YOUTH.sg: The State of Youth in Singapore 2021





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WE HEAR YOUTH HERE FOR YOUTH

At NYC, we believe in a world where young people are respected and heard, and have the ability to influence and make a difference to the world. Together with our partners, we develop future-ready youth who are committed to Singapore by instilling in them a heart for service, resilience and an enterprising spirit.

Our Vision

Thriving youth who are Future-Ready and Committed to Singapore

🔺 Our Mission

Create Opportunities for All Youths in Singapore

To be heard, to be empowered and to be the change

🌔 Our Background

NYC was set up by the Singapore Government on 1 November 1989 as the national co-ordinating body for youth affairs in Singapore and the focal point of international youth affairs.

On 1 January 2015, NYC began its operations as an autonomous agency under the Ministry of Culture, Community and Youth (MCCY) and housed two key institutions: Outward Bound Singapore (OBS) and Youth Corps Singapore (YCS). Together, the agency drives youth development and broadens outreach to young Singaporeans and youth sector organisations.

Mr Edwin Tong, Minister for Culture, Community and Youth and Second Minister for Law is the Chairperson of the 16th Council. The Council comprises members from diverse backgrounds such as the youth, media, arts, sports, corporate and government sectors.



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Preface

The National Youth Survey (NYS) studies the major concerns and issues of schooling and working youths in Singapore. It is a time-series survey that tracks and provides updated analyses of national youth statistics and outcomes to inform policy and practice. To date, NYS has been conducted in 2002, 2005, 2010, 2013, 2016, and 2019. Findings and analyses from each cycle of NYS are subsequently published as YOUTH.sg: The State of Youth in Singapore (YOUTH.sg).

This edition of YOUTH.sg consists of six separate issues covering the topics of



Each issue features youth statistics and insights from the NYS. Complementing the NYS insights are relevant studies and in-depth analyses by practitioners in youth research and development to provide readers with an overview of the state of youth in Singapore.

Contributors comprise NYS' academic collaborators (A/Ps Ho Kong Chong, Ho Kong Weng, and Irene Ng), NYC, Youth STEPS' academic collaborators (Dr Chew Han Ei, A/P Vincent Chua, and Dr Alex Tan) and other contributors (Ministry of Manpower, National Arts Council, National Volunteer & Philanthropy Centre, and Sport Singapore). Together, the YOUTH.sg intends to shed light on and explore specific emergent trends and issues of youths.

This publication has been put together by the Research team at the National Youth Council.

Notation NA Not Available

Notes Percentages may not total up to 100% due to rounding. Survey figures may vary slightly due to sample weighting.



Education comprises learning within formal institutions as well as non-institutional learning. Continual acquisition of knowledge and skills is key to helping youths build competencies and stay relevant in today's evolving workforce. Understanding youths' attained competencies, perceptions of future preparedness, and educational aspirations provides additional insight to understanding the interdependent role of human capital accumulation and youth development (World Bank, 2019).

Employment reflects the process by which individuals apply their skills, competencies, and other attributes to create economic value. Looking at youths' perceived employability, job seeking stressors, and job expectations could go a long way towards balancing youths' occupational aspirations and readiness with the demands of the economy.



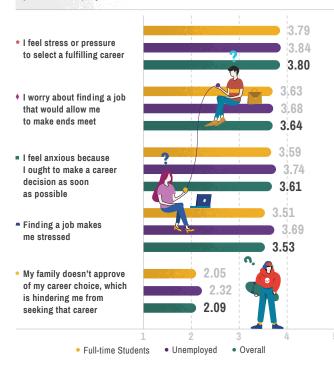
Education & Employment

Education & Employment

Pathways toward achieving one's educational and career aspirations have never looked as diverse and complex for today's youths.

Various industries within Singapore's economy are undergoing rapid changes due to technological advancements and the push to go digital. Compared to past cohorts, job security and lifetime employment are less guaranteed (Blossfeld et al., 2005; Kalleberg, 2009) as the ever-changing labour landscape introduces uncertainties to both school-to-work transitions and early career development (Heinz, 2009). In addition, COVID-19 was observed globally to be a major disruption to youths' pathways in achieving their educational and career aspirations (Organisation for Economic Co-operation and

Prior to the pandemic, youths faced pressures to find their preferred employment.



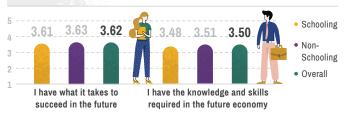
Development, 2020). This further complicates existing job seeking pressures among youths in Singapore.

Thus, in today's globalised economy, it is ever more pressing for youths to continuously assess and develop their skillsets and work experiences in order to better transition into the workplace and build a fulfilling career. Beyond building hard competencies, youths must not forget to develop their soft skills, such as creativity and social intelligence (Deloitte, 2017). In view of the trends, youths in Singapore are observed to sustain confidence in achieving their educational goals, while maintaining a conservative outlook of their trajectory in the future economy.

Competencies related to thriving in a diverse and dynamic environment saw the greatest dips.



Youths are moderately confident in their level of preparedness for the future.



Education & Employment

Part A: Future Preparedness & Competencies

Regardless of age and schooling status, youths' self-reported preparedness for the future is moderate (**Tables A1 and A2**). In line with their modest assessment of having the requisite knowledge and skills for the future economy, 2019 saw a decline in reported levels of work, social and cultural competencies (**Table A3**).

Younger youths are more likely to perceive that they possess leadership, multicultural, and empathetic competencies, while older youths are more likely to perceive that they are good at planning ahead. Public speaking is observed to be the weakest competency reported across all age groups (Table A4).



Question: To what extent do you agree with the following statements? (Based on a 5-pt scale, where 5="strongly agree", 3="neither agree nor disagree", & 1="strongly disagree".)

* TABLE A1: MEAN RATINGS OF YOUTHS' PERCEIVED PREPAREDNESS BY AGE

(with standard deviations in parentheses)

	15-19	20-24	25-29	30-34	Overall
	(n=716)	(n=804)	(n=926)	(n=946)	(n=3,392)
I have what it takes to succeed in the future	3.61 (0.82)	3.60 (0.87)	3.64 (0.80)	3.63 (0.81)	3.62 (0.83)
I have the knowledge and skills required in the future economy	3.45 (0.84)	3.49 (0.86)	3.50 (0.83)	3.54 (0.86)	3.50 (0.85)

TABLE A2: MEAN RATINGS OF YOUTHS' PERCEIVED PREPAREDNESS BY SCHOOLING STATUS

(with standard deviations in parentheses)

	Schooling	Non-Schooling	Overall
	(n=1,116)	(n=2,276)	(n=3,392)
I have what it takes to succeed in the future	3.61 (0.83)	3.63 (0.82)	3.62 (0.83)
I have the knowledge and skills required in the future economy	3.48 (0.84)	3.51 (0.86)	3.50 (0.85)

Note

This is a new question introduced in NYS 2019.

Question: To what extent do these qualities reflect who you are? (Based on a 5-pt scale, where 5="very much like me", 3="somewhat like me", & 1="not like me at all".)

A TABLE A3: MEAN RATINGS OF YOUTHS' COMPETENCIES OVER TIME

(with standard deviations in parentheses)

		2010	2013	2016	2019
		(n=1,268)	(n=2,843)	(n=3,531)	(n=3,392)
	Working well with other people	3.91 (0.70)	3.95 (0.86)	3.94 (0.84)	3.78 (0.87)
	Learning and applying new knowledge/skillsª	NA	NA	NA	3.65 (0.93)
	Analysing and evaluating issues objectively ^a	NA	NA	NA	3.63 (0.97)
Work Competencies	Being good at planning ahead	3.68 (0.83)	3.70 (1.01)	3.77 (0.98)	3.49 (1.05)
·	Taking initiative ^a	NA	NA	NA	3.42 (1.01)
	Leading a team of people	3.44 (0.97)	3.41 (1.13)	3.42 (1.11)	3.13 (1.16)
	Being innovative ^a	NA	NA	NA	3.11 (1.07)
	Caring about other people's feelings	4.01 (0.73)	4.19 (0.84)	4.15 (0.85)	3.92 (0.96)
	Staying away from people who might get me in trouble	3.65 (1.02)	3.74 (1.06)	3.77 (1.03)	3.67 (1.08)
Social Emotional	Adapting to change	3.85 (0.78)	3.86 (0.91)	3.89 (0.91)	3.59 (0.97)
Competencies	Being able to manage my thoughts and feelings ^a	NA	NA	NA	3.51 (0.98)
	Being good at making friends	3.96 (0.73)	3.68 (1.05)	3.62 (1.06)	3.36 (1.08)
	Speaking publicly	3.12 (1.01)	2.75 (1.25)	2.88 (1.23)	2.67 (1.23)
Global & Cultural Competencies	Respecting the values and beliefs of people who are of different race or culture than I am	3.91 (0.74)	4.23 (0.81)	4.20 (0.77)	4.02 (0.92)
	Understanding the impact of global forces on local issues ^a	NA	NA	NA	3.27 (1.12)
	Knowing a lot about people of other races and cultures	3.41 (0.95)	3.36 (1.08)	3.39 (1.05)	3.24 (1.07)

Note

a. Items are new to NYS 2019.

