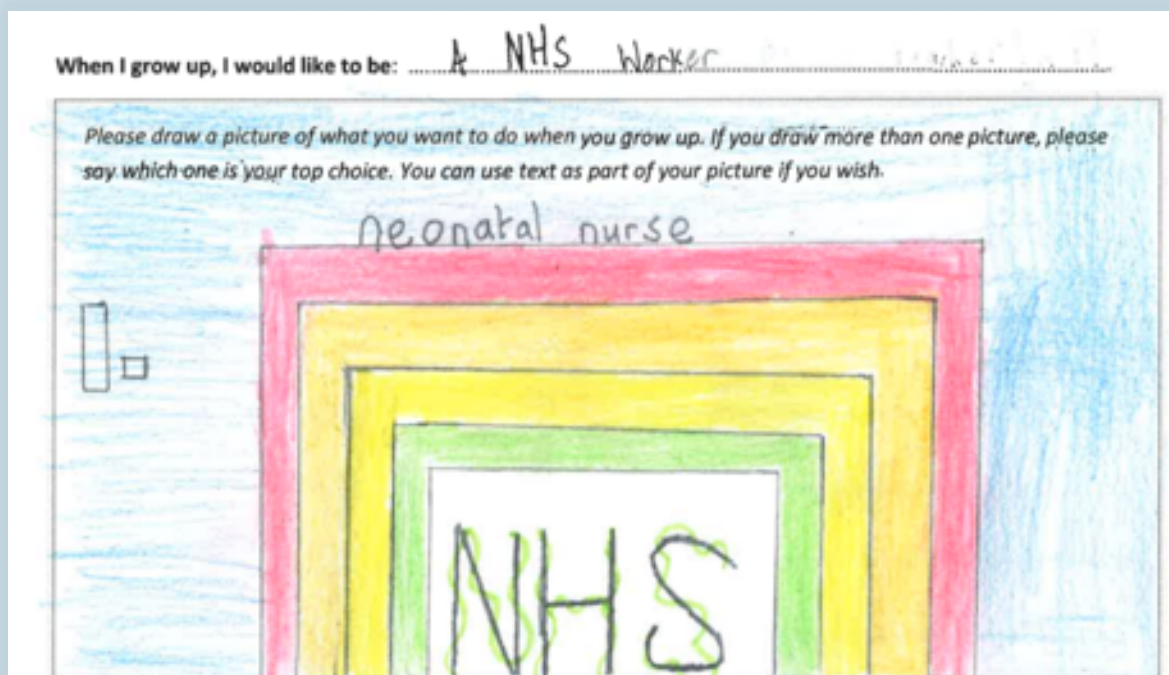
Table 2: Languages spoken at home

Language	Number of respondents
English (only)	1394
Polish	16
Irish	6
Chinese	4
Spanish	4
Malayalam	4
Arabic	3
Romanian	3
Shona	2
Hindi	2
Somali	2
French	2
Portuguese	2
Russian	2
Italian	2
Korean	1
Indonesian	1
Czech	1
Kurdish	1
Albanian	1
Bulgarian	1
German	1
Norwegian	1
Hungarian	1
Pashto	1
Edo language	1
Filipino	1
Yoruba	1
BSL/Sign Language	1
Total	1462 (14 did not answer)

Physical Education (PE), Maths, Art, and English were the most commonly reported favourite subjects (see Table 3).

Table 3: Favourite subjects

Language	Number of respondents
PE	420
Maths	351
Art	246
English	117
Literacy	79
Numeracy	49
ICT	45
Science	27
History	22
World around us	20
Other	19
Geography	9
Music	8
RE	7
All subjects	6
Topic	3
PDMU	3
Languages	2
Drama	1
Total	1434 (42 did not answer)



What do children think about jobs and the future?

The results for various attitudinal questions about jobs, school, and the future are shown in Table 4.

Table 4: Attitudinal questions by gender

	Share who agree		Share who are unsure / do not answer*	
	Boys	Girls	Boys	Girls
I can do any job I want when I grow up	59%	65%	29%	26%
Girls and boys can do the same jobs	80%	90%	12%	8%
The subjects I study at school can help me when I grow up	73%	81%	18%	16%
Learning at school is important for my future job	72%	81%	19%	15%
There are lots of different jobs for me when I grow up.	78%	82%	16%	15%
Do you think you will go to university?	36%	50%	44%	40%
Do you think you will do an apprenticeship?	25%	25%	47%	52%

* The remainder disagree or report no to the question, to total 100% in each category.

The clear majority of the sample hold positive views about the value of school, gender equality, and the opportunities available in the future, with even higher positivity among the female respondents. 81% of girls felt that school and subjects were important for their future, compared to nearer 72% of boys. 80% of boys and 90% of girls say that both girls and boys can do the same jobs. However, the similar accessibility of jobs across genders does not necessarily translate into gender-balanced interests, as shown later in this report, suggesting that preferences and familiarity are stronger drivers of aspirations.

The potential to do “any job” when they grow up at all is also widely held within this age range, despite the strength of this claim in the face of various requirements for different jobs. 65% of girls felt all jobs were open to them, with a further 26% unsure (i.e. 9% disagree), compared to 59% and 29% of boys (13% disagreeing). Agreement declines with age, from 73% at age 7 to 56% at age 11.

In this age range and sample, girls were more likely to expect to go to university than boys (50% vs 36%) and equally likely to think they would follow an apprenticeship route (25%).

How do children describe the jobs they want to do?

When given a free hand, and the choice of drawing or writing, how do children describe the kinds of jobs they want to do when they are older? At first glance, there is a considerable diversity of jobs drawn or listed by the respondents: several hundred unique job roles, albeit with a creative range of spellings (see Appendix 3 for an illustrative list of the jobs chosen). Only a handful of children explicitly reject the request to describe a favoured job, e.g. the child whose teacher wrote the following note in the survey “doesn’t want a job”.

Taking the jobs as they are written, the most common jobs are those with high visibility, whether via popular media or in children's environments, that are also phrased in the most general manner (Table 5). Footballers, farmers, engineers, and builders for boys; teachers, vets, hairdressers, and artists for girls. The gender patterning is familiar, as with other studies, but not determinative, with parallels and near parallels in the top ten for both girls and boys.

Table 5: Top 10 jobs listed by gender

Northern Ireland	
Boys	Girls
Footballer	Teacher
Farmer	Vet
Engineer	Hairdresser
Builder	Artist
Police	Footballer
Mechanic	Doctor
Rugby Player	Nurse
Youtuber	Singer
Chef	Fashion Designer
Teacher	Baker

England & Scotland	
Boys	Girls
Sport	Teacher
Social media/ gaming	Vet
Police	Sport
Army/Navy/Airforce	Doctor
Scientist	Artist
Engineer	Singer
Doctor	Hairdresser
Teacher	Scientist
Vet	Dancer
Mechanic	Nurse



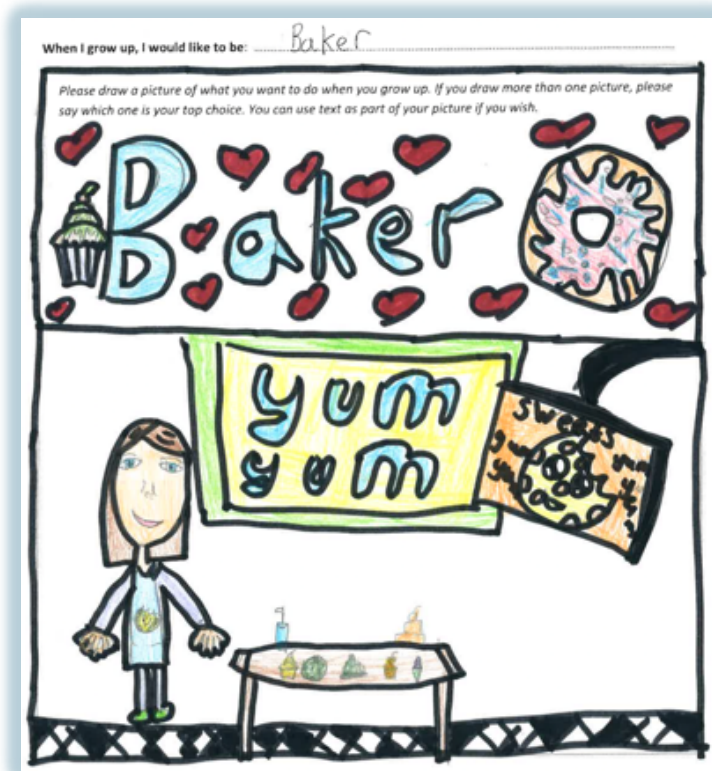
* NI data are based on jobs as written in the original forms; the England & Scotland data are based on categorisation for job similarity from the original study in 2018, such as combining social media and gaming. The approach for job similarity coding in the NI data and subsequent results are reported in sections 3-5.

Why do you want to do this job? *I feel like I would really enjoy helping kids learn about new things.*

The top choices by gender are similar overall to the original 2018 Drawing the Future study. Teachers, vets, doctors, hairdressers, artists, singers, nurses, and sports players were in the top ten for girls in England & Scotland as well, as were sports players, social media/gamers, engineers, teachers, policemen, and mechanics for boys.

One major difference is farmers and builders appearing high as male interests in Northern Ireland, but not in the top 10 for the England & Scotland, potentially reflecting the different prominence of these roles among the local communities participating in the studies.

Roles working with food are also more prominent in Northern Ireland, perhaps related to the higher prominence of food production roles in farming. For instance, bakers appear for girls and chefs for boys (albeit low down in the top 10), unlike in the England & Scotland results.




Scientists also appear higher in England & Scotland than in Northern Ireland for both genders. Engineering did not make the top ten for girls' chosen drawings and preferences in either sample.

Investigating the raw data in more detail, we see that some choices are near rephrasing of each other, such that we would want to combine them into categories for formal analysis. For instance, "K-Pop Star" and "K-Pop Idol" are near-identical. "Clothing designer" and "Fashion designer" are likely also near identical within this context. While fashion might include a wider range of objects than clothing, the intention for a child in primary school is likely to be similar.

Many other choices are in specific disciplines of the generic jobs that made it into the raw data top ten, such as Paediatric Nurse, Sheep Farmer, Dressmaker, Teacher (SEND), Rugby Teacher, and K-9 Police Officer. Others are very specific to particular interests such as CEO of Roblox or Marketing Exec for Rangers FC, or simply specific roles: welder, palaeontologist, herpetologist, priest, comedian, or church singer.

When I grow up, I would like to be: builder

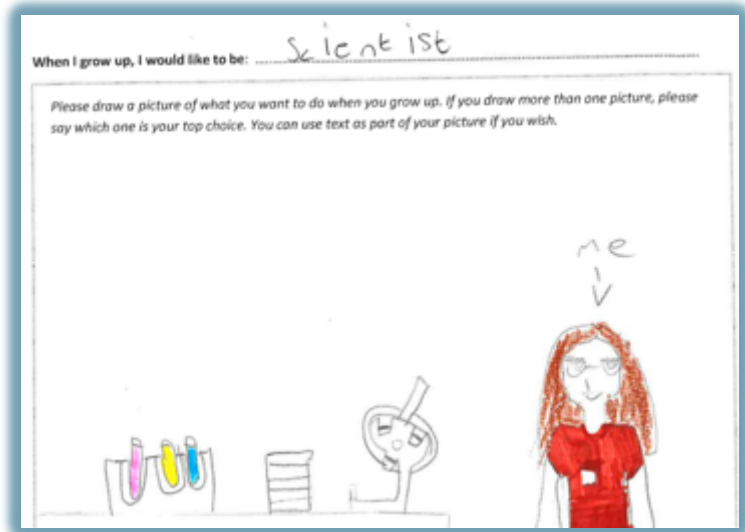
Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.