A TABLE A4: MEAN RATINGS OF YOUTHS' COMPETENCIES BY AGE

(with standard deviations in parentheses)

		15-19	20-24	25-29	30-34	Overall
		(n=716)	(n=804)	(n=926)	(n=946)	(n=3,392)
	Working well with other people	3.78 (0.91)	3.81 (0.86)	3.77 (0.86)	3.78 (0.87)	3.78 (0.87)
	Learning and applying new knowledge/skills ^a	3.69 (0.92)	3.66 (0.90)	3.67 (0.92)	3.60 (0.95)	3.65 (0.93)
	Analysing and evaluating issues objectively ^a	3.57 (1.01)	3.69 (0.95)	3.64 (0.95)	3.60 (0.95)	3.63 (0.97)
Work Competencies	Being good at planning ahead	3.38 (1.13)	3.48 (1.06)	3.52 (1.05)	3.54 (0.98)	3.49 (1.05)
	Taking initiative ^a	3.37 (1.05)	3.43 (1.01)	3.41 (1.00)	3.47 (0.99)	3.42 (1.01)
	Leading a team of people	3.22 (1.20)	3.17 (1.15)	3.08 (1.14)	3.09 (1.15)	3.13 (1.16)
	Being innovative ^a	3.19 (1.10)	3.10 (1.06)	3.06 (1.04)	3.10 (1.08)	3.11 (1.07)
	Caring about other people's feelings	4.07 (0.92)	4.00 (0.96)	3.86 (0.97)	3.82 (0.95)	3.92 (0.96)
	Staying away from people who might get me in trouble	3.67 (1.08)	3.71 (1.10)	3.67 (1.06)	3.63 (1.07)	3.67 (1.08)
Social Emotional	Adapting to change	3.59 (0.99)	3.61 (1.00)	3.58 (0.93)	3.57 (0.96)	3.59 (0.97)
Competencies	Being able to manage my thoughts and feelings ^a	3.47 (1.05)	3.50 (1.03)	3.50 (0.96)	3.55 (0.90)	3.51 (0.98)
	Being good at making friends	3.44 (1.12)	3.39 (1.10)	3.33 (1.04)	3.31 (1.09)	3.36 (1.08)
	Speaking publicly	2.76 (1.29)	2.71 (1.24)	2.64 (1.21)	2.60 (1.21)	2.67 (1.23)
Global & Cultural Competencies	Respecting the values and beliefs of people who are of different race or culture than I am	4.14 (0.92)	4.12 (0.87)	3.97 (0.91)	3.90 (0.96)	4.02 (0.92)
	Understanding the impact of global forces on local issues ^a	3.36 (1.13)	3.30 (1.15)	3.22 (1.06)	3.21 (1.12)	3.27 (1.12)
	Knowing a lot about people of other races and cultures	3.33 (1.06)	3.26 (1.07)	3.17 (1.05)	3.23 (1.09)	3.24 (1.07)

Note

a. Items are new to NYS 2019.



Education & Employment

Part B: Expectations & Aspirations

Section B1:Youths remain confident in their ability to attain a bachelor's degree or higher (Table B1). While the majority of
schooling youths believe that they can obtain at least a bachelor's degree, non-schooling youths are more likely
to think that they can achieve a postgraduate degree (Table B2).

Question: What is the highest level of education you think you can achieve?

* TABLE B1: YOUTHS' PERCEIVED HIGHEST LEVEL OF EDUCATION ACHIEVABLE OVER TIME

	2013	2016	2019
	(n=2,843)	(n=3,531)	(n=3,392)
Postgraduate degree	38%	34%	39%
Bachelor's degree	38%	39%	37%
Diploma	12%	13%	10%
Professional certification	7%	6%	6%
ITE or equivalent	3%	4%	2%
'A' level/Int'l Baccalaureate	1%	1%	1%
'O' or 'N' level	2%	3%	2%
PSLE & below	0%	1%	2%



* TABLE B2: YOUTHS' PERCEIVED HIGHEST LEVEL OF EDUCATION ACHIEVABLE BY SCHOOLING STATUS

	Schooling	Non-schooling	Overall
	(n=1,116)	(n=2,276)	(n=3,392)
Postgraduate degree	33%	43%	39%
Bachelor's degree	48%	32%	37%
Diploma	12%	10%	10%
Professional certification	3%	7%	6%
ITE or equivalent	1%	3%	2%
'A' level/Int'l Baccalaureate	1%	1%	1%
'O' or 'N' level	2%	3%	2%
PSLE & below	1%	2%	2%



Section B2: Perceived Education To Get A Decent Job

Corresponding to the belief that they can attain a bachelor's degree, youths also continue to perceive that a degree is the minimum qualification level needed to get a decent job. This belief is held by at least half of youths in Singapore across all schooling status (**Tables B3 and B4**).

Question: In your opinion, what level of education/training does a person need to get an average/decent job these days?

TABLE B3: YOUTHS' PERCEIVED LEVEL OF EDUCATION NEEDED TO GET A DECENT JOB OVER TIME

	2013	2016	2019
	(n=2,843)	(n=3,531)	(n=3,392)
Postgraduate degree	6%	5%	6%
Bachelor's degree	52%	50%	53%
Diploma	30%	30%	28%
ITE or equivalent	6%	8%	6%
'A' level/Int'l Baccalaureate	1%	1%	1%
'O' or 'N' level	4%	4%	4%
PSLE	1%	0%	1%
Others	1%	2%	2%

TABLE B4: YOUTHS' PERCEIVED LEVEL OF EDUCATION NEEDED TO GET A DECENT JOB BY SCHOOLING STATUS

	Schooling	Non-schooling	Overall
	(n=1,116)	(n=2,276)	(n=3,392)
Postgraduate degree	7%	6%	6%
Bachelor's degree	53%	54%	53%
Diploma	30%	27%	28%
ITE or equivalent	5%	6%	6%
'A' level/Int'l Baccalaureate	1%	1%	1%
'O' or 'N' level	4%	3%	4%
PSLE	0%	1%	1%
Others	1%	2%	2%

Section B3: Most youths have a minimum income level in mind when seeking a job (Table B5). Across all age groups, close to 90% of youths expect to earn more than \$2,000 (Table B7), which is a realistic expectation considering that the median gross monthly salary among fresh graduates in permanent full-time jobs in 2020 was \$3,700 (Ang, 2021).

Question: Is there a minimum level of income per month below which you would not accept a job as your main occupation?

▲ TABLE B5: YOUTHS WITH EXPECTED LEVEL OF INCOME OVER TIME

	2013	2016	2019
	(n=2,843)	(n=3,531)	(n=3,392)
Yes	72%	83%	85%

▲ TABLE B6: YOUTHS WITH EXPECTED LEVEL OF INCOME BY AGE

	15-19	20-24	25-29	30-34	Overall
	(n=716)	(n=804)	(n=926)	(n=946)	(n=3,392)
Yes	77%	84%	88%	88%	85%

Question: What is the minimum amount of monthly income at which you would accept a job as your main occupation?

▲ TABLE B7: YOUTHS' EXPECTED LEVEL OF INCOME BY AGE

	15-19	20-24	25-29	30-34	Overall
	(n=555)	(n=679)	(n=817)	(n=837)	(n=2,888)
S\$10,000 & above	5%	1%	1%	3%	2%
S\$7,000 - S\$9,999	7%	1%	1%	5%	3%
S\$5,000 - S\$6,999	15%	3%	8%	20%	12%
S\$3,000 - S\$4,999	33%	42%	49%	42%	42%
S\$2,000 - S\$2,999	29%	43%	33%	24%	32%
S\$1,500 - S\$1,999	6%	7%	6%	4%	6%
S\$1,000 - S\$1,499	4%	3%	1%	1%	2%
S\$500 - S\$999	1%	0%	0%	0%	1%
Less than S\$500	1%	0%	1%	1%	1%

Education & Employment

Part C: Employment Concerns

Section C1:While recognising that there are opportunities available in the labour market, schooling and unemployed
youths are only moderately confident in their employability. In particular, they may be less assured of
having the right skillsets to get a job (Table C1). Working youths are more confident in their employability,
particularly if they perceive themselves as having the relevant skills and experience (Table C2).

Question: We would like to know about your opinions on your prospects regarding work. Below are some statements that you may agree or disagree with.

(Based on a 5-pt scale, where 5="strongly agree", 3="neither agree nor disagree", & 1="strongly disagree".)

TABLE C1: MEAN RATINGS OF YOUTHS' PERCEIVED EMPLOYABILITY BY EMPLOYMENT STATUS

(with standard deviations in parentheses)

	Full-time Students	Unemployed	Overall
	(n=1,328)	(n=199)	(n=1,527)
I am confident there is a market for the job that I am intending to pursue	3.53 (0.87)	3.58 (0.88)	3.54 (0.87)
I know what I need to do to get the job that I want	3.53 (0.88)	3.45 (0.92)	3.52 (0.89)
I am confident that my educational qualifications can secure me a job in my chosen field	3.39 (0.95)	3.38 (1.01)	3.39 (0.96)
People in the career I am aiming for are in high demand in the labour market	3.36 (0.88)	3.51 (0.92)	3.38 (0.89)
The skills and abilities that I possess allow me to be employed in any organisation	3.30 (0.92)	3.25 (0.96)	3.29 (0.92)
There are plenty of job vacancies where I am looking	2.86 (0.85)	2.94 (0.94)	2.87 (0.86)

Note

Full-time Students comprise - (1) Full-time Students and not working and (2) Full-time Students and working part-time.

Source: Youth STEPS (National Youth Council & IPS Social Lab, 2019).

Question: We would like to know about the nature of your job. Below are some statements that you may agree or disagree with. (Based on a 5-pt scale, where 5="strongly agree", 3="neither agree nor disagree", & 1="strongly disagree".)

* TABLE C2: MEAN RATINGS OF WORKING YOUTHS' PERCEIVED EMPLOYABILITY

(with standard deviations in parentheses)

	Employed
	(n=1,201)
I could get any job, anywhere, so long as my skills and experience were reasonably relevant	3.69 (0.79)
I am aware of the opportunities arising in this organisation even if they are different to what I do now	3.62 (0.80)
If I needed to, I could easily get another job like mine in a similar organisation	3.52 (0.89)
Even if there was downsizing in my current organisation, I am confident that I could remain employed	3.50 (0.95)
My personal networks in this organisation help me in my career	3.46 (0.90)
Anyone with my level of skills and knowledge, will be highly sought after by employers	3.39 (0.80)
I could easily get a similar job to mine in almost any organisation	3.29 (0.93)

Note

Employed comprises – (1) Working full-time and not studying, (2) Working full-time and studying part-time, (3) Working part-time and not studying and (4) Working part-time and studying part-time.

Section C2:Both schooling and unemployed youths feel the pressure to select a job which is fulfilling and would allow them to make
ends meet. Unemployed youths feel more anxious about making a career decision and experience greater stress in their job
search. Family approval (or lack thereof) does not seem to affect youths' career plans (Table C3).

Question: We would like to know about your opinions on your prospects regarding work. Below are some statements that you may agree or disagree with.

(Based on a 5-pt scale, where 5="strongly agree", 3="neither agree nor disagree", & 1="strongly disagree".)

TABLE C3: MEAN RATINGS OF YOUTHS' JOB SEEKING STRESS BY EMPLOYMENT STATUS

(with standard deviations in parentheses)

	Full-time Students	Unemployed	Overall
	(n=1,328)	(n=199)	(n=1,527)
I feel stress or pressure to select a fulfilling career	3.79 (0.97)	3.84 (0.96)	3.80 (0.97)
I worry about finding a job that would allow me to make ends meet	3.63 (1.01)	3.68 (1.07)	3.64 (1.02)
I feel anxious because I ought to make a career decision as soon as possible	3.59 (1.00)	3.74 (0.97)	3.61 (1.00)
Finding a job makes me stressed	3.51 (0.93)	3.69 (1.02)	3.53 (0.95)
My family doesn't approve of my career choice, which is hindering me from seeking that career	2.05 (0.93)	2.32 (1.13)	2.09 (0.96)

Note

Full-time Students comprise - (1) Full-time Students and not working and (2) Full-time Students and working part-time.

Source: Youth STEPS (National Youth Council & IPS Social Lab, 2019). ĸ

Education & Employment

Part D: Overseas Exposure

Overseas exposure helps build one's sense of self-confidence and the ability to cope with uncertainty (Gmelch, 1997). Older youths report lower levels of overseas programme participation than younger youths (**Table D1**). More than half of schooling youths across all educational levels participate in at least one overseas programme, with study trips, student exchanges, and cultural immersions being the top programmes (**Table D3**).

Question: Have you participated in the following overseas programmes?

* TABLE D1: OVERSEAS PROGRAMME PARTICIPATION BY AGE

	15-19	20-24	25-29	30-34	Overall
	(n=716)	(n=804)	(n=926)	(n=946)	(n=3,392)
Overall participation ^a	59%	64%	55%	41%	54%
Study trip	41%	44%	33%	21%	34%
Student exchange	17%	24%	29%	18%	22%
Community expedition	18%	25%	21%	14%	19%
Cultural immersion programme ^b	24%	21%	16%	11%	17%
Internship	10%	11%	16%	14%	13%
Competition	7%	9%	10%	6%	8%
Religious expedition	5%	5%	7%	7%	6%
Other learning programme	0%	1%	2%	1%	1%

Notes

Question is refined in NYS 2019.

This is a multiple response item, hence figures will not sum to 100%.

The upper-bound survey population figures are reflected in this table.

a. Overall participation is based on participation in at least one overseas programme.

b. Item is new to NYS 2019.

TABLE D2: SCHOOLING YOUTHS' SCHOOL-BASED OVERSEAS PROGRAMME PARTICIPATION OVER TIME

	2013	2016	2019
	(n=1,057)	(n=1,206)	(n=1,116)
Overall participation ^a	65%	66%	62%
Study trip	28%	37%	43%
Student exchange	28%	37%	21%
Community expedition	20%	23%	21%
Cultural immersion programme ^b	NA	NA	24%
Internship	4%	6%	10%
Competition	7%	10%	6%
Religious expedition	1%	4%	2%
Other learning programme	7%	4%	0%

Notes

a. Overall participation is based on participation in at least one overseas programme over the course of their schooling life.

b. Item is new to NYS 2019.



TABLE D3: SCHOOLING YOUTHS' SCHOOL-BASED OVERSEAS PROGRAMME PARTICIPATION BY ENROLLED INSTITUTIONS

	Secondary	JC/IB	ITE	Polytechnic	Local University	Others ^a	Overall
	(n=250)	(n=116)	(n=59)	(n=274)	(n=303)	(n=114)	(n=1,116)
Overall participation ^b	52 %	77%	54%	56 %	77%	54%	62 %
Study trip	38%	51%	31%	38%	52%	43%	43%
Student exchange	18%	24%	19%	14%	33%	11%	21%
Community expedition	12%	22%	22%	19%	30%	16%	21%
Cultural immersion programme°	24%	32%	14%	24%	26%	18%	24%
Internship	8%	7%	24%	8%	12%	6%	10%
Competition	5%	7%	5%	4%	9%	10%	6%
Religious expedition	2%	0%	2%	2%	3%	1%	2%
Other learning programme	0%	1%	0%	0%	0%	0%	0%

Notes

This is a multiple response item, hence figures will not sum to 100%.

The upper-bound survey population figures are reflected in this table.

a. Youths enrolled in private or foreign institutions.

b. Overall participation is based on participation in at least one overseas programme over the course of their schooling life.

c. Item is new to NYS 2019.



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About the National Youth Survey



The NYS represents a milestone in Singapore's youth research with its resource-based approach that focuses on the support youths require for societal engagement (social capital) and individual development (human capital).

The National Youth Indicators Framework (NYIF) (Ho & Yip, 2003) was formulated to provide a comprehensive, systematic, and theoreticallygrounded assessment of youths in Singapore. The NYIF draws from the existing research literature, policy-relevant indicators, and youth development models. It spans six domains of social and human capital. **Table I** summarises the framework.

TABLE I: NATIONAL YOUTH INDICATORS FRAMEWORK

	Social Capital (Grootaert & van Bastelaer, 2002; Putnam, 2000)	Human Capital (Organisation for Economic Co-operation and Development, 2001; World Economic Forum, 2017)
Definition	Social capital refers to the relationships within and between groups, and the shared norms and trust that govern these interactions.	Human capital refers to the skills, competencies, and attitudes of individuals, which in turn create personal, social, and economic wellbeing.
Domains	 Social support Social participation Values & attitudes 	EducationEmploymentWellbeing
Focus	The power of relationships	The human potential of young people

NYS 2019 adopted a random (i.e., probability-based) sampling method to ensure responses are representative of the resident youth population aged 15 to 34 years old.

The fieldwork period spanned from September to November 2019. A total of 3,392 youths were successfully surveyed, of which 227 were surveyed at their households. Demographic proportions of NYS respondents adhered closely to the youth population.

Table II presents the profile of respondents from NYS 2002, 2005, 2010, 2013, 2016, and 2019. Figures referenced in all tables in the publication (with the exception of figures from NYS 2002^a) were weighted according to interlocking matrices of age, gender, and race of the respective youth populations.



Note a. Figures from NYS 2002 were not weighted due to the non-standard age bands used.

A TABLE II: PROFILE OF NYS RESPONDENTS

		NYS 2002 (n=1,504)	NYS 2005 (n=1,504)	NYS 2010 (n=1,268)	NYS 2013 (n=2,843)	NYS 2016 (n=3,531)	NYS 2019 (n=3,392)	Latest Youth Population ^a
	15-19	NYS 2002	33%	24%	24%	23%	21%	21%
	20-24	utilised	31%	23%	25%	25%	24%	24%
Age	25-29	non-standard age bands	36%	25%	24%	25%	27%	27%
	30-34 ^b	NA	NA	28%	28%	27%	28%	28%
Gender	Male	50%	50%	49%	49%	49%	50%	50%
Genuer	Female	50%	50%	51%	51%	51%	50%	50%
	Chinese	77%	75%	72%	72%	72%	72%	72%
Daga	Malay	15%	15%	15%	16%	16%	17%	17%
Race	Indian	7%	9%	10%	10%	9%	9%	9%
	Others	1%	1%	4%	3%	3%	3%	3%
Notionality	Singaporean	93%	90%	86%	91%	94%	93%	86%
Nationality	Permanent Resident	7%	10%	14%	10%	6%	7%	14%
	Single	83%	85%	74%	74%	74%	74%	74%
Marital Status	Married	17%	14%	25%	25%	26%	25%	25%
	Divorced/Separated/Widowed	0%	1%	1%	1%	1%	1%	1%
	Buddhism	35%	32%	36%	25%	24%	22%	28%
	Islam	16%	17%	18%	19%	20%	21%	18%
	Christianity	16%	16%	15%	19%	19%	20%	18%
Religion	Hinduism	5%	6%	6%	6%	5%	5%	5%
	Taoism/Traditional Chinese Beliefs	6%	6%	7%	7%	6%	5%	7%
	Other Religions	2%	1%	3%	1%	0%	1%	0%
	No Religion	21%	21%	15%	23%	25%	27%	23%
	HDB 1-2 rooms	5%	3%	5%	3%	5%	4%	3%
	HDB 3 rooms	26%	24%	24%	14%	14%	14%	12%
Dwelling	HDB 4 rooms	33%	43%	34%	37%	38%	35%	35%
	HDB 5 rooms, executive, & above	24%	19%	26%	31%	29%	30%	29%
	Private flat & condominium	100/	110/	3%	10%	9%	12%	13%
	Private house & bungalow	12%	11%	9%	6%	4%	4%	6%
	Others	0%	NA	NA	0%	0%	1%	0%

Notes

a. Latest youth population refers to the most recent available data from the Department of Statistics (DOS) at the time of fieldwork - age, gender, race, and dwelling (DOS, 2019a) as well as nationality (DOS, 2019b), marital status, and religion (DOS, 2016).

b. The 30-34 age band was included from NYS 2010.