Do you know anyone personally who does this job e.g. aunt or neighbour? YES NO

If YES, who are they? My grandad

Overall, many preferences are specific in nature, rather than corresponding to large groups of the economy, but it does not follow that a person would only feel most fulfilled if they ended up in exactly that specific role. Some who want to be a Paediatric Nurse may feel their childhood ambition equally fulfilled if they became a Midwife, whereas others might feel the difference keenly. If the stronger driver of interest is working with children, they might prefer to be a teacher than any role in medicine other than Paediatric Nurse.



What is striking is an low representation of technology-focused careers e.g., jobs in robotics, cyber security, artificial intelligence, zero carbon technology, as well as jobs in tourism, hospitality, and the civil service. Surprisingly, out of the 1,476 children's responses, none expressed a desire to become a politician whereas in earlier 'Drawing the Future' studies in England and Scotland, there were children who aspired to pursue the latter career pathway, including several ambitions to be prime minister or similar roles.

The New Decade, New Approach Deal (2020) sets out commitments to promote Northern Ireland as a global cyber security hub, recognising and building on NI's "blend of world-class talent, leading forensic science expertise and tech research excellence", to achieve 5,000 cyber security job roles by 2030 (p.47)¹³. Yet, the findings from this study show that no children mentioned cyber security in their drawings. However, the significant interest in both traditional IT roles and police/security roles shows the potential to introduce children to new and emerging jobs, that may be less well-known today but can be exciting, modern ways of building on their underlying interests.

¹³https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/856998/2020-01-08_a_new_decade_a_new_approach.pdf

It is striking to compare the jobs children in Northern Ireland are choosing to those in lower average income countries, a number of which took part in the original Drawing the Future study. For instance, in a recent small-scale study in Uganda, there is almost no representation of professional sports players, YouTubers, social media, or celebrity jobs (see Table 6).¹⁴

Table 6: Top career aspirations by gender in Uganda (example primary school)

Career aspiration	Boys	Career aspiration	Girls
Medical doctor	11	Medical doctor	5
Pilot	9	Nurse	5
Soldier	2	Fashion designer	4
Farmer	2	Engineer	2
Police officer	2	Teacher	1
Engineer	1	Police officer	1
Bishop	1	Chef	1
Mechanic	1	Government minister	1
Lawyer	1	Accountant	1
Scientist	1	Lawyer	1
Banker	1	Banker	1



¹⁴ Primary Three learners (8-9 years old) in Maria Assumpta Nursery and Primary School (Uganda). A 2023 study by Dr Peter Ssenkusu, available at: <https://www.educationandemployers.org/wp-content/uploads/2023/01/Exploring-the-aspirations-of-primary-aged-children-in-Uganda.pdf>

Second and third job preferences

Among the 18% (n=269) who expressed second or third job interests, we can sometimes gain insight into how broad their interests might be, despite how precise the first preference appears, or otherwise estimate the underlying interest (see Table 7).

Table 7: Review of example first and second job interests

First choice	Second choice	Potential stronger underlying interest suggested by the second choice
Sheep Farmer	Vet	Animals (rather than purely e.g. farming)
Vet	Doctor	Health (rather than purely e.g. animals)
Footballer	Coach	Practising sport (rather than purely e.g. being involved in sports commentary)
Horse-riding Instructor	Greyhound Racer	Animals (rather than purely e.g. teaching)
Palaeontologist	Archaeologist	The past (rather than purely e.g. animals)
Music Teacher	Tutor	Teaching (rather than purely e.g. music)
SEND	Babysitter	Working with children/supporting vulnerable children (rather than purely e.g. teaching)

Insights can also be gained sometimes from the reasons children gave for choosing the job (see Appendix 4 for some example responses to this question). Needless-to-say, these interpretations are only one of several possible suggestions – discussions with the children would be needed to explore their thinking properly. Other second or third preference job ideas sometimes collectively span a broader range of roles, which nonetheless point to one or several strong potential common aspects. In such cases, we might similarly demarcate a fairly broad range of jobs, within which we might reasonably interpolate other jobs they might also enjoy (Table 8).

Table 8: Possible common priority features across multiple choices

First choice	Second choice	Third choice	Possible priority feature in a future career
Writer	Playwriter	TV show host	Creative work / creating public-facing material?
Character Designer	Actor	Artist	Being creative / part of creative industries?
Youtuber	Gamer		Working flexibly and independently on your own computer?
Coder	Doctor	Engineer	Technical STEM roles?
Farmer	Lorry Driver		Working with machinery in hands-on roles?
Scientist	Archaeologist	Farmer	Interest in land and natural processes?

In other cases, the job ideas seem very different (Table 9). Perhaps there are specific aspects of each that appeal, rather than some all-encompassing singular interest which underpins all of them. Or perhaps some of these children are unsure which of several well-known popular choices they should choose. In any case, it is harder (although not impossible) to speculate on the underlying interests that the respondent may have in mind.

Table 9: Example alternative job ideas without strong common factors

First choice	Second choice	Third choice
Farmer	Actor	
Baker	Teacher	
Lorry driver	Care Assistant	Baker
Coffee shop owner	Cartoonist	Fashion designer
Youtuber	Dogwalker	
Lawyer	Cheerleader	
Reflexology	Acting	
Lifeguard	Editor	Pilot
Teacher	Gardener	Gymnast
Police officer	Wrestler	Archaeologist
Astronaut	Gymnast	Bike shop
Priest	Youtuber	Chef
Teacher	Farmer	
Teacher	Zookeeper	
Vet	Singer	
Footballer	Farmer	

Finally, there seem to some second choices which we might speculate are more explicitly “back-up” options, i.e. jobs the children think of as the “serious” or “safe” option relative to a “fun” or “ambitious” first choice.

Such back-up jobs might be ones that children may feel are more accessible, perhaps because they are more likely to know someone personally who does it or perhaps because they have already experienced the job for themselves in some form, such as helping out on a farm or walking the dog.

Possible cases of choosing second preferences as a back-up idea can be seen in the children whose first choice is footballer, with second choices such as ASDA worker, joinery, builder, barista, digger driver, taxi-driver, accountant, or chef. A similar rationale may be behind such first and second choice examples as pop star - café worker, artist – babysitter, youtuber – dogwalker, and rugby player – dog sitter.

Where do children learn about their preferred jobs?

Fewer than 1% of children in the Northern Ireland sample mentioned hearing about a job through visitors to the school coming to introduce their work – and similarly few mentioned learning about a job through their subjects – echoing findings from the original Drawing the Future study. Among the children who answered the question, 47% said they know someone personally who did the job, increasing to 54% for the younger children (Table 10). However, it is possible some children, perhaps particularly younger children, are interpreting this question as knowing of a particular person, potentially through media, rather than necessarily having a two-way, in-person relationship with them, or otherwise misinterpreting the question.

Indirect evidence of such misunderstanding can be seen where personal relationships were claimed by 35% of the 213 respondents who said they wanted to play sports for their job (primarily football) and only listed that one job preference. It is unlikely that so many young children know professional sports players personally, excluding those playing sports as a hobby or teaching sports as coaches/teachers. Examining the free text detail some children gave for these responses, the most common cited personal relationships were dads, family, and friends, with a few coaches and a few celebrity footballers as well, reinforcing this interpretation of the data.

Table 10: Do you know anyone personally who does this job?

Age	N	%
7	232	54%
8	212	47%
9	283	47%
10	292	46%
11	290	42%
All ages	1380	47%

* Excluding those who did not answer the question

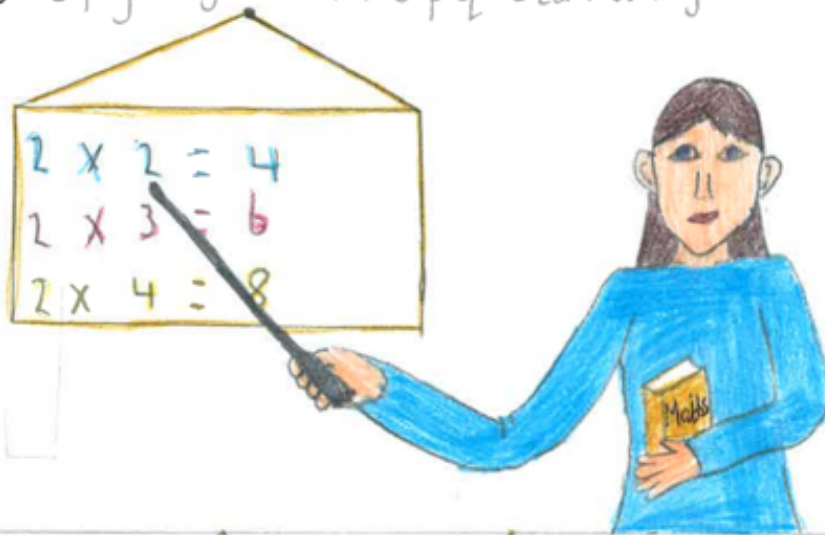
For children not knowing someone personally, the survey asks how they heard about the job, where 27% of the former also provided more detail on where they heard about the job. Combining these answers, we get an overall view of where children are hearing about jobs at different ages (Table 11).

The most common way to have heard about the job at all ages, but particularly younger ages, is reported as via family or a family connection (38%). The majority of these responses are immediate family (mums and dads), but cousins, uncles, godmothers, grandparents, friends' parents, and family friends are also mentioned.

When I grow up, I would like to be: Teacher or a Farmer

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.

A B C D e f g h . i j k l m n o p q r s t u v w x y z 1 2 3 4 5



Do you know anyone personally who does this job e.g. aunt or neighbour? YES NO

If YES, who are they? Mum & Dad

TV/online/books become more common as the source as children grow older, from 10% aged 7 to 15% aged 11, which includes seeing celebrity footballers on TV and seeing advertisements, as well as answers that simply specify “TV” or a particular media channel or book.

When I grow up, I would like to be: fashion designer

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.

Do you know anyone personally who does this job e.g. aunt or neighbour? YES NO

If YES, who are they? _____

If NO, how did you hear about the job? I saw it online

Personal hobbies and interests similarly become more common among older children, from 10% to 16%, including answers like seeing the job at stage school, enjoying reading books (e.g. authors; as opposed to learning about the job from the content of books), or simply saying they like doing it (e.g. footballers, artists, gamers, singers) or love the topic (e.g. zookeepers who say they love animals; astronomers who love looking at the sky).

8% say they have seen someone in person who does the job, with the most common examples vets (having taken animals to the vet), policeman/woman (having seen policemen/women on the streets), doctors (going to the hospital), hairdressers (having had a haircut), as well as examples like pilots (having been on a plane), drivers (having taken taxis), and a few personal (non-family) connections, such as friends who are artists or neighbours who are dog-groomers.

The least common response is via a teacher or someone else at school, at 5%, which also becomes less common as children get older. Unsurprisingly, many of these responses line up to children who want to be teachers when they grow up, but the category also includes examples like vets, astronauts, baking, or interior designing which they heard about or learnt about at school and journalists, firefighters, and police officers doing school visits. In general, desire to be a sports professional heard about through playing sports at school is coded as a hobby rather than via teachers, with a similar principle applied to music lessons and drama.

As the American activist for children's rights and founder of the Children's Defense Fund, Marian Wright Edelman said: *"You can't be what you can't see"*.