YOUTH STUDY ON TRANSITIONS & EVOLVING PATHWAYS IN SINGAPORE (YOUTH STEPS)

NYC and the Institute of Policy Studies (IPS) Social Lab have partnered to embark on the first national-level longitudinal study of youths in Singapore to better understand young people's experiences as they live, study, work, and play in Singapore. Between 2017 and 2022, the Youth STEPS will explore youths' evolving life aspirations, values and attitudes, and achievements and mobility as they transition from adolescence to adulthood.

A nationally-representative youth panel of 17- to 24-year-old youths were recruited in 2017. Annual survey fieldwork and data analysis are undertaken by IPS Social Lab. To date, three waves of the study have been completed. In the third wave, a total of 3,178 youths aged 19 to 26 were surveyed in 2019.



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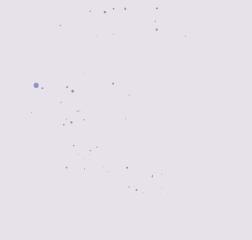
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YOUTH IN THE LABOUR MARKET BY MANPOWER, RESEARCH & STATISTICS DEPARTMENT, MINISTRY OF MANPOWER

Consistent with past years, a large majority of employed youths were employees, with about twothirds in permanent roles. Employment trends have responded to shifts in the labour market, with an increase in the number of own account workers and the share of youth employees on fixed-term contract prior to COVID-19.

Labour market outcomes for youths have remained fairly stable during the COVID-19 pandemic. Their time-related underemployment rate has remained low and youths continued to see income growth.

3

1

Youths remain productive citizens. Overall, the prevalence of youths in Singapore who were not in employment, education or training (i.e., NEET) remained low by international standards. Improvements to youths' education profile and positive perceptions of employers towards fresh graduates bode well for their entry into the workforce. 2

EDUCATION PATHWAYS, FAMILY ENVIRONMENT, YOUTH WELLBEING & OUTLOOK BY A/P IRENE Y.H. NG & ANNIE CHEONG

The school and family are two key spheres of influence for young people with lasting impact on youth development. Studies have found that early ability tracking in schools can impact youths' wellbeing and educational and occupational outcomes disproportionately. As Singapore's education moves toward a more inclusive ecosystem and enhances access to opportunities for all, understanding the impact of education and youth policies to promote social equity for the benefit of youths' wellbeing remains pertinent.

Focusing on students aged 15 to 18 in the National Youth Survey (NYS), analyses by A/P Irene Ng and Annie Cheong examine the roles of educational paths and the family environment to mediate the influence of youths' family socio-economic status (SES) and personal background on their developmental outcomes. These include outcomes related to wellbeing such as psychological outcomes and stressors and outlookrelated outcomes such as educational aspirations and future outlook.

2

3

1

Findings from NYS 2019 have shown promising trends, where greater acceptance of diverse education pathways and strong family environment can act as important protective factors for healthy development of youths from all backgrounds. However, the advantage of having educated parents or higher SES, through placing students in more desired educational paths, on youth development remains clear across the years.



BY MANPOWER, RESEARCH & STATISTICS DEPARTMENT, MINISTRY OF MANPOWER





This research piece by the Manpower Research and Statistics Department, Ministry of Manpower focuses on labour market outcomes of youths in Singapore over the decade from 2009 to 2019.

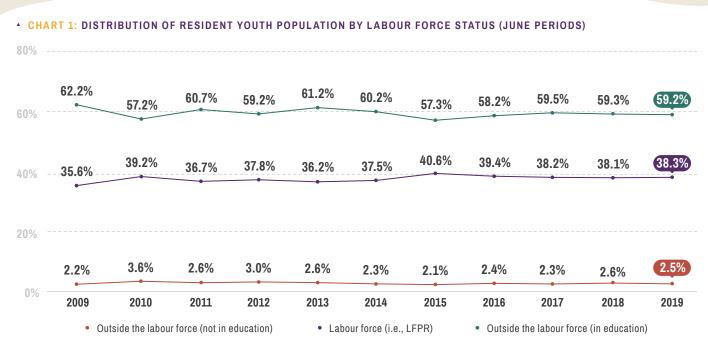
Within this piece, youths are defined as persons aged 15 to 24, in line with practices of the International Labour Organisation and many countries. Data pertaining to the resident¹ population were mainly sourced from the Labour Force Surveys conducted by the Manpower Research and Statistics Department, MOM.

Youths' education profile has improved over the decade, and employers generally perceived fresh graduates to be prepared for work. In terms of labour market outcomes, youths in Singapore had one of the lowest unemployment and long-term unemployment rates, as well as a low prevalence of those not in employment, education or training (i.e., NEET) compared to other economies. This suggests that economic "idleness" was less of an issue in Singapore. Among those at work, their incomes continued to grow. This reflects our quality education and training system which helps youths with their transition into the labour force. Labour market outcomes for youths have remained fairly stable during the COVID-19 pandemic. Their time-related underemployment rate remained low and youths continued to see income growth. While there were increases in their unemployment rate, this reflects the higher tendency for youths who are in education to seek employment on a part-time basis in hospitality-related sectors which were more affected by the pandemic.

PURSUIT OF STUDIES IS THE MAIN REASON FOR YOUTHS' DEFERRED ENTRY INTO THE LABOUR MARKET

The labour force participation rate (LFPR) of youths aged 15 to 24 (2019: 38%) is typically lower than other age groups as most youths often defer entry into the labour market in pursuit of studies. In 2019, majority of youths were outside the labour force due to education-related reasons² (59%), with the share outside the labour force due to non-education-related reasons remaining low (2.5%). This has remained fairly consistent over the decade.

¹Residents refer to Singapore Citizen and Permanent Residents ²Including training



Youths in the Labour Market

Note

Persons outside the labour force in education pertain to those pursuing full-time or part-time studies, awaiting the start of the academic year, national service (NS) call-up or examination results, as well as those attending courses or training.



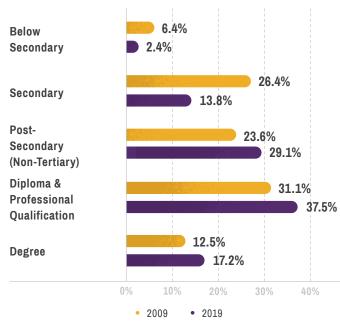
Source: Comprehensive Labour Force Survey, Manpower Research & Statistics Department, MOM

YOUTHS' EDUCATION PROFILE HAS IMPROVED OVER THE DECADE

The proportion of youths in the labour force with tertiary and postsecondary (non-tertiary) qualifications has increased over the decade, while those with secondary and below qualifications saw a decline.

However, the share of degree holders among youths aged 15 to 24 years (2019: 17%) was lower than other education groups as degree holders typically spend more years in education and enter the labour market later. Within the next age bracket (25 to 29), the share who attained degree qualifications was significantly higher at 57% in 2019, when majority of the population would have entered the labour market³.

CHART 2: DISTRIBUTION OF RESIDENT YOUTH LABOUR FORCE BY HIGHEST QUALIFICATION ATTAINED (JUNE PERIODS)

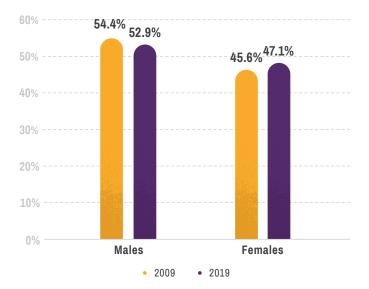


Source: Comprehensive Labour Force Survey, Manpower Research & Statistics Department, MOM

YOUTH'S GENDER PROFILE HAS REMAINED CONSISTENT OVER THE DECADE

In 2019, there continued to be a slightly higher proportion of males (53%) in the youth labour force compared to females (47%).

CHART 3: SEX COMPOSITION OF RESIDENT YOUTH LABOUR FORCE (JUNE PERIODS)



Source: Comprehensive Labour Force Survey, Manpower Research & Statistics Department, MOM

HIGHER UNEMPLOYMENT RATES AMONG YOUTHS REFLECTED HIGHER CHURN

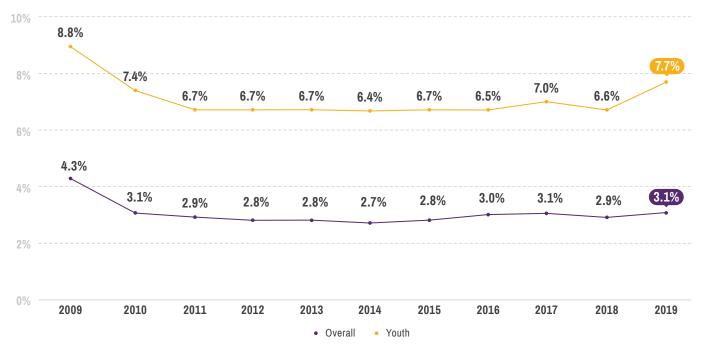
Unemployment rates of youths tended to be higher than their older counterparts⁴, reflecting the job search activities of fresh graduates entering the labour market, as well as the higher churn as a result of exploring different options to find a suitable job.

Nonetheless, Singapore's youth unemployment rate (2019: 7.7%) remained lower than many other developed economies such as France (20%), United Kingdom (11%) and Hong Kong (8.6%).

³In 2019, 90.1% of the resident population aged 25 to 29 were in the labour force, compared to just 38.3% for those aged 15 to 24.

⁴This refers to those aged 25 & over.