Table 11: Where children heard about their preferred job

How heard about job (categorised)	7	8	9	10	11	All ages
0 - Unanswered, Other, Don't know	13%	15%	14%	16%	14%	16%
1 - Family/Family connection	42%	37%	36%	39%	38%	38%
2 - Seen someone in person who does the job	11%	8%	9%	7%	5%	8%
3 - Internet research / online media	7%	6%	5%	7%	9%	7%
4 - TV/Books	10%	13%	15%	12%	15%	12%
5 - Hobby or Special interest or Amateur	10%	10%	17%	16%	16%	14%
6 - Teacher or other in education	7%	11%	4%	3%	3%	5%
Sample size	233	219	309	334	296	1476

When I grow up, I would like to be: Architect

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.

Do you know anyone personally who does this job e.g. aunt or neighbour? YES NO

If YES, who are they?

If NO, how did you hear about the job? Watch people do it on Tv

How do children’s interests line up to economic demand?

How to categorise job names

To analyse the data in a structured manner, we needed to aggregate the raw job names into categories. Focusing on the majority of respondents, the analysis will cover first job preferences only, rather than exploring possible inferences from other job ideas listed.

Three ways of categorising jobs were explored:

- the most popular over-subscribed job roles by gender,
- the major occupational group of the job, and
- the industry classification.

The former is coded manually as new categories for this report, whereas the latter two are designed to be related to national statistics that relate to economic demand.

Economic demand can be analysed in terms of “occupation” and “industry”, corresponding to how each job can be classified to have an occupation and an industry.

- Occupations capture what your day-to-day tasks consist of (e.g. via SOC2020 codes in this case).
- Industries capture what your employer produces, e.g. what they sell to their customers (SIC07 in this case).

Demand for occupations is typically more stable than the industry of what your employer produces, since the latter can vary with changing business cultures and structural trends. For technical details of how we construct these categories, please refer to Appendix 5.

Most popular over-subscribed job roles by gender

The purpose of this section is to examine the gender-stereotyped preferences for job categories that are very common and typically most out of line with demand.

None of this should be taken to encourage individual children not to pursue dream jobs in these areas – after all, some of them will likely end up doing it. Instead, the evidence highlights pedagogical opportunities to help children reflect on their true underlying interests, the potential adjacent roles, and the importance of backup planning, particularly once they start moving through secondary education.

When analysed in aggregate, as with this study, such gender-stereotyped over-subscribed jobs also provides an indication of how much children on average might have historically been exposed to a diversity of roles and been encouraged to reflect thoughtfully on the opportunities available.

The most popular jobs for boys are footballers, farmers, engineers, builders, and policemen. However, among these, farmers, engineers, and builders relate to occupations that are not as heavily over-subscribed as sports players and uniformed services (see next section). For that reason, the two over-subscribed, gender-stereotyped job categories analysed for boys are professional sports players (primarily footballers, but also basketball, F1 drivers, swimmers etc, but excluding coaching or teaching sports) and the uniformed services (primarily policemen, but also including the other emergency services and astronauts, military, and pilots).

Applying a similar principle to girls, we focus on jobs that involve animals excluding farming (e.g. vets, dog groomers/walkers, zoo jobs, horse riding instructors, cat shelter etc.) and creative/performing arts roles including social media (e.g. artists, youtubers, actors, singers, authors, dancers etc.), rather than teaching which is also a common and female-biased preference in this sample but not one facing such over-subscription issues.

The overall results are shown in Table 12. 38% of boys and 36% of girls want to do one of these top two gender-stereotyped job categories, which correspond to important and valuable, but extremely narrow parts of the overall economy.

Table 12: Job interests by gender-stereotyped category

	Boys	Girls
Sample size	721	723
Top category (sports players; animal jobs)	30%	18%
Second category (uniformed roles; creative roles)	8%	16%
Top two total	38%	34%

Alignment by occupational group

We allocate children’s interests to the major SOC grouping in SOC2020, the 2-digit classification.

The primary motivation for this is to align to the highest quality economic demand mapping currently available, being those prepared by Warwick Institute for Employment Research and Cambridge Econometrics (2023) as part of the Skills Imperative 2035 project led by NFER and funded by the Nuffield Foundation, with subregional analyses funded by the English Department for Education.¹⁵

¹⁵ <https://www.gov.uk/government/publications/labour-market-and-skills-projections-2020-to-2035>

When I grow up, I would like to be: A panda huger

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.



These forecasts specify 2-digit SOC projections for Northern Ireland but nothing more specific. The approach also allows us to map children’s interests into areas that, with some grouping of areas discussed below, covers the whole economy – so we can compare 100% of children’s interests with 100% of projected job opportunities.

We then identify areas of the economy where the percentage of children interested in it exceeds the percentage of anticipated new jobs available (“over-subscribed areas”) and areas where interest is below anticipated demand (“under-subscribed areas”), to give a view of alignment or disconnect between aggregate interests and requirements.

There are some important caveats to this analysis:

- Projected occupational demand does not differentiate first career roles from later career roles, whereas only the former would be relevant for children when leaving full-time school, college, or university and entering the workforce.
- We assume also that the children’s interests in this sample are broadly representative of other children with whom they compete for future jobs.
- We also analyse supply/demand across the Northern Irish labour market as a whole, when in practice some children will look only for jobs closer to home or in other specific locations, whereas others will seek work outside Northern Ireland.

Nonetheless, the results can still be interpreted qualitatively and with a directional quantitative steer over where the disconnects are most severe. The overall results are shown in Table 13.

A further caveat comes from examining children’s stated interests. Many children’s interests are focused on narrow parts of these SOC groups. As the most extreme example, everyone classified into the broad area of employment “Business and public service associate professionals” (SOC 35) in fact stated a wish to be a pilot or a plane captain, being one of the specific subareas of SOC 35. It is unlikely that many of these children would be equally happy going into other areas of SOC 35, such as data analysts, procurement officers, and HR/careers professionals.

The implication of such 2-digit grouping is to underestimate levels of disconnect between children’s excess interests and future economic demand. Nonetheless, given the sharp disconnect already identified in such a permissive approach, the headline conclusions about over-subscribed areas of the economy remain valid, being more conservative than the actual disconnect. For some specific jobs within the under-subscribed areas, the situation may be less severe than the headline numbers, but the total level of under-subscription is similarly conservative, being the mirror image of the over-subscription rate.

Children’s interests are more typically aligned to general career pathways, rather than an entry-level role – being a scientist rather than a lab technician or research assistant. Compared with specific jobs or even careers, pathways are a smaller number of common routes through a series of jobs over time, with changing expectations on qualifications, experience, skills, and aptitudes as they progress. Pathways are not deterministic and there are typically many variants someone might take within them, as well as opportunities for jumping between pathways, albeit often with some seniority penalty on average. In practice, many people’s career journeys are less directed than pathways appear on paper, with happenstance and changing preferences playing a significant role. Nonetheless, one insight from a pathway perspective is the need to combine occupations that are coded differently due to different levels of seniority in broadly the same career, before comparing interests and demand.



For instance, children interested in developing computer games, software, or coding would be classified most naturally as various types of IT professional (in SOC 21), leaving no interests in the more junior roles such as IT technicians, despite the significant economic demand for such workers. In practice, however, some children may become IT professionals having first worked as an IT technician, web content technician, or database administrator and accept this as part of how the career pathway works (in SOC 31). To relate interests against economic demand in a way that respects these career pathways, we combine demand for both SOC 21 (science/tech professionals) and SOC 31 (science/tech associate professionals).

Allocating children’s drawings or described job roles to these categories relies on a degree of subjective judgement, but the high-level conclusions of the report are robust to minor differences in allocations. Appendix 5 describes the original 2-digit SOC descriptions, their aggregations for this report, and the most common jobs actually named by children within those aggregated sets of occupations.

Turning to the results, a few sectors have approximately similar alignment at this age, such as transportation and skilled trades in farming, construction, and electrics, although hiring difficulties reported by employers suggest this interest is not sustained through to older cohorts. Health, education, and science/engineering also have approximate levels of alignment, although the high numbers of skilled employees needed in these areas reveals the importance of a strong baseline of interest.

When I grow up, I would like to be: a coast guard

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.

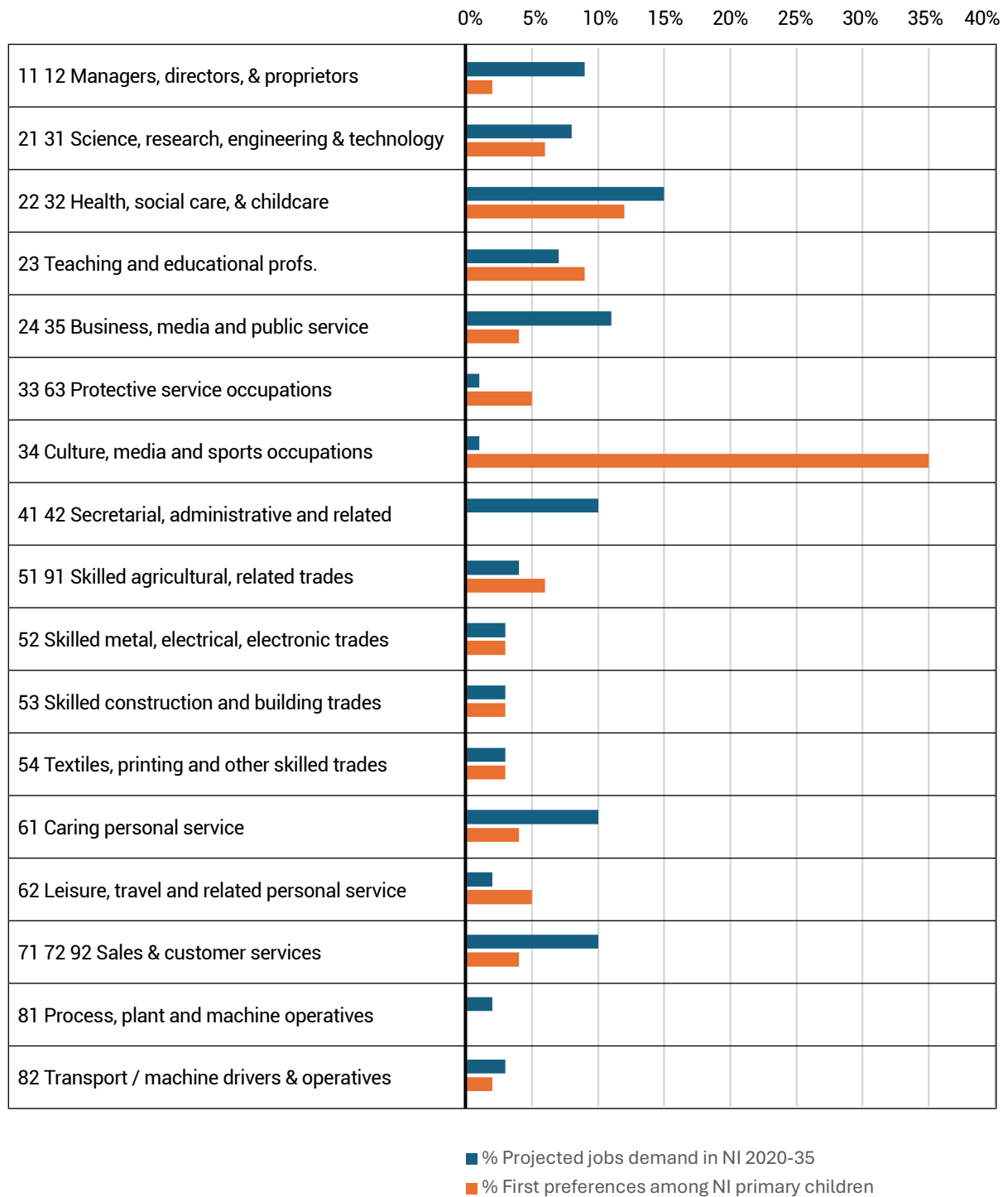


Table 13: Over/under-subscription rate by occupational groupings (ordered by subscription rate)