CHART 4: RESIDENT YOUTH & OVERALL UNEMPLOYMENT RATE (ANNUAL AVERAGE)



Notes

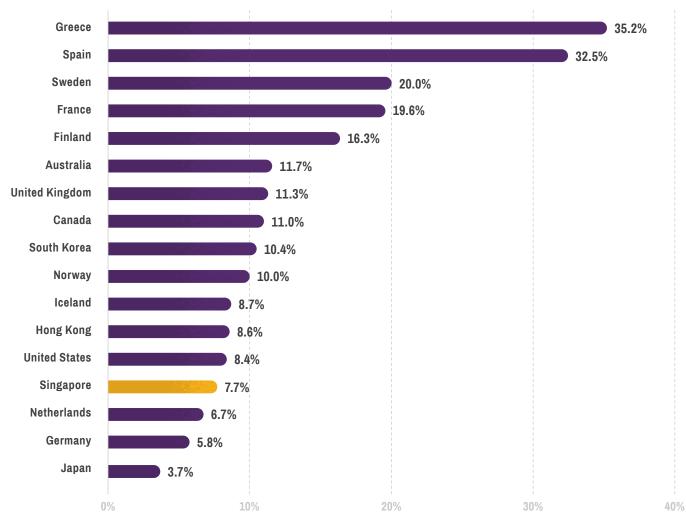
(1) Annual figures are the simple averages of the non-seasonally adjusted unemployment figures obtained at quarterly intervals. (2) "Overall" refers to those aged 15 & over.



Source: Labour Force Survey, Manpower Research & Statistics Department, MOM

Youths in the Labour Market

CHART 5: COMPARISON OF YOUTH UNEMPLOYMENT RATES, 2019



Notes

(1) Data for Singapore pertain to residents and are based on annual average.

(2) Youths refer to those aged 15 to 24, except for United States, United Kingdom, Iceland and Spain, which refer to those aged 16 to 24.

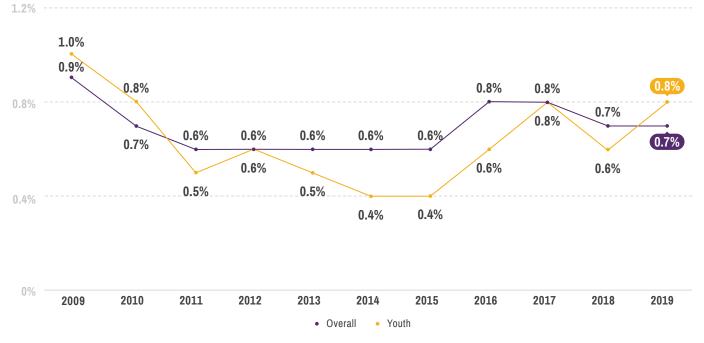
Source:

Singapore: Labour Force Survey, Manpower Research & Statistics Department, MOM Other economies: OECD Stat Database and National Statistical Agencies

YOUTHS WERE UNLIKELY TO BE UNEMPLOYED FOR PROLONGED PERIODS

Youths were generally less prone to long-term unemployment as their unemployment is mostly transitional. This was unlike older workers who typically sought more time seeking comparable jobs to those they left, and as such more likely to be long-term unemployed. Comparisons among selected economies also ascertained that Singapore's youth long-term unemployment rate (2019: 0.8%) was one of the lowest.

CHART 6: RESIDENT YOUTH & OVERALL LONG-TERM UNEMPLOYMENT RATE (ANNUAL AVERAGE)



Notes

(1) The long-term unemployed refer to those unemployed for at least 25 weeks.

(2) Annual figures are the simple averages of the non-seasonally adjusted unemployment figures obtained at quarterly intervals.

(3) "Overall" refers to those aged 15 & over.

Youths in the Labour Market

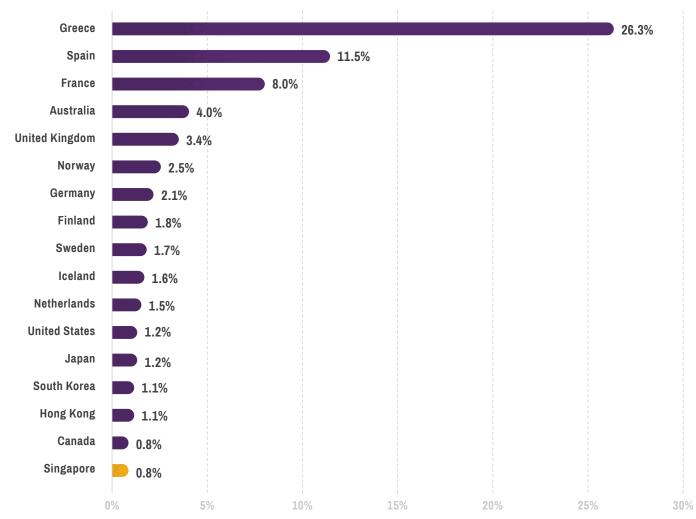


CHART 7: COMPARISON OF YOUTH LONG-TERM UNEMPLOYMENT RATES, 2019

Notes

(1) Data for Singapore pertain to residents and are based on annual average.

(2) Youths refer to those aged 15 to 24, except for United States, United Kingdom, Iceland and Spain, which refer to those aged 16 to 24.

(3) For Singapore, long-term unemployed refers to those unemployed for at least 25 weeks. In other economies, long-term unemployed refers to those who have been unemployed for at least 6 months, except for United States which refer to those unemployed for at least 27 weeks.

Source:

Singapore: Labour Force Survey, Manpower Research & Statistics Department, MOM Other economies: OECD Stat Database and National Statistical Agencies

PREVALENCE OF YOUTHS NOT IN EMPLOYMENT, EDUCATION OR TRAINING IS LOW IN SINGAPORE

To better understand youths' difficulty in finding a job, as well as their likelihood of being economically "idle", it is useful to look at the proportion of youth population who are not in employment, education or training (i.e., the NEET measure).

4.5% (or 20,000) of youths were not in employment, education or training in 2019, comparable to 2018 (4.3% or 20,500). Among them, almost 1 in 2 NEET youths (46% or 9,300) were unemployed, of which

CHART 8: RESIDENT NEET YOUTHS, 2019 (ANNUAL AVERAGE)

only 1,000 were long-term unemployed (4.9%). The remaining were outside the labour force (54% or 10,700), with taking a break (23% or 4,600) being the top reason. The share who was discouraged remained low as well (2.4% or 500).

Based on comparisons with other economies, our NEET rate remained low by international standards as well.

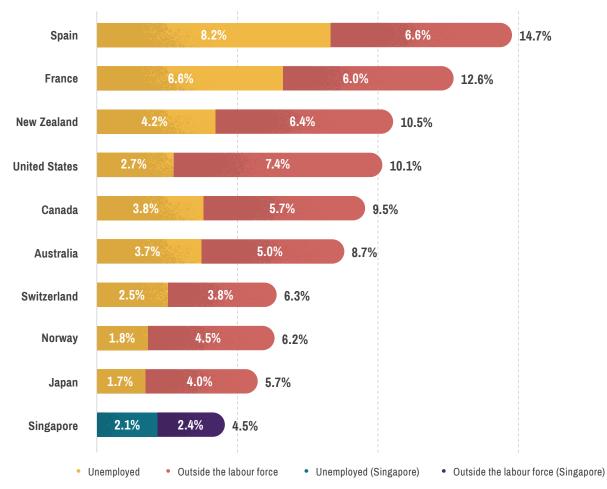


Notes

- (1) NEET refers to those who are unemployed or outside the labour force, due to reasons other than education or training.
- (2) NEET rate represents the NEET youths as a proportion of the resident youth population.
- (3) Figures in brackets refer to distribution among resident NEET youths.
- (4) "Family responsibilities" includes housework, childcare and care-giving to families/relatives.
- (5) "Discouraged" refers to persons outside the labour force who are not actively looking for a job because they believe their job search would not yield results. Reasons cited for being discouraged include: (a) believes no suitable work available; (b) employers' discrimination (e.g., prefer younger workers) and (c) lacks necessary qualification, training, skills or experience.
- (6) "Others" includes having sufficient financial support/means, care-giving to other persons who are not relatives and doing voluntary/community work.
- (7) Data may not add up to 100% due to rounding.

Source: Labour Force Survey, Manpower Research & Statistics Department, MOM

CHART 9: COMPARISON OF YOUTH NEET RATES, 2019



Notes

(1) Singapore's data pertain to residents and are based on annual average.

(2) Youths refer to those aged 15 to 24, except for United States and Spain which refer to those aged 16 to 24.

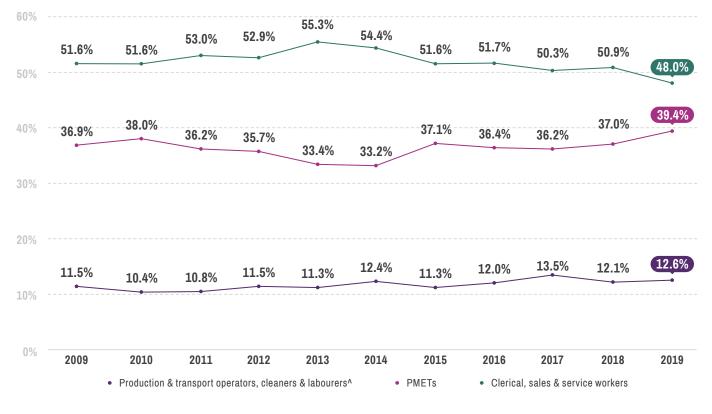
(3) Unemployed and outside the labour force components may not add up to the NEET rate due to rounding.

Source: Singapore: Labour Force Survey, Manpower Research & Statistics Department, MOM Other economies: OECD Stat Database

OCCUPATIONAL MIX AMONG YOUTHS LARGELY A REFLECTION OF TRENDS IN EDUCATIONAL QUALIFICATION & THE PRESENCE OF PART-TIMERS

Reflecting a greater presence of youths in part-time and temporary work, the majority of them were employed as clerical, sales and service workers (2019: 48%) such as office clerks, waiters and shop sales assistants. A smaller proportion were employed as professionals, managers, executives and technicians (PMETs; 39%)⁵ and production and related workers (13%). Youths' PMET share has risen in recent years, reflecting their improvements in education attainment.

CHART 10: OCCUPATIONAL DISTRIBUTION OF EMPLOYED RESIDENT YOUTHS (JUNE PERIODS)



Notes

(1) Data exclude full-time National Servicemen. This allows for better understanding of the choice of employment among youths.

(2) Data are classified based on Singapore Standard Occupational Classification (SSOC) 2020.

(3) Data for each year may not add up to 100% due to rounding.

(4) ^ Includes Agricultural and Fishery Workers and Workers Not Elsewhere Classified.

Source: Comprehensive Labour Force Survey, Manpower Research & Statistics Department, MOM

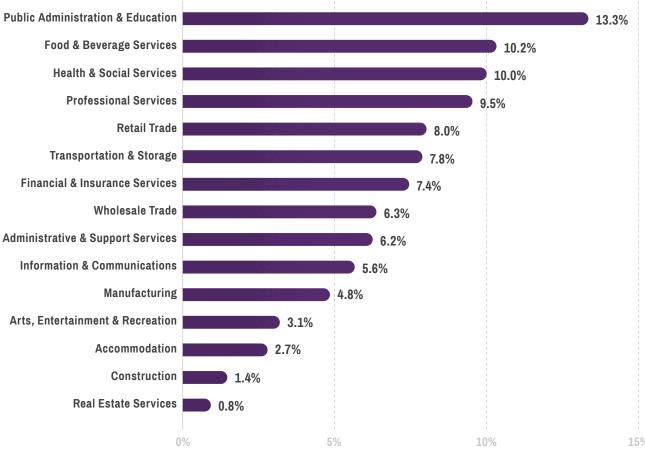
⁵Youths' PMET share was lower than at the next age band of 25 to 29 (73%) as degree holders spent more years in education and often entered the labour market later.

YOUTHS WERE MAINLY EMPLOYED IN SERVICES INDUSTRIES

Youths were mainly employed in services industries such as public administration and education, food and beverage services, as well as health and social services.



▲ CHART 11: INDUSTRY DISTRIBUTION OF EMPLOYED RESIDENT YOUTHS, JUNE 2019



Notes

(1) Data exclude full-time National Servicemen.

(2) Data does not add up to 100% as "Others" (which refers to Agricultural, Fishing, Quarrying, Utilities and Sewerage and Waste Management) and "Other Community, Social & Personal Services" is not separately shown.

(3) Data are classified based on Singapore Standard Industry Classification (SSIC) 2020.

Source: Comprehensive Labour Force Survey, Manpower Research & Statistics Department, MOM

YOUTHS TYPICALLY EARNED LESS THAN THEIR OLDER COUNTERPARTS BUT THEY CONTINUED TO SEE INCOME GROWTH

Expectedly, youths earn lower incomes than their older counterparts, as most have just entered the labour market and are likely to be in entry-level positions. In 2019, the nominal median gross monthly income of full-time employed youths (including employer CPF contributions) was \$2,574, lower than the overall for all full-time employed residents (\$4,563). This was also weighed down by those who work while studying. Excluding students in employment, youths who were fully engaged in work had a higher median income (2019: \$2,872).

Over the longer term⁶, youths who were fully engaged in work continued to see real⁷ median income growth in the recent five years (2014 to 2019: 4.3% per annum), higher than the preceding five years (2009 to 2014: 1.3% p.a.).

MAJORITY OF YOUTHS WERE EMPLOYEES

Consistent with past years, a large majority of employed youths were employees (2019: 94%). A significantly smaller proportion were self-employed (6.0% - of which 5.2%-points were own account workers⁸; the remaining 0.8%-points were employers and contributing family workers). While still low, relative to 2017, there has been an increase in share who were own account workers, along with the rise in own account work⁹.

CHART 12: DISTRIBUTION OF EMPLOYED RESIDENT YOUTHS BY EMPLOYMENT STATUS (JUNE PERIODS)



Note

Data exclude full-time National Servicemen.

Source: Comprehensive Labour Force Survey, Manpower Research & Statistics Department, MOM

⁶Income change is analysed over the longer term to smooth on year-on-year fluctuations.

⁷Deflated by Consumer Price Index for all items at 2019 prices (2019=100).

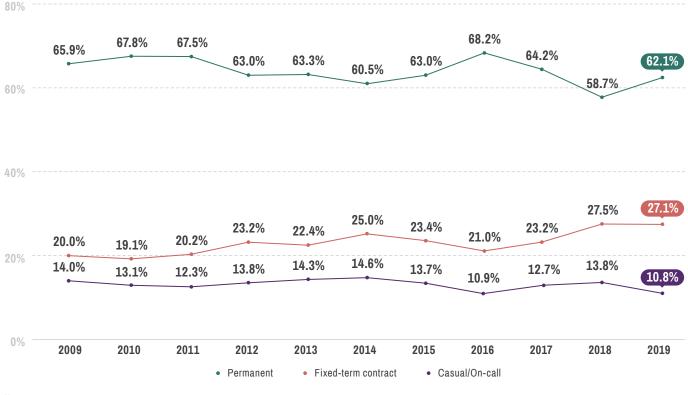
⁸This refers to individuals who operate their own business or trade without employing any paid employees.

⁹Top occupations include taxi drivers, private hire car drivers, working proprietors, insurance sales agents/brokers and real estate agents.

MAJORITY OF YOUTHS WERE IN PERMANENT EMPLOYMENT

About two-thirds of youth employees were in permanent roles (2019: 62%). The remaining were in fixed-term contract (27%) and casual/ on-call employment (11%). In particular, those in shorter-term roles (i.e., casual/on-call and term contract of less than a year) tended to have a higher share who were working while schooling. While trends were fairly consistent over the past decade, similar to the overall, the share of youth employees on fixed-term contract has been higher since 2018.

CHART 13: DISTRIBUTION OF RESIDENT YOUTH EMPLOYEES BY TYPE OF EMPLOYMENT (JUNE PERIODS)



Note

Data exclude full-time National Servicemen.

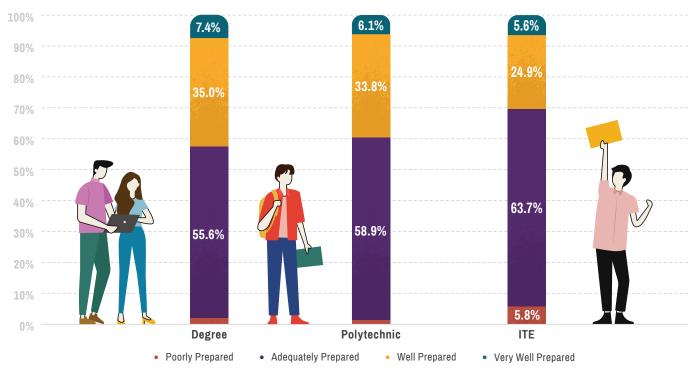
Source: Comprehensive Labour Force Survey, Manpower Research & Statistics Department, MOM

EMPLOYERS PERCEIVED FRESH GRADUATES TO BE PREPARED FOR WORK

In general, employers who hired fresh graduates found them sufficiently prepared for work. More than half of employers found fresh graduates sufficiently prepared for work (ITE graduates: 64%; polytechnic: 59%: degree: 56%) The remaining found them considerately well prepared (ITE: 31%; polytechnic: 40%; degree: 42%)¹⁰, with only a small minority who found graduates to be poorly prepared for work. When it came to fresh graduate hires, firms also valued internship experiences in related industries or similar job functions, as well as relevant educational qualifications.



CHART 14: DISTRIBUTION OF PRIVATE ESTABLISHMENTS BY THEIR PERCEPTION OF RECENTLY HIRED FRESH RESIDENT GRADUATES' WORK READINESS, 2018



Note

Figures are based on establishments in the private sector each with at least 25 employees which had employed fresh graduates in 2018.

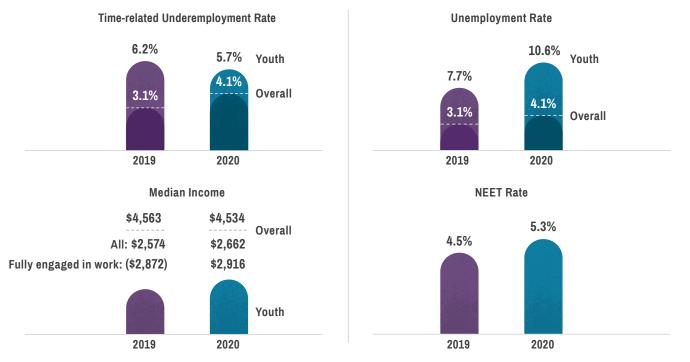
Source: Employer Supported Training Survey, Manpower Research & Statistics Department, MOM

¹⁰Figures cited included responses by employers who found fresh graduates "well prepared" and "very well prepared" for work.

WERE YOUTHS' LABOUR MARKET OUTCOMES AFFECTED BY THE COVID-19 PANDEMIC IN 2020?

Labour market outcomes for youths have remained fairly stable during the COVID-19 pandemic, based on key labour market indicators. Their time-related underemployment rate remained low, at 5.7% in 2020. Despite the pandemic, youths also continued to see median income growth over the year (3.4% at the overall; 1.5% among those fully engaged in work)¹¹. While there were increases in their unemployment rate, this reflects the higher share of unemployed youths who are in education and likely seeking part-time employment in hospitalityrelated sectors which were more affected by the pandemic¹². Largely driven by the rise in unemployment, youths' NEET rate had also increased, though it remained low (5.3%).