Occupational grouping	% Projected jobs demand in NI 2020-35	% First preferences among NI primary children	Over/ under-subscription rate*
34 Culture, media and sports occupations	1%	35%	45
33 63 Protective service occupations	1%	5%	6.1
62 Leisure, travel and related personal service	2%	5%	2.6
51 91 Skilled agricultural, related trades	4%	6%	1.7
23 Teaching and educational profs.	7%	9%	1.3
54 Textiles, printing and other skilled trades	3%	3%	1.2
52 Skilled metal, electrical, electronic trades	3%	3%	0.9
53 Skilled construction and building trades	3%	3%	0.9
22 32 Health, social care, & childcare	15%	12%	0.8
82 Transport / machine drivers & operatives	3%	2%	0.8
21 31 Science, research, engineering & technology	8%	6%	0.7
61 Caring personal service	10%	4%	0.4
71 72 92 Sales & customer services	10%	4%	0.4
24 35 Business, media and public service	11%	4%	0.3
11 12 Managers, directors, & proprietors	9%	2%	0.2
81 Process, plant and machine operatives	2%	0%	0.1
41 42 Secretarial, administrative and related	10%	0%	0

* Proportion interested divided by proportion of demand. Over-subscribed areas, shaded pale orange, are those higher than 2 and can be interpreted as a conservative estimate of the number of children potentially chasing each vacancy, if their interests remain stable. Under-subscribed areas are those below 0.5, shaded pale blue, and can be interpreted as the percentage of jobs that would go unfilled by people whose first preference it is to do that job, assuming interests remain stable and labour market matching is high quality. Given the uncertainties in the analysis, anything between 0.5 and 2.0 is not flagged up as severely misaligned, although in practice there will be many subareas within these groupings which do have a severe disconnect between first preferences and demand.

Fig 1. Over/under-subscription rate by occupational groupings



Some sectors are sharply under-subscribed. For instance, 40% of jobs in caring/personal service and customer service/sales occupations would not be fulfilled by someone whose first interest is somewhere in those broad areas of occupation, even if interests were to remain as they are and labour market matching mechanisms were to work with high efficiency. Manufacturing roles are the most highly under-subscribed on this particular categorisation. The under-subscribed rate for managers and directors is likely of lower concern, since many of those roles emerge later on in career journeys.

The most severe disconnect in Table 13 is seen in over-subscribed occupations. Were interests to remain stable, these can be interpreted as a conservative estimate of the number of children ideally wanting each opportunity. This suggests 45 interested children per job opportunity in culture, media, and sports occupations, 6 interested per job in the protective services, and 3 per job in leisure/travel occupations.

Alignment by industry classification

The alignment between survey responses and the economy is shown in Table 14.

NI employment is calculated as of 2021 using the NI Business Register and Employment Survey (Sept 2021; number of employee jobs by SIC07). As those figures exclude agriculture (but include animal husbandry and hunting), additional employee jobs data for agriculture were taken from the 2021 Agricultural Census in Northern Ireland (adding 11.8k employees into SIC 0161 for convenience). As agriculture jobs are seasonal, this approach is uncertain, but sufficient for the analysis in this paper. This analysis looks at the recent composition of all employment, rather than projected demand for hiring.

The headline conclusion from this analysis is that, at 4-digit SIC code, children's interests cover less than half of NI employment (48%), even before considering where interest is higher or lower than employment in a particular SIC. Examining cases where interest is lower than current employment adds a further 21% of misalignment, i.e. 69% of current employment by industry is missing in terms of children's interests. Children's interests are instead concentrated in relatively small sectors, such that 71% of children are interested in sectors in excess of current employment.

In this sample size at this level of granularity, we do not necessarily expect low frequency sectors to be well represented in children's interests, even if interests were aligned, so the primary value of this analysis is looking at the high frequency sectors (e.g. blue shaded rows) or the overall aggregate view.

Table 14: Alignment by industry classification (ordered by ratio)

4-digit SIC07 code	% First preferences (n=1446)	% NI employment 2021	Ratio
9319-Other sports activities	19.6%	0.1%	211
7220-R&D on social sciences and humanities (cf 7219)	0.6%	0.0%	177
5811-Book publishing	1.1%	0.0%	154
9003-Artistic creation	2.6%	0.0%	117
1413-Manufacture of other outerwear	1.6%	0.0%	105
9001-Performing arts	4.1%	0.1%	74
0729-Mining of other non-ferrous metal ores	0.1%	0.0%	35
9104-Botanical, zoological gardens, nature reserve activities	1.4%	0.0%	31
8551-Sports and recreation education	1.2%	0.0%	28
7500-Veterinary activities	5.5%	0.3%	20
9609-Other personal service activities n.e.c.	1.9%	0.1%	18
8622-Specialist medical practice activities	0.3%	0.0%	17
5110-Passenger air transport	1.1%	0.1%	16
3212-Manufacture of jewellery and related articles	0.1%	0.0%	14
4729-Other retail sale of food in specialised stores	1.3%	0.1%	13
8211-Combined office administrative service activities	0.1%	0.0%	11
1052-Manufacture of ice cream	0.3%	0.0%	11
9602-Hairdressing and other beauty treatment	4.6%	0.4%	10
5223-Service activities incidental to air transportation	0.8%	0.1%	10
5912-Video, TV post-production activities (cf 5911)	0.1%	0.0%	9
7420-Photographic activities	0.2%	0.0%	8
8219-Photocopying, document preparation etc.	0.1%	0.0%	7
4932-Taxi operation	0.5%	0.1%	6
8422-Defence activities	0.7%	0.1%	6
4399-Other specialised construction activities n.e.c.	1.5%	0.3%	5
0210-Silviculture and other forestry activities	0.1%	0.0%	5
7410-Specialised design activities	0.5%	0.1%	5
7111-Architectural activities	0.9%	0.2%	4
8425-Fire service activities	1.0%	0.3%	4
7219-Other R&D on natural sciences/engineering (cf 7220)	1.0%	0.3%	4
4520-Maintenance and repair of motor vehicles	1.9%	0.6%	3
1071-Manufacture of bread; fresh pastry goods and cakes	1.5%	0.5%	3
7112-Engineering activities, related technical consultancy	2.3%	0.7%	3
0161-Support activities for crop production	5.0%	1.6%	3
6201-Computer programming activities	3.2%	1.0%	3
5911-Video and TV production activities (cf 5912)	0.3%	0.1%	3
8621-General medical practice activities	1.9%	0.7%	3
5813-Publishing of newspapers	0.2%	0.1%	3
8531-General secondary education	8.7%	3.4%	3
9604-Physical well-being activities	0.1%	0.0%	3
8424-Public order and safety activities	2.9%	1.3%	2
8510-Pre-primary education	0.5%	0.2%	2
8299-Other business support service activities n.e.c.	0.5%	0.3%	2
4776-Retail of flowers, pet animals etc in specialised stores	0.3%	0.2%	2
4332-Joinery installation	0.6%	0.3%	2
8130-Landscape service activities	0.3%	0.2%	1
7490-Other professional, scientific, activities n.e.c.	0.2%	0.1%	1
8129-Other cleaning activities	0.1%	0.1%	1
5229-Other transportation support activities	0.3%	0.2%	1
8623-Dental practice activities	0.4%	0.3%	1

2410-Manufacture of basic iron and steel and of ferro-alloys	0.1%	0.1%	1
4334-Painting and glazing	0.1%	0.1%	1
8560-Educational support activities	0.1%	0.1%	1
4519-Sale of other motor vehicles	0.1%	0.1%	1
9311-Operation of sports facilities	0.3%	0.4%	1
4779-Retail sale of second-hand goods in stores	0.1%	0.2%	1
4339-Other building completion and finishing	0.1%	0.1%	1
2511-Manufacture of metal structures etc	0.3%	0.3%	1
8690-Other human health activities	1.7%	1.9%	1
9491-Activities of religious organisations	0.4%	0.5%	1
4939-Other passenger land transport n.e.c.	0.1%	0.1%	1
5610-Restaurants and mobile food service activities	3.0%	3.9%	1
9101-Library and archive activities	0.1%	0.1%	1
8891-Child day-care activities	0.6%	0.8%	1
9102-Museum activities	0.1%	0.1%	1
6910-Legal activities	0.6%	0.8%	1
4321-Electrical installation	0.5%	0.7%	1
4941-Freight transport by road	0.8%	1.3%	1
4322-Plumbing, heat and air-conditioning installation	0.3%	0.6%	1
4931-Urban and suburban passenger land transport	0.3%	0.5%	1
6209-Other IT and computer service activities	0.1%	0.3%	1
4910-Passenger rail transport, interurban	0.1%	0.1%	1
7810-Activities of employment placement agencies	0.1%	0.2%	0
2920-Manufacture of bodies/trailers for motor vehicles etc.	0.1%	0.2%	0
4211-Construction of roads and motorways	0.1%	0.2%	0
8730-Residential care activities for the elderly and disabled	0.2%	0.7%	0
9499-Activities of other membership organisations n.e.c.	0.1%	0.5%	0
8720-Residential care activities for mental/substance	0.1%	0.3%	0
8610-Hospital activities	1.2%	6.9%	0
3811-Collection of non-hazardous waste	0.1%	0.5%	0
6920-Accounting, bookkeeping auditing; tax consultancy	0.1%	1.2%	0
4511-Sale of cars and light motor vehicles	0.1%	0.7%	0
4120-Construction of buildings	0.1%	1.0%	0
4771-Retail sale of clothing in specialised stores	0.1%	1.0%	0
8542-Tertiary education	0.1%	1.2%	0
8520-Primary education	0.2%	3.6%	0
8899-Other social work without accommodation n.e.c.	0.1%	2.1%	0
5821-Publishing of computer games	0.7%	-	-
0162-Support activities for animal production	0.2%	-	-
5010-Sea and coastal passenger water transport	0.2%	-	-
8030-Investigation activities	0.1%	-	-
0311-Marine fishing	0.1%	-	-
0811-Quarrying of ornamental and building stone etc	0.1%	-	-
2319-Manufacture of glass/other glass	0.1%	-	-
3240-Manufacture of games and toys	0.1%	-	-
6419-Other monetary intermediation	0.1%	-	-
Total	100%	48%	

*“-“ in NI jobs marks where data were suppressed or not available, typically because there are very few employed in those industries. Blue shaded rows are higher frequency employment at this level of granularity, i.e. over 2% of the employment base. Note that 4-digit SICs are often more precise than inferable in the data available on aspirations, with a few examples shown in brackets.

Factors for better interest-demand alignment



So far, we have seen that the interests of primary school children have very little in common with future jobs projections or current employment. Indeed, 30% of boys want to professional sports players and 34% of girls either want to work with animals or in creative/performance roles. Some of them are likely to end up working in such areas, whether directly or indirectly, but surely not many of them: there simply are not enough jobs or demand in the economy to support that activity.