CHART 15: KEY LABOUR MARKET OUTCOMES OF RESIDENT YOUTHS (JUNE PERIODS)



Notes

(1) Time-related underemployment rate refers to part-timers who are willing and available to work additional hours, as a percentage of employed resident youths.

(2) Annual figures for unemployment rates are the simple averages of the non-seasonally adjusted unemployment figures obtained at quarterly intervals.

(3) Median income cited are among full-time employed youths (including employers' CPF contributions).

(4) NEET rate refers to those who are unemployed or outside the labour force, due to reasons other than education or training, as a proportion of the resident youth population.

(5) Dotted horizontal lines refer to labour market outcomes at the overall.

Source: Comprehensive Labour Force Survey, Manpower Research & Statistics Department, MOM

¹¹Over the year in 2020, youths' median income grew by 3.4% (or 3.6% after adjusting for inflation). Among those fully engaged in work, youths' median income grew by 1.5% (or 1.7% after adjusting for inflation).

¹²These include food & beverage services, retail trade and transportation & storage.

Education Pathways, Family Environment, Youth Wellbeing & Outlook

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This chapter examines the roles that educational paths and family environment play in mediating the effects of youths' background on various developmental outcomes for students aged 15 to 18. The analysis on educational paths builds on our previous analysis using National Youth Survey (NYS) 2013 and NYS 2016 (Ng & Cheong, 2015; Ng & Nursila, 2018), where we found that parents' educational advantage puts youths on a higher educational path and exerts a large positive influence on them. Youths from higher socio-economic background had higher educational aspiration. higher self-esteem, lower financial stress and were more optimistic about their chances in having a happy life and earning enough money in the future. These effects were partially mediated by education pathways, a finding consistent with several studies in the European context which found that early ability tracking in schools leads to social segregation, inequality in opportunities, educational and occupational outcomes, and differential self-esteem (Chmielewski, 2014; Hanushek & Wößmann, 2005; Hindriks et al., 2010; Triventi, 2013; Van Houtte, 2005).

Singapore, however, has been shifting away from academic segregation to "nurturing aptitudes and enhancing access to opportunities", as announced in the 2017 Ministry of Education Committee of Supply debate (Ministry of Education, 2017). Would such an expressed shift lead to decreases in the importance of different pathways to youth outcomes? Which youth outcomes might start to depend less on educational paths? As the third time-point of analysing the effect of education pathways, the findings in this chapter can be compared with those in Ng and Cheong (2015) and Ng and Nursila (2018) for a trend analysis.

In addition to educational paths, this chapter also examines the mediating role of family environment, a new indicator in NYS 2019. Families are often the first and primary institution that influences how a young person develops and socialises. Research has shown that supportive parental behaviours and communication styles facilitate positive relationship outcomes such as secure parent-adolescent attachment (Karavasilis et al., 2003; Rawatlal et al., 2015); positive child outcomes such as academic achievement and self-concept development (Bean et al., 2003; Bush et al., 2002); better school adjustments during early adolescence (Dubois et al., 1994; Shek, 1997); and overall positive youth development (Kaniušonytė et al., 2014; Mackova et al., 2019).

The chapter studies the mediating roles of educational paths and family environment on the relationship between family socioeconomic status (SES) and youth outcomes through a stepwise regression model. First, in Model 1, the set of background variables are regressed on each of the youth outcomes without the education pathways and family environment indicators. Then, in Model 2, the set of variables representing the education pathways is added. Lastly, in Model 3, a variable on family environment is added to Model 2. A significant decrease in the effect of the background variables on youth outcomes will suggest that either the education pathways and/or the family environment indicators significantly mediate the effect of that background variable.

A pictorial depiction of the empirical model tested in this chapter is provided in **Figure 1**. For variables that are rank-ordered (namely educational aspiration, practical stressors, relationship stressors, and confidence in future), ordered probit regression is used. For self-esteem, resilience, self-efficacy, outlook on success and outlook on opportunities in Singapore, which are treated as variables on a continuous scale, ordinary least squares (OLS) regression is used.

Before the above stepwise regression analysis, the background variables are regressed on education pathways to understand the relationship between the background variables and education pathways. As education pathways are in five non-ranked categories, multinomial logistic regression is used.

FIGURE 1: STEPWISE REGRESSION MODEL OF DETERMINANTS OF YOUTHS' DEVELOPMENTAL OUTCOMES

MODEL 1

DEVELOPMENTAL OUTCOMES





MODEL VARIABLES

MODEL 1 PARENTS' HIGHEST QUALIFICATION

The first explanatory variable of interest in our analysis is the family SES. This was proxied by parents' highest qualification, measured as the highest educational qualification which either of the parents have attained. That is, where the father's qualification was higher than the mother's, father's qualification was used and vice versa. The level of education was rank-ordered to eight levels as follows: (1) PSLE and below, (2) GCE 'N' Levels, (3) GCE 'O' Levels, (4) NITEC/Higher NITEC/Vocational Institute Certification, (5) GCE 'A' Levels/Post-secondary, (6) Diploma, (7) University Graduate or Other Professional Qualifications, and lastly (8) Postgraduate Qualification.

All analyses control for the same set of background variables, which include parent's marital status, and immigrant status; and youths' ethnicity, age, and gender.

YOUTH'S BACKGROUND

Race/ethnicity was specified with two dummy variables for minority races: (1) Malay and (2) Indian. These were compared with Chinese and 'Others' which were combined as the base group.

Gender and age are dichotomous variables. The age dummy equals one if the respondents were aged 17 to 18. Gender equals one for female respondents.

Parents' highest qualification is the first explanatory variable in Model 1 (Figure 1). In Model 2, the educational paths of students are added.

FAMILY'S BACKGROUND

Family structure affects youths' development (Brooks-Gunn & Duncan, 1997; Painter & Levine, 2000), and single parenthood was proxied by a dichotomous variable if parents were divorced, separated, widowed or single. The base group contained married parents.

To study the effects of whether one was a new Citizen or Permanent Resident, two dummy variables were created: (1) for respondents with one parent born in a foreign country, and (2) for respondents with parents who were both born outside of Singapore. These two dummy variables were thus compared against the base group of respondents whose parents were both born in Singapore.

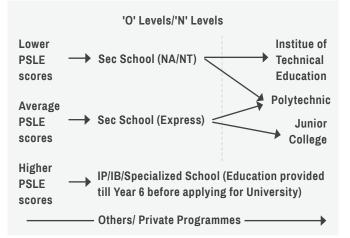
This specification was selected to be more reflective of the current demographic dynamic than a Citizen-Permanent Resident dichotomy because many youth citizens today might be new Citizens who are first or second generation immigrants.

For a consistent sample, cases with missing values in any of these demographic variables were dropped from the regressions.

MODEL 2 EDUCATION PATHWAYS

The analysis focuses on youths aged 15 to 18 in the NYS 2019. The age range was chosen to represent the various education pathways of school-going youths as illustrated in **Figure 2**.

▲ FIGURE 2: EDUCATION PATHWAYS



The most common pathway to a local public university (and one which can perhaps be taken as the default) for most students is the entry into the secondary school Express stream in a standard programme followed by progression to Junior College (JC) after the GCE 'O' Level Examination taken at the end of Secondary 4. Another route for those with lower average Primary School Leaving Examination (PSLE) results would be entry into the Normal Academic (NA) or Normal Technical (NT) streams. This group typically goes on to the Institute of Technical Education (ITE) after the GCE 'N' Level taken at the end of Secondary 4 or 5.

Besides JC and ITE, another common pathway would be entry into Polytechnic after the GCE 'O' Levels, and for some, after their GCE 'A' Levels. However, as we restrict the sample to youths aged 18 and below, the sample in this study excludes polytechnic students who enter after GCE 'A' Levels, which is usually taken at age 18.

Yet another group of students, usually those with the most outstanding PSLE results, have the option to enter the Express stream into the Integrated Programme (IP) or International Baccalaureate (IB) Programme which takes them through till Year 6 when they apply for university.

Finally, a small group of students take up private programmes. These may include home-schoolers or those who have dropped out of the standard school system. As the results will indicate, this group is a diverse mix.

The overlapping pathways are complex and there is fluidity in some students crossing the different pathways. However, the five categories of educational paths in **Figure 2** represent the main and common tracks that students experience and thus form the main classification system for the education pathway variable used in the empirical analysis. The most common pathway to University, of the Express stream to JC, is the base category against which the other pathways are compared. This can be called the "standard" track or path. The other categories are then (a) elite: IP/IB, including also Specialised schools, (b) polytechnic: Normal or Express stream to Polytechnic; (c) vocational: Normal stream to ITE, and (d) other: private.

This five classification system provides a sufficient sample size to explore the dynamics of not only being a student in the different

secondary level streams, but also the post-secondary routes of ITE, Polytechnic, JC, and the through-train IP/IB. The educational experiences in these post-secondary settings are very different for a 17 or 18 year-old, and could lead to very different educational and psychosocial development. For example, Polytechnic life is probably the most independent and therefore might afford greater freedom to a 17 year-old who enters Polytechnic instead of ITE, JC or IP/IB.

The age range 15 to 18 excludes university education, which students enter only after age 18. The total sample size is 525 youths.

MODEL 3 FAMILY ENVIRONMENT

Then in Model 3, family environment is added. This comes from six statements adapted from the 'General Functioning' subscale from the McMaster Family Assessment Device (FAD; Epstein et al., 1983). The FAD is a screening tool to measure the overall 'health/ pathology' of the family based on six domains of family functioning: (a) Problem Solving; (b) Communication; (c) Family Roles; (d) Affective Responses; (e) Affective Involvement; and (f) Behaviour Control. It is hypothesised that 'unhealthy' families with low scores for general functioning have poorer familial support, which leads to poorer individual wellbeing and outcomes, as opposed to 'healthy' families with high scores for general functioning.