But does this matter? After all, young children often explore fantasy job ideas and fantasy games as part of their healthy development and exploration, with no expectation that this should harm future careers. We also asked children what they want to do when they grow up, rather than what they plan to do or expect to do.

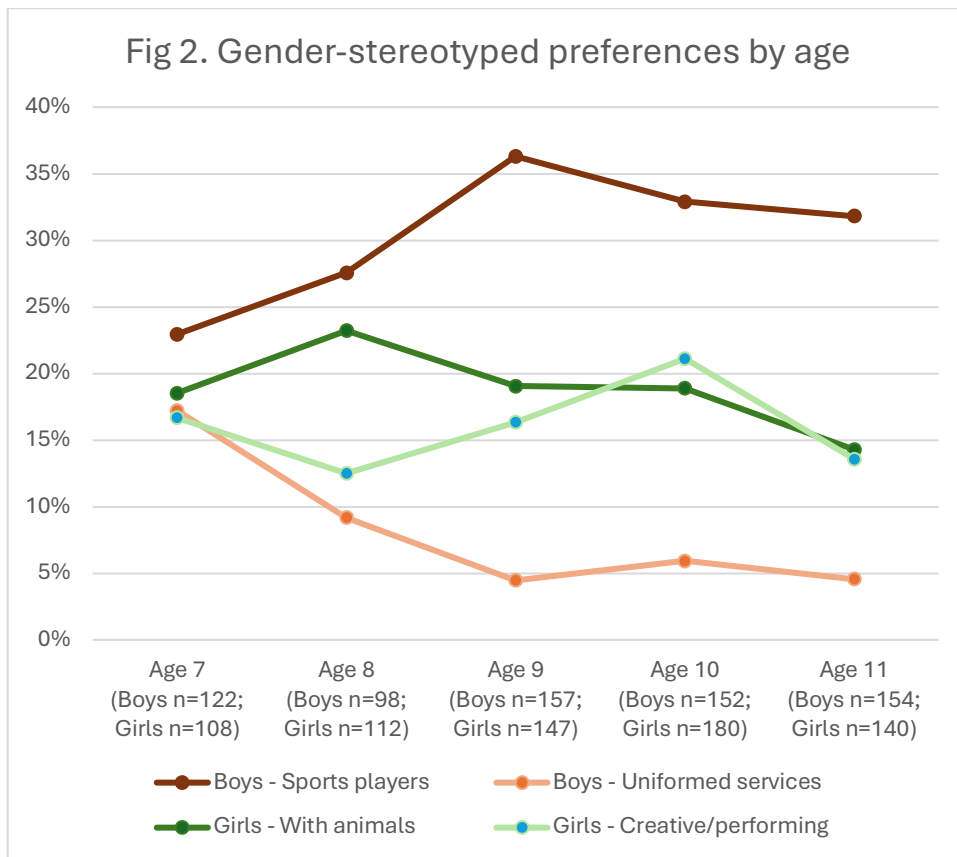
At this age, we would not expect or even work towards exact aggregate alignment to actual jobs, but the very large disconnect points to a few potential issues:

- Interests at primary age, especially late primary age, form the basis for secondary education when such misalignment could start to affect identity formation, education pathway choices, and actual job planning.
- Previous research has shown that interests age 7/8 are surprisingly sticky through to age 17/18: a gradual reduction in gender-stereotyped popular choices only goes part of the way and a shift away from a narrow set of low average salary occupations to an equally narrow set of high average salary occupations does little for overall misalignment.¹⁶
- Job preferences that are strongly disconnected from the labour market risk leading to a process of repeated rejections, frustrations, and disappointment, engendering an avoidable scepticism of our economy and social structures before even having a chance to get started in a career. At the extreme levels of disconnect observed, it is reasonable to say more alignment would be welcomed, even if the goal is not exact or even approximate alignment.

¹⁶ Chambers, N., Percy, C., & Rogers, M. (2020). *Disconnected: Career aspirations and jobs in the UK*. London: Education and Employers. <https://www.educationandemployers.org/research/disconnected-report/>. Also discussed at <https://www.weforum.org/agenda/2019/01/childrens-career-aspirations-jobs-of-future/>

Relationship with age

If the disconnect reduces materially with age, these data could provide reassurance that the fun of early childhood fantasy jobs is shifting into a more thoughtful and considered understanding of the opportunities available. Figure 2 provides little of this reassurance. From age 7 to 11, the proportion of boys wanting to do uniformed services roles drops from 17% to 5%, but this is almost entirely made up by an increase in the even narrower domain of professional sports players, which increases from 23% to 32%. For girls, there is little consistent change by age, with the top two categories still accounting for 28% of girls' preferences at age 11.



A more extensive analysis of the disconnect examines the rates of over-subscription and under-subscription by 2-digit SOC occupation. By this measure, the children in over-subscribed occupations shift, on average, towards even more over-subscribed occupations as they grow older, with a mild improvement in alignment among those in under-subscribed occupations (Table 15). Among children wishing to work in over-subscribed occupations, the majority of all children, the average number of implied applicants chasing each vacancy increases from around 23-24 aged 7/8 to 28-30 aged 10/11.

If age makes only a modest improvement to interest-demand alignment, what factors do seem to be more strongly associated with changes in aggregate alignment? In previous research, cited above, we saw that those benefitting from careers activities and multiple career influences in secondary education have aspirations that are – in aggregate – better connected to the labour market. In the short surveys used for this study, we cannot comment directly on world of work inspiration activities that represent best practice in primary schools, but can examine a range of other factors.

Table 15: Aggregate occupational disconnect by age

Age	Average over-subscription rate in over-subscribed occupations (e.g. number of applicants per vacancy)	Sample size	Average under-subscription rate in under-subscribed occupations (e.g. % of jobs not filled by someone whose first preference is to be in that general occupational area)	Sample size
7	23x	146	58%	84
8	24x	134	66%	84
9	30x	192	60%	115
10	28x	204	66%	129
11	30x	166	67%	120

How children hear about the job

The importance of personal interactions comes through as a factor influencing choices.

Among children who said they knew someone personally who does the job, the average over-subscription rate was 20 implied applicants per vacancy, rather than 32 for those who did not. Likewise, the over-subscribed rate is 18-20 among those who heard of the job via family/family connections or someone who does the job, compared to about 38-40 for those who heard of it via online media, TV, books, or through the hobbies they enjoyed.

Those hearing about the job through teachers or through visitors to school had the lowest over-subscribed rate on average, being 11 implied applicants per vacancy, although this reflects more the former and the high need for education sector jobs rather than children saying that schools had introduced them to their favoured job.

Attitudes towards school and the future

There is little difference among children in terms of their possible plans for university or attitudes about the future job market. However, feeling positive about the value of school was associated with better alignment. The small proportion of children who did not agree that school subjects were useful or that school was important for future jobs were interested in occupations with an average over-subscription rate of about 36 rather than 24.

When I grow up, I would like to be: Artist

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.



Influence by rural or urban areas

The schools in our survey were coded up as either rural or urban/semi-urban by colleagues at the Education Authority. The majority were rural but the six urban schools provided a large number of returns such that 31% of overall returns were from children in urban schools.

Overall, children in rural schools were interested in less over-subscribed and less under-subscribed occupations than children in urban schools, with average over-subscription rates of 25 rather than 30 among those looking at over-subscribed occupations and average first preference match rates of 65% rather than 60% among those looking at under-subscribed occupations.

Examining specific high interest jobs by gender reveals a strong influence of rurality towards farming jobs for boys (13% rural vs 0% urban) and a moderate influence towards working with animals for girls (20% rather than 14%). However, this excess interest in gender-stereotyped rural sectors is mostly balanced out by an opposite imbalance in uniformed services for boys (6% rural rather than 13% urban) and performing/creative arts for girls (13% vs 23%), such that the overall concentration into the top two over-subscribed, gender-stereotyped routes were similar for children from both urban and rural schools. Sports professional roles are similarly popular across both rural and urban areas for girls and boys. Teaching jobs were significantly more popular among rural girls than urban girls (20% vs 14%).

Relationship with economic deprivation

Economic deprivation for school intakes is measured by eligibility for free school meals (FSM), grouping the sample into approximate thirds by number of children in the data: low FSM (0-15%), medium FSM (16%-30%), and high FSM (31%-60%). A small number of children were excluded from this analysis as the FSM rate is not reported for two of the schools, typically because too few children qualify for free school meals in such schools and reporting data by FSM status risks disclosing specific individuals.

Similar with rurality, concentration into gender-stereotyped jobs runs in reverse directions for the two top general preferences by gender (Tables 16-17), approximately balancing out overall. For boys, high FSM schools see greater concentration into uniformed roles than the low FSM schools (12% rather than 5%) but slightly less interest in sports players (29% vs 33%). Even more strongly among girls, high FSM schools see much more interest in creative/performing arts (21% vs 12%) but this is balanced out almost entirely by reduced interest in working with animals (12% vs 22%). Since high FSM schools were strongly concentrated into urban regions in this sample, this relationship may also reflect rural interests and exposures.

Table 16: Concentration among boys into boy-stereotyped jobs by school FSM rate

	High	Medium	Low
Sample size	256	219	217
Top category (boys: sports players; girls: animal jobs)	29%	30%	33%
Second category (boys: uniformed; girls: creative)	12%	8%	5%
Top two total	41%	38%	38%

Table 17: Concentration among girls into girl-stereotyped jobs by school FSM rate

	High	Medium	Low
Sample size	243	239	220
Top category (boys: sports players; girls: animal jobs)	12%	20%	22%
Second category (boys: uniformed; girls: creative)	21%	14%	12%
Top two total	33%	34%	34%

These opposite gender-stereotyped effects largely translate into little difference in aggregate over-subscription and under-subscription rates by school FSM category. There is a weak relationship whereby schools in the midrange of FSM have slightly higher over-subscription rates but only by a few points. Lower FSM schools tended to have slightly better under-subscription rates among children interested in such occupations, but again only by a few percentage points on average.

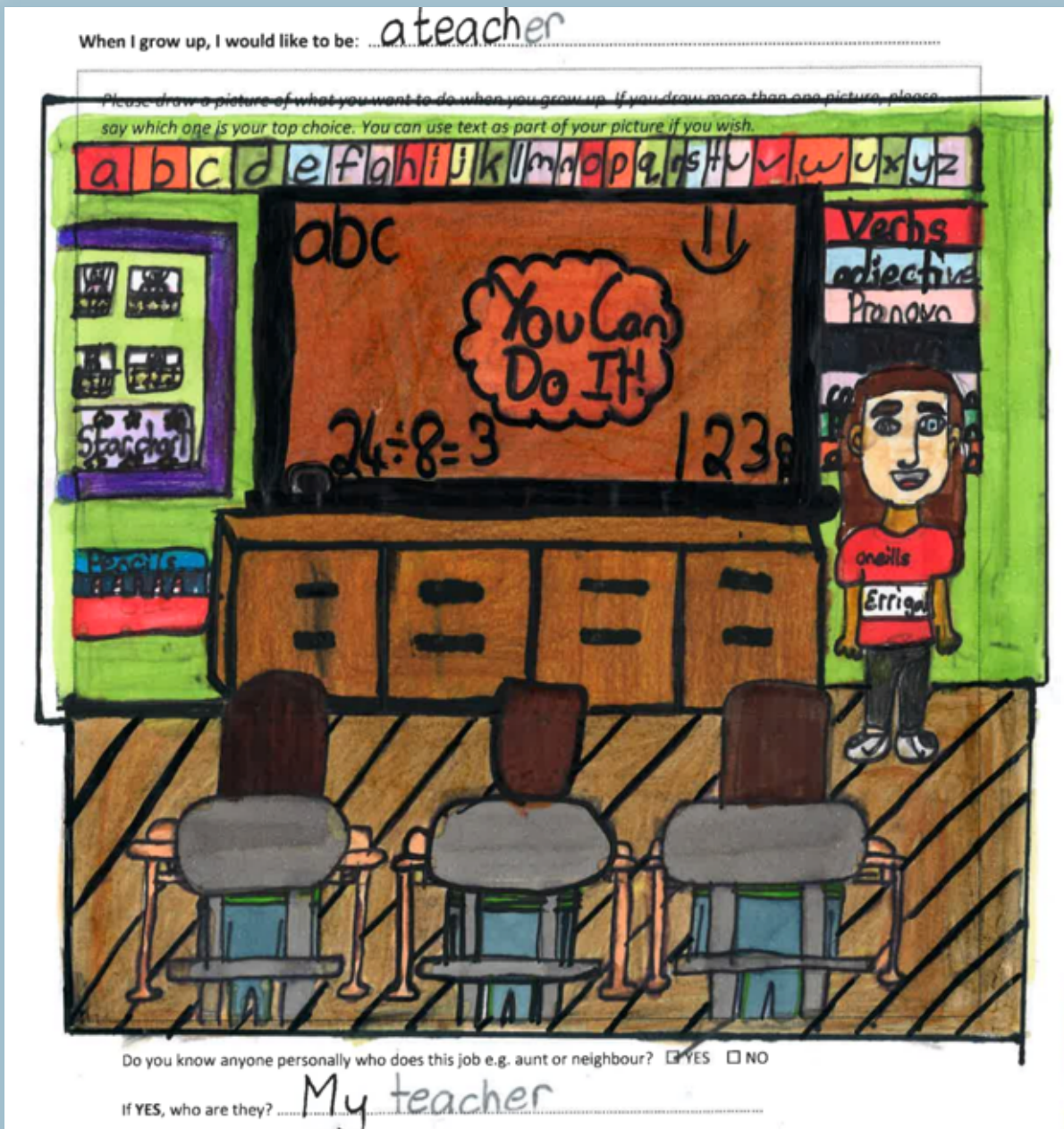
The relationship with economic deprivation is similarly mild when examining the one-digit SOC classifications of children's first job preferences, noting again the caveat discussed earlier that there is scope for consideration of career progression into management in a particular occupation or sector at a later age than primary school. The caveat means that the social class hierarchy embedded in these occupational classifications is particularly unreliable for children's aspirations at this age.

Table 18: Aspirations by grouped occupational category and school FSM rate

	High	Med.	Low
1. Managers, directors and senior officials & 2. Professional occupations	31%	27%	33%
3. Associate professional occupations	44%	41%	40%
4. Administrative and secretarial occupations* & 5. Skilled trades occupations	9%	16%	15%
6. Caring, leisure and other service occupations & 7. Sales and customer service occupations	11%	11%	8%
8. Process, plant and machine operatives & 9. Elementary occupations	5%	5%	4%
Total sample size	493	467	445

* Very few jobs are coded into SOC group 4

Noting that caveat, table 18 shows that children in the least economically disadvantaged intake schools slightly favour management and professional occupations over associate professional occupations and favour the skilled trades over semi-skilled service/manufacturing and elementary occupations. There is little difference for elementary and manufacturing operative occupations across schools by FSM category, with such occupations having relatively little interest across all children.



Moving forward

What does this research suggest about the future? Teachers, parents, employers, entrepreneurs, and policymakers in Northern Ireland should feel pleased with the high levels of their children's belief in gender equality, the importance of education, and the diversity of potential opportunities available for them in the future.

Expectations for going to university are, however, higher for girls (50%) than boys (36%) in the sample and more could perhaps be done on apprenticeship awareness and understanding (25% for both genders). The lower male interest in university points to potential work in primary schools around highly educated male role models, the fun of university, and its importance to a diverse range of careers.

The greater opportunity for policy and practice development is identified in the sharp disconnect between children's interests and anticipated future jobs. While young children should be encouraged to explore their passions and fantasy jobs, the limited reduction in interest-demand disconnect from age 7 to age 11 points towards the potential to do more world of work inspiration activities in primary schools, introducing children to more diverse workplaces and visitors to school, as well as through the curriculum, jobs corners, and fun activities.

The current job preferences aged 10/11 create a challenging base for careers support provision in post-primary schooling, especially given the evidence described elsewhere that shows only very limited improvement in overall alignment throughout secondary school. Many children are set up for disappointment, with aggregate preferences so sharply disconnected from demand, risking a longer-term process of repeated rejections, frustrations, and disappointment, engendering an avoidable scepticism of society before they even having a chance to get started in a career.

All schools experience competing pressures on their curriculum and available resources, with innovative schools finding ways to blend job awareness/inspiration activities into existing school curricular, co-curricular, and extra-curricular programmes. Primary schools who are able to apply their creative knowledge and skills to embedding world of work inspiration into a whole school approach reap significant rewards for pupils and staff. It can be done (indeed must be done) in a way that fosters and validates childhood passions and skills, rather than diminishing or infantilising them. Thoughtful and regular discussion can explore the adjacent areas to children's core aspirations, hopes, and dreams, what underlying and transferrable interests those passions and skills might imply, sensible back-up plans to worthwhile moonshots, and the many diverse ways to fulfil passions including through hobbies and community activities as well as paid employment.

When I grow up, I would like to be: A Social Worker

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.



Fewer than 1% of children in the Northern Ireland survey mentioned hearing about a job through visitors to the school coming to introduce their work – and similarly few mentioned learning about a job through their subjects. However, the influence of school can be meaningful, as seen in those hearing about jobs through the hobbies, clubs, and sports they do at school, as well as the many who talk about their interest in teaching having seen teaching roles first hand. Both the disadvantages and the advantages of different careers and jobs should be explored, to help children think about opportunities and ways of developing their knowledge, skills, and awareness.

Ideally exercises like the one children completed for this study form the basis for class discussions and one-to-one conversations and would be repeated in different forms

over time, encouraging children to learn, reflect on, and welcome their changing interests as they grow up. Importantly, parents can also become involved as volunteers and/or encourage ongoing informal career exploration conversations with their children.

Such support should take place alongside a structured programme to introduce children to a diverse range of opportunities in Northern Ireland's changing economy. Taking particular care to arrange visits, speakers, or activities built around the sectors and occupations that are poorly understood, under-subscribed, or negatively stereotyped brings added-value benefits.

Technology can assist in alleviating the strain on teachers to have to do everything. Third party programmes can also make it easier for teachers to organise opportunities for children to meet adult volunteers from a wide range of careers, including virtual events to encounter industries and occupations that may not be well represented in a reasonable volunteering travel distance around the school. For instance, Primary Futures, run by the Education and Employers Charity, is a curated database of volunteers, available to teachers to search for free by location, interests, jobs, background, and a range of other factors.¹⁷

Education and Employers programmes have featured as examples of good practice in OECD case study collections¹⁸ and been developed in countries outside the UK, such as New Zealand and Australia¹⁹. There is research available on the impact of these sorts of activities, including a natural experiment of sorts revealing the value of remote activities delivered with video conferencing as occurred during the Covid-19 pandemic and the temporary wholesale switch to working/learning-from-home.²⁰

With economic sectors and available volunteers unevenly distributed by geography, organising remote events alongside face-to-face activities is essential for providing children a rich and accurate picture of the society they are growing up into and will soon

¹⁷ <https://www.inspiringthefuture.org/primary-futures/>

¹⁸ <https://www.oecd.org/stories/odicy/practices/primary-futures-connecting-schools-with-workplace-volunteers-64426d20/>

¹⁹ <https://www.inspiringthefuture.org.nz/>

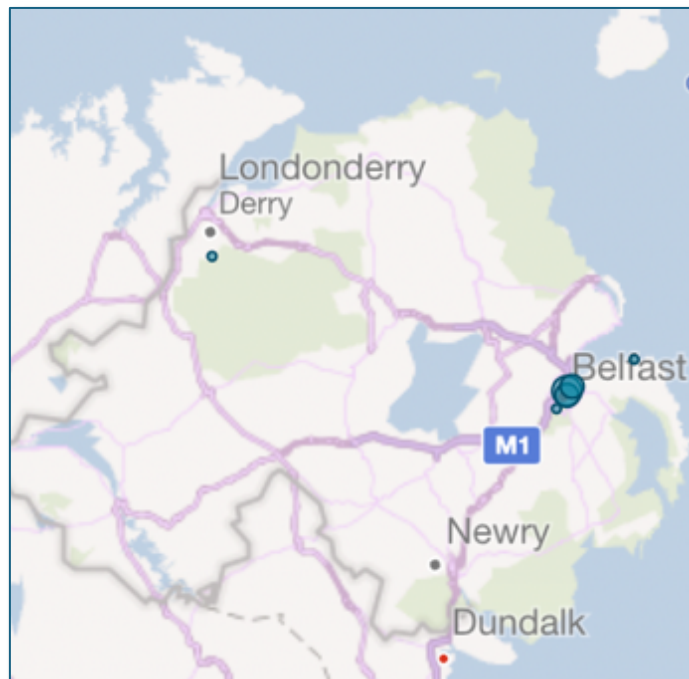
²⁰ e.g. Percy, C., Taneja, A., & Hampshire, K. (2021). *Scaling Up: Developing and extending career-related learning in primary schools*. London: Education and Employers.

Percy, C., & Amegah, A. (2021). *Starting Early: Building the foundations for success*. London: Education and Employers. <https://www.educationandemployers.org/research/startingearly/>

Kashefpakdel, E., Percy, C., & Rehill, J. (2019). *Motivated to achieve: How encounters with the world of work can change attitudes and improve academic achievement*. Education and Employers Charity.

Kashefpakdel, E. T., & Percy, C. (2017). Career education that works: An economic analysis using the British cohort study. *Journal of Education and Work*, 30(3), 217-234. 10.1080/13639080.2016.1177636

be shaping. For instance, the below is a recent map from the Bar Council on the distribution of practising barristers in Northern Ireland.²¹



Outside of a handful of locations, schools hoping to invite practising barristers in to meet their children would struggle to find volunteers willing to travel a long way. However, with remote, interactive video events, their first-hand experiences and authentic insights can be accessed by many more schools.

Specialised career questionnaires and personal guidance also have important roles to play, particular for children around the primary-secondary school transition point. It is important that the uncertain inferences from questionnaires are explained and contextualised (rather than presented bluntly as “jobs you are well-suited to”) and guidance is given sufficient capacity to get to know children and to play challenge as well as support functions for all children, not just those who do not seem to know much about their areas of interest.

Employers and entrepreneurs are an essential part of this process. As well as opening their doors and volunteering to support activities in schools, employers must also take responsibility for offering conditions and designing career paths that are attractive, progressive, and sustainable, training young recruits and taking them on a journey through to more senior roles, whether with their initial employers or with future employers.

²¹ <https://www.barcouncil.org.uk/policy-representation/dashboards/demographics-dashboard.html>

There is significant scope to harness world of work inspiration to good effect in all primary schools across Northern Ireland. As children move into older age cohorts, it becomes important to examine which specific sectors interest shifts into, as well as aggregate measures of misalignment. As always, larger samples provide greater grip on low frequency choices and subsample analysis. With greater insight into respondents' underlying interests, potentially adjacent sectors could be analysed in order to get a better understanding of the degree of mismatch and how best to address this.

Many teachers in primary schools are keenly aware of the importance of expanding each child's awareness of the work that adults do and of challenging their attitudes about gendered work roles. But these survey results suggest that valuable opportunities to influence the socialisation and career readiness of many children are being missed. A future career seems, and indeed is, a long way off for most primary-age children. Making a connection between what they learn in primary school and the jobs they might one day pursue is not easy, particularly for those from challenging backgrounds, where local unemployment is high and horizons may be narrow. Exposing children to more real-world examples in a way that is both exciting and embedded in everyday school life, as well as being age appropriate, can help transform the way children view certain professions and roles.

In conclusion, unlocking the full potential of Northern Ireland's economy requires a proactive approach – equipping primary school children with knowledge about thriving industries like digital, ICT, creative sectors, agri-tech, fin-tech, advanced manufacturing, engineering, life and health sciences. By sparking their interests early, we not only pave the way for future innovation but also ensure a vibrant and prosperous Northern Ireland for generations to come.

When I grow up, I would like to be: Comentator

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.



Appendix 1: Children's activity sheet



When I grow up, I would like to be:

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.

A large, empty rectangular box with a solid black border, intended for children to draw their future aspirations.

Do you know anyone personally who does this job e.g. aunt or neighbour? YES NO

If YES, who are they?

If NO, how did you hear about the job?



Why do you want to do this job?.....

Do you think you will go to university? YES NO DON'T KNOW

Do you think you will do an apprenticeship? YES NO DON'T KNOW

What do I think?	Agree	Not Sure	Disagree
<i>I can do any job I want when I grow up?</i>			
<i>Girls and Boys can do the same jobs?</i>			
<i>The subjects I study at school can help me when I grow up?</i>			
<i>Learning at school is important for my future job?</i>			
<i>There are lots of different jobs for me when I grow up?</i>			

Your name:

.....

I am a Boy Girl Prefer not to say

How old are you? 6 7 8 9 10 11

What is your favourite school subject?

.....

What language do you speak at home?

.....

For your teacher to complete:

School DENI Number:.....

Name of School:

Address:

.....

E-mail:

Name of Teacher:

Class:.....

Appendix 2: Participating schools

Aughnacloy Primary School
Ballymoney Model Integrated Primary School
Ballysally Primary School
Ballytober Primary School
Derrygonnelly Primary School
Donaghmore Controlled Primary School, Dungannon
Eden Primary School
Edwards Primary School & Nursery Unit
Fane Street Primary School & Nursery Unit
Iveagh Primary School, Rathfriland, Newry
Killen Primary School
Maralin Village Primary School
Millburn Primary School
Moneymore Primary School
Newtownbutler Primary School
Portglenone Primary School
Rasharkin Primary School
St John's Primary School, Swatragh
St Macartans Primary School, Downpatrick
St Malachy's Primary School, Carnagat
St Malachy's Primary School, Glencull
St Mary's on the Hill Primary School
St Mary's Primary School, Draperstown
St Mary's Primary School, Pomeroy
St Mary's Rathfriland, Newry County Down
St Patrick's Primary School (Glen),Maghera
St Patrick's Primary School, Eskra
St Patrick's Primary, Moneymore
St Patrick's Primary School, Aghagallon
Straid Primary School
Tempo Primary School
The Thompson Primary School

When I grow up, I would like to be: An author and Illustrator

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.



Appendix 3: Example job choices

99 unique job choices taken at random as raw text from the children's surveys, whether written by the pupil or the teacher, unedited except for spelling.

These 99 jobs illustrate the range of responses, with both precise and general variants of jobs. For further discussion of how to understand and categorise these raw job choices please see Appendix 5 and discussion in the main report.

Accountant	Flight Attendant	Panda Hugger
Agent	Florist	Paramedic
Animal Rescuer	Football Commentator	Party Designer
Astronaut	Funfair Worker	Pet Shop Worker
Astronomer	Gamer	Pharmacist
Author	Gymnast	Pianist
Babysitter	Gymnastics Coach	Plumber
Badminton Player	Hairstylist	Police Officer
Baker	Hockey Coach	Professional Boxer
Barista at the Lab	Horse Trainer	Radiographer
BMX Racer	Jockey	Receptionist
Car Dealership Owner	Journalist	Recovery Driver
Care Home Worker	K-9 Police Officer	Reflexology
Cartoon Animator	Kitchen Fitter	Restaurant Owner
Cat Sanctuary Owner	K-pop Idol	Riding Instructor
CEO of Roblox	Lawyer	Roblox Gamer
Charity Worker	Lego Designer	Scientist (Cats)
Church Singer	Lifeguard	Secretary
Clean Trains	Limo Driver	Ship's Captain
Comedian	Lorry Driver	Shop Assistant
Delivery Driver	Mechanic	Singer
Designer	Miner	Skateboarder
DJ	Minister/Priest	Social Worker
Dog Trainer	Missionary	Soldier
Dressmaker	Model	Tattoo Artist
Electrician	Movie Director	Taxi Driver
Engineer	NHS Worker	Tesco worker
Equine Vet	Night Guard	Therapist
Estate Agent	Nurse	Train Driver
F1 Driver	Nursery Teacher	TV Celebrity Chef
Farmer	Office Manager	Welder
Fashion Designer	Olympic Shooting	Wrestler
Firefighter	Paediatric Nurse	Zoo Keeper

Appendix 4: Example reasons children gave for choosing a career

Why do you want to do this job? I feel like I would really enjoy helping kids learn about new things.

Why do you want to do this job? I want this job because I want to save people's lives.

Why do you want to do this job? Because I want to be like my dad.

Why do you want to do this job? I love helping people especially older people.

Why do you want to do this job? So I can teach other children the importance of education.

Why do you want to do this job? So I can keep our country safe.

Why do you want to do this job? Because I want to do the same job as my Grandpa.

When I grow up, I would like to be: a Marine biologist

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.

MARINE BIOLOGIST



Why do you want to do this job? So I can get money to help ~~my~~ my family.

Why do you want to do this job? I want to do this job because I will help homeless.

Why do you want to do this job? Because I like helping children and believe they should be treated with as much respect as everyone else.

Why do you want to do this job? Because it is a fun job to have and I want to follow my Dad's path.

Why do you want to do this job? I want to do it because I dislike seeing animals suffering.

Why do you want to do this job? I love writing stories and different genres and styles of plays so I want to make my own.

Why do you want to do this job? To make Money and more money.

Why do you want to do this job? I want to do this job because I am able to help people to learn new things.

When I grow up, I would like to be: Learning Disability Nurse

Please draw a picture of what you want to do when you grow up. If you draw more than one picture, please say which one is your top choice. You can use text as part of your picture if you wish.

Me as a Nurse



Kid With Learning Disability



Appendix 5: Job categorisation and future research ideas

To analyse the data in a structured manner, we need to aggregate the raw job names into categories in a way that we can align approximately to economic demand statistics.

Economic demand can be analysed both in terms of “occupation” and “industry”, corresponding to how each job can be classified to have both an occupation and an industry. Occupations capture what your day-to-day tasks consist of (e.g. via SOC2020 codes in this case). Industries capture what your employer produces, e.g. what they sell to their customers (SIC07 in this case).



Demand for occupations is typically more stable than the industry of what your employer produces, since the latter can vary with changing business cultures and structural trends.

For instance, when large numbers of manufacturing businesses decide to outsource HR roles, the number of people working in HR-industry employers increases and the number in manufacturing-industry employers decreases, even if the number of people whose occupations involve delivering manufacturing or HR tasks remains about the same. For this reason, occupation codes are typically preferred for understanding demand for jobs and are the main alignment reference in this study. However, there are more precise reference data for current employment in Northern Ireland by industry than there are for forecast demand by occupation, so we also include some analysis by industry.

The occupation/industry distinction can be brought to life by examining some specific responses in the survey. “NHS worker” is, taken directly, a reference to an industry preference (indeed a specific employer) rather than an occupational preference. At face value, the response suggests someone would prefer to be a manager or a lawyer in the NHS than, for instance, working in a health-related role outside of the NHS, such as being a physio for a sports team. We cannot be certain what the child had in mind based on this data alone, so these examples are intended illustratively or on average,

rather than being certain about the interest. As possible examples, the stated job “work with horses”, suggests a preference for the industry rather than the specific tasks involved: anything might be fine, provided they can be around horses. For “ice cream parlour worker”, it is likely the ice cream that is of greater interest, rather than the front-of-desk customer service role. Other examples include: “Cat shelter”; “Work in a Pizza Shop”; “Coffee shop owner”; “Charity worker”; and “in the Navy”.

In line with the statistical preference, most children name an occupation, i.e. what you do day to day for your employer rather than what your employer is producing. For instance, people say they want to be a footballer, teacher, or vet, rather than work in the footballing, education, veterinary industries. However, some may prefer to work in the central industry of their chosen profession, even if their chosen occupation within it is not available.

For instance, some of the 30% of boys whose preferences look most close to professional sports players might end up fulfilled in very differently categorised occupations that nonetheless feel adjacent to them, such as writing about sports, teaching PE, selling sports equipment, and so on. Likewise, some of the 18% of girls who name a teaching role might end up fulfilling that interest by producing educational software, running an action-adventure holiday camp, working as a manager in an education regulator, or evaluating education policies as a researcher. For others, it might be the teaching tasks that are central, rather than the sectoral interests, and would prefer to end up in training, counselling, or coaching roles, even if not in schools.

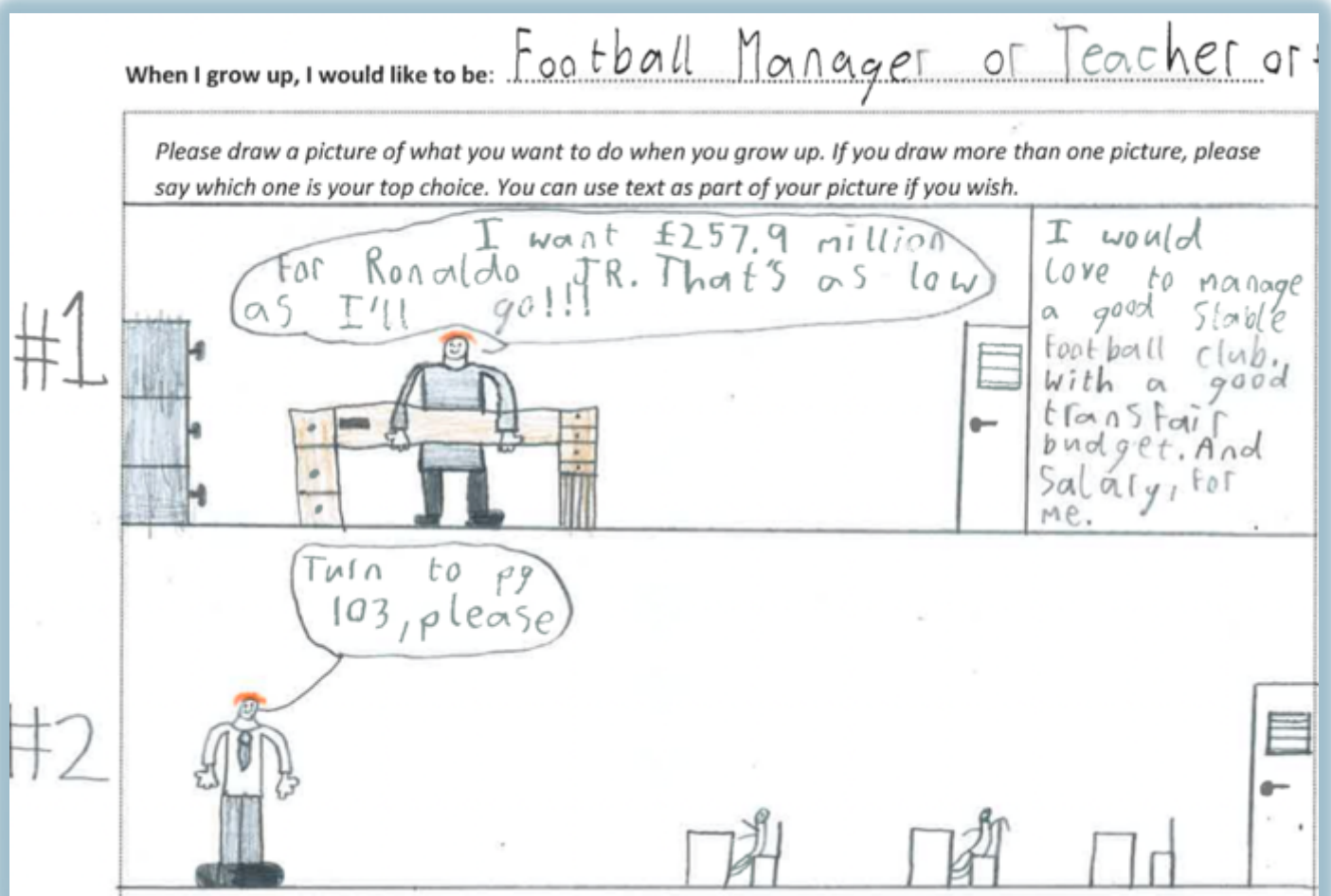


Without close discussion with individuals, it is not obvious what the stated occupational preference to be a "farmer" for 9% of boys necessarily means. The most direct interpretation, tending crop or livestock in a farm, is clear, but not what their preferences might be beyond that. If they are passionate about farming as an industry, they may be happy to work for magazines or trade shows about the sector or being an accountant that specialises in supporting farming clients. Others may love being outside in nature and find work in gardening or zoos most adjacent. Others might be more interested in the food production side, looking instead to specialise later in food advertising or food writing having begun in advertising/writing roles on other topics.

A further insight from a career pathway perspective is the need to combine occupations that are coded differently due to different levels of seniority in broadly the same career, before comparing interests and demand. For instance, children interested in developing computer game or coding would be classified most naturally as various

types of IT professional (in SOC 21), leaving no interests in the more junior roles such as IT technicians, despite the economic demand for such workers. In practice, however, some children may become IT professionals having first worked as an IT technician, web technician, or database administrator and accept this as part of how the career pathway works (in SOC 31), so demand in these two areas is combined for the analysis.

Likewise, no children’s job interests were naturally classified as “elementary trades” (e.g. packers, groundworkers), but some children might work in such roles while en route to a stated interest in a related skilled trade (e.g. welder, builder), so the economic demand for SOC 92 is distributed evenly across the four categories of skilled trades (SOC 51-54). Other examples include combining corporate managers and directors (SOC 11) with other managers and proprietors (SOC 12). The next table describes the original 2-digit SOC descriptions, their aggregations for this report, and the most common jobs actually named by children within those aggregated sets of occupations.



2-digit SOC categorisations and children's interests

2-digit SOC	Grouping for this study	Most common children's interests classified in this grouping
11 Corporate managers and directors	11 12 Managers, directors, & proprietors	Executives, Business owner, Office manager, Football manager, Restaurant owner, Charity workers, Estate agents
12 Other managers and proprietors	(combine into 11)	
21 Science, research, engineering and technology profs.	21 31 Science, research, engineering and technology	Scientists, Engineers, Video game designers/coders, Archaeologists, Astronauts
22 Health profs.	22 32 Health, social care, & childcare	Dentists, Doctors, Nurses, Vets, Pharmacists, Nursery teachers, Babysitters
23 Teaching and other educational profs.	23 Teaching and educational profs.	Teachers, Head teachers, Working in a university
24 Business, media and public service profs.	24 35 Business, media and public service	Architects, Accountants, Lawyers, Journalists, Bankers, Pilots
31 Associate professionals variant of 21	(combine into 21)	
32 Health and social care associate profs.	(combine into 22)	
33 Protective service occupations	33 63 Protective service occupations	Army, Firefighters, Police, Soldiers
34 Culture, media and sports occupations	34 Culture, media and sports occupations	Sports players, Actors, Performers, Artists, Youtubers, Fashion designers
35 Business & public service associate profs	(combine into 24)	
41 Administrative occupations	41 42 Secretarial, administrative and related	Secretaries, Receptionists
42 Secretarial and related occupations	(combine into 41)	
51 Skilled agricultural and related trades	51 91 Skilled agricultural, related trades	Farmers, Gardeners, Farm workers, Lumberjacks
52 Skilled metal, electrical, electronic trades	52 Skilled metal, electrical, electronic trades	Electricians, Mechanics, Welders
53 Skilled construction and building trades	53 Skilled construction and building trades	Builders, Painters, Joiners, Plumbers
54 Textiles, printing and other skilled trades	54 Textiles, printing and other skilled trades	Chefs, Bakers, Florists
61 Caring personal service occupations	61 Caring personal service	Pet sitters/groomers, Zoo-keepers, Animal shelters, Elderly carers
62 Leisure, travel and related personal service	62 Leisure, travel and related personal service	Hairdressers, Beauticians, Lifeguards, Air stewards, Make-up artists
63 Community and civil enforcement occs.	(combine into 33)	
71 Sales occupations	71 72 92 Sales & customer services	Shop keepers, Supermarket workers, Waiters/Waitresses, Restaurant workers
72 Customer service occupations	(combine into 71)	
81 Process, plant and machine operatives	81 Process, plant and machine operatives	Miners, Road workers
82 Transport & mobile machine drivers & ops	82 Transport / machine drivers & operatives	Lorry drivers, Taxi drivers, Delivery drivers, Bus drivers, Ship captains
91 Elementary trades and related occs.	(combine interests into 51 as reviewing each interest confirms this alignment; distribute demand over 51-54)	
92 Elementary administration & service occs.	(combine into 71)	

Future versions of such surveys could extend the scope and questions, in order to gather more information and address some of these uncertainties about job categorisation and other topics.

For instance, particularly if extended into secondary education, it becomes feasible to add more questions and make questions more precise. Data on secondary education students could also help assess whether alignment is improving with age and in what areas, as well as seeking to understand how young people reflect on their own changing opinions and whether this process has felt supported or uncomfortable. A

repeated survey in a future year could track whether alignment is improving over time, shedding light on the impact of policy efforts in this area. With the capacity for more sophisticated activities, particularly in older age groups, questions and discussions could explore anticipated vs desired jobs, willingness to do different jobs, future anticipated changes of mind, and backup plans in a more explicit manner.

Understanding respondents' participation in world of work inspiration and careers activities can also shed light on what schools can do to help young people develop grounded and nuanced understandings of potential future opportunities, especially where analysis tracks young people through time. More specific adjustments in a longer form survey include asking respondents how well they think they know each job, asking attitudinal questions on a 5-point scale, asking respondents to "tick all that apply" and select the "primary influence" for questions around how they heard about a job, and providing more detail around question on personal relationships to prevent misunderstandings.

Analytically, schools may wish to provide detail on their intake cohorts to enrich the analysis, such as their performance in standard tests, or the broader school context, such as rurality, intake characteristics, levels of disadvantage, school type, and size, to better understand potential factors influencing alignment and areas that may need greater support or policy attention. Regression analysis could also be used to disentangle potential drivers of misalignment in a more structured manner than this report.





Verbs	Nouns	Adjectives	Pronouns	Adverbs	Conjunctions
run, jump, swim	cat, dog, tree	big, small, happy	he, she, it	quickly, slowly	and, but, or

English



$$\begin{array}{r} 144 \times 2 \\ 6 \overline{) 866} \end{array}$$

$$1.1 + 2.3 = 3.4$$

30 mins after 11:02 = 11:32

$652 + 284 = 936$

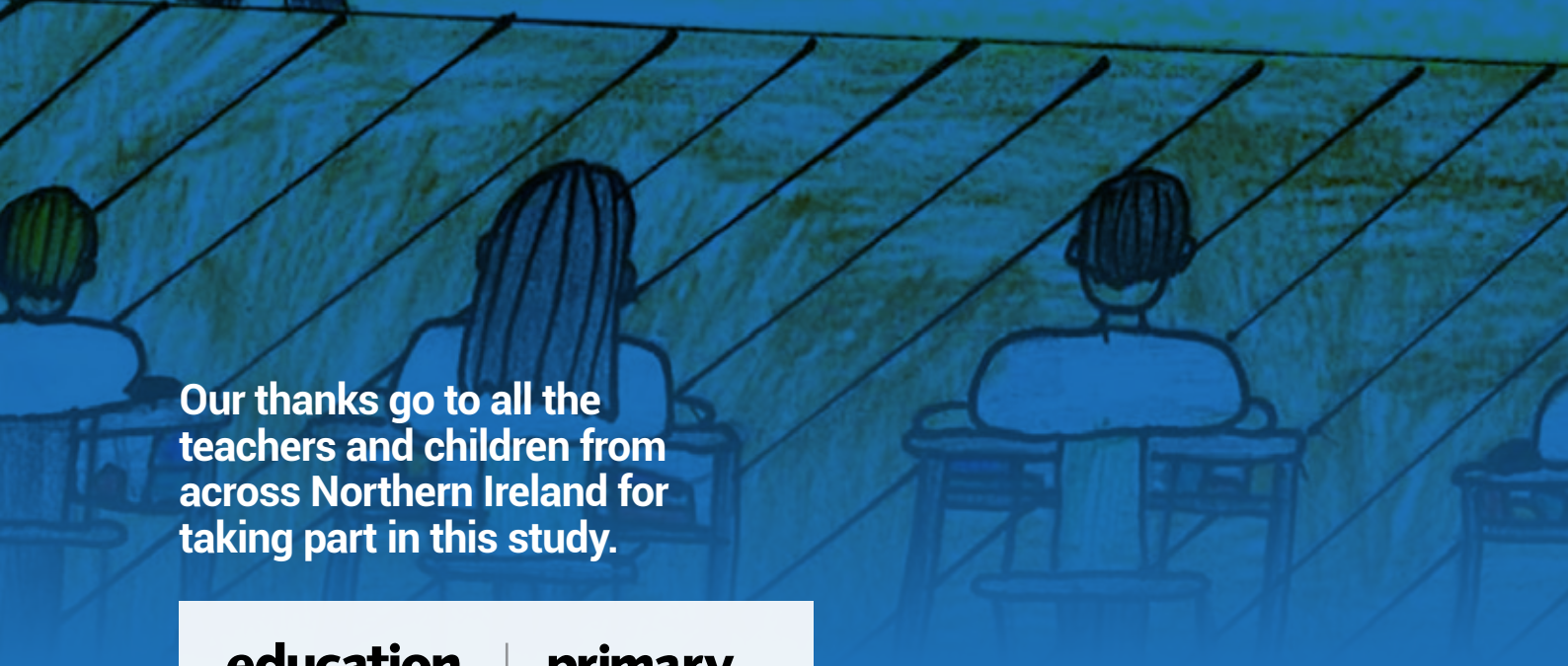
Maths is fun! $260 - 32 = 228$

Religion

Maths

Handwriting

Literacy



Our thanks go to all the teachers and children from across Northern Ireland for taking part in this study.