The six statements were: 1) "We cannot talk to each other about feeling sad", 2) "We don't get along well with each other", 3) "We avoid discussing our fears and concerns with each other", 4) "We confide in each other", 5) "We express our feelings to each other", and 6) "We are able to make decisions about how to solve problems". The respondents answered the extent of their agreement with the statement on a fivepoint Likert scale, from 1 for strongly disagree to 5 for strongly agree. The first three statements were reverse coded such that a higher value indicated a more positive family environment.

The family environment variable was generated by taking the mean value of the answers to the six statements (α =.81).

DEPENDENT VARIABLES EDUCATIONAL ASPIRATIONS

The respondents were asked about the highest level of education that they perceived they could achieve. This question was used as

a measure of their educational aspiration and rank-ordered into four categories: (1) PSLE/GCE 'N' or GCE 'O' Levels/NITEC/Higher NITEC/Vocational Institute Certification'/GCE 'A' Levels/Postsecondary, (2) Diploma, (3) University Graduate or Other Professional Qualifications, and (4) Postgraduate Qualification.

RESILIENCE

For resilience, the respondents were asked on a five-point Likert scale, from 1 for strongly disagree to 5 for strongly agree, the extent to which they agreed with six statements about themselves. The six statements were: 1) "I tend to bounce back quickly after hard times", 2) "I have a hard time making it through stressful events", 3) "It does not take me long to recover from a stressful event", 4) "It is hard for me to snap back when something bad happens", 5) "I usually come through difficult times with little trouble", and 6) "I tend to take a long time to get over setbacks in my life". Statements (2), (4), and (6) were reverse coded such that a higher value indicated a higher resilience score.

The resilience scale was generated by taking the mean value of the answers to the six statements (α =.75).

SELF-EFFICACY

For self-efficacy, the respondents were asked on a five-point Likert scale, from 1 for strongly disagree to 5 for strongly agree, the extent to which they agreed with three statements about themselves. The three statements were: 1) "It is important to think before you act", 2) "If I work harder, I will achieve better results", and 3) "I am responsible for what happens to me".

The self-efficacy scale was generated by taking the mean value of the answers to the three statements (α =.64).

SELF-ESTEEM

For self-esteem, the respondents were asked on a five-point Likert scale, from 1 for strongly disagree to 5 for strongly agree, the extent to which they agreed with three statements about themselves. The three statements were: 1) "On the whole, I am satisfied with myself", 2) "I feel that I have a number of good qualities", and 3) "I feel I do not have much to be proud of". The third statement was reverse coded such that a higher value indicated a higher esteem score.

The self-esteem scale was generated by taking the mean value of the answers to the three statements (α =.63).

YOUTH STRESSORS

A series of Likert scale questions were used to track how the respondents viewed various life stressors. Out of the total of nine stressors in the questionnaire, five stressors that had significant results were extracted for reporting in this chapter. These included three practical stressors, namely finances, studies, and future uncertainty; and two relationship stressors, namely family relationships and friendships (including peer pressure, romantic relationships). The Likert scale comprised the following options: (1) not at all stressful, (2) a little stressful, (3) moderately stressful, (4) very stressful, and (5) extremely stressful.

FUTURE OUTLOOK

The outlook questions in our previous education pathway analysis are no longer in NYS 2019. Thus, for this analysis, three other questions were selected from NYS 2019 to study the general outlook of the respondents regarding their future. These questions asked the participants about their outlook on future preparedness, the sufficiency of opportunities in Singapore, and also their confidence in future.

OUTLOOK ON FUTURE PREPAREDNESS

For outlook on future preparedness, the respondents were asked on a five-point Likert scale, from 1 for strongly disagree to 5 for strongly agree, the extent to which they agreed with two statements on themselves. The two statements were: 1) "I have what it takes to succeed in the future" and 2) "I have the knowledge and skills required in the future economy".

Their outlook on success was generated by taking the mean value of the answers to the two statements (α =.81).

OUTLOOK ON SUFFICIENCY OF OPPORTUNITIES IN SINGAPORE

For outlook on opportunities in Singapore, the respondents were asked on a five-point Likert scale, from 1 for strongly disagree to 5 for strongly agree, the extent to which they agreed with two statements on themselves. The two statements were: 1) "There are enough

opportunities in Singapore for me to achieve my personal aspirations in life" and 2) "There are enough opportunities in Singapore for me to have a good career".

Their outlook on Singapore was generated by taking the mean value of the answers to the two statements (α =.82).

CONFIDENCE IN FUTURE

The respondents were asked to rank how confident they were about their future as a whole. A 10-point Likert scale was used with 1 being not confident at all and 10 being very confident.



Table 1 provides the summary statistics of sample youths' socioeconomic and demographic characteristics. A majority (39.08%) of the sample was either in the Express stream in secondary school or in regular JC, followed by Polytechnic (23.37%), Normal/ITE (20.11%), IP/IB/Specialised schools (13.22%), and others (4.21%). There were higher proportions of respondents in the Polytechnic stream in comparison to the NYS 2016 data (16.97%).

Compared to the 2019 general youth statistics, Chinese were slightly under-represented while the Indian and "Others" youths

were slightly over-represented in the sample. The majority (32.57%) of the respondents had parents with a University Graduate/Other Professional Qualifications. The other more common qualification types of parents were Postgraduate Qualification (19.05%) and Diploma (17.71%).

Compared to NYS 2016 data, a higher majority of the sample has parents with at least a diploma and above (2016: 57.17%, 2019: 69.33%).

A small but significant proportion (8.21%) of respondents had single parents. A high proportion of parents were foreign-born. With 25.33% of the respondents having one parent who was foreign-born and 19.24% with both parents who were foreign-born, 44.57% of the sample youths had at least one foreign-born parent. This result is consistent with the results from NYS 2016.

A majority of the sample stayed in HDB 4 to 5 room flats (50.48%) followed by Private flat/Condominium and HDB Executive/Maisonette/ HUDC/DBSS/Executive Condominium (28.57%) and HDB 3 room flats (10.86%). The percentage of respondents staying in HDB 1 to 2 room flats were 5.33% while 4.76% of the respondents stayed in landed properties or other property types.

* TABLE 1: SUMMARY STATISTICS OF INDEPENDENT VARIABLES IN MODEL 1 & 2

Variables	n	%	Youth Statistics in 2019 (%)
Educational Institution		(n=522)	
Secondary School (NA/NT/ITE/Vocational Institute (VI))	105	20.11	
Secondary School (Express)/Junior College (Regular)	204	39.08	
Polytechnic	122	23.37	
IP/IB/Specialised School (Sec/JC)	69	13.22	
Private Programmes ('O'/'A' Levels/IB/Others)	22	4.21	
Age		(n=525)	
15	87	16.57	
16	136	25.90	
17	156	29.71	
18	146	27.81	

* TABLE 1: SUMMARY STATISTICS OF INDEPENDENT VARIABLES IN MODEL 1 & 2 (CONTINUED)

Variables	n	%	Youth Statistics in 2019 (%)
Ethnicity		(n=525)	
Chinese	352	67.04	71.5
Malay	84	16.00	16.7
Indian	65	12.38	8.9
Others	24	4.57	2.9
Gender		(n=525)	
Male	259	49.33	49.7
Female	266	50.67	50.3
Parents' Highest Qualification		(n=525)	
PSLE & Below	45	8.57	
GCE 'N' Levels	18	3.43	
GCE 'O' Levels	57	10.86	
NITEC/Higher NITEC/Vocational Institute Certification	28	5.33	
GCE 'A' Levels/Post-secondary Qualification	13	2.48	
Diploma	93	17.71	
University Graduate/Other Professional Qualifications	171	32.57	
Postgraduate Qualification	100	19.05	
Parents' Marital Status		(n=524)	
Married	481	91.79	
Single-Parent	43	8.21	
Parent's Immigrant Status		(n=525)	
One parent not born in Singapore	133	25.33	
Both parents not born in Singapore	101	19.24	
Housing Type		(n=525)	
HDB 1-2 rooms	28	5.33	
HDB 3 rooms	57	10.86	
HDB 4 rooms	142	27.05	
HDB 5 rooms	123	23.43	
HDB Executive/Maisonette/HUDC/DBSS/Executive Condominium	58	11.05	
Private flat/Condominium	92	17.52	
Landed Property/Others	25	4.76	

Table 2 gives the summary statistics of the family environmentvariable. The youths in the sample ranked themselves a mean of 3.61for their family environment, a moderate level on the Likert scale thathovers between "agree" and "neither agree nor disagree" with the sixstatements regarding their family of upbringing.

Table 3 gives the summary statistics of the dependent variables. A majority of the sample aspired to obtain at least a University Graduate/Other Professional Qualifications (48.38%), followed by a Postgraduate Qualification (31.62%). 11.05% aspired towards a Diploma, leaving only 8.95% who aspired to qualifications lower than a diploma.

* TABLE 2: SUMMARY STATISTICS OF INDEPENDENT VARIABLES IN MODEL 3

	Mean	Standard Deviation	Min	Max	п
Family Environment	3.61	0.74	1.33	5	525

*** TABLE 3: SUMMARY STATISTICS OF DEPENDENT VARIABLES**

	Mean	Standard Deviation	Min	Max	%	n
Educational Aspiration						
PSLE/GCE 'N' or GCE 'O' Levels/NITEC/Higher NITEC/ Vocational Institute Certification/GCE 'A' Levels/ Post-Secondary					8.95	47
Diploma					11.05	58
University Graduate/Other Professional Qualifications					48.38	254
Postgraduate Qualification					31.62	166
Psychological Outcomes						
Self-Esteem	3.47	0.75	1	5		525
Resilience	3.19	0.63	1	5		525
Self-Efficacy	4.38	0.52	2.33	5		525
Practical Stressors						
Studies	3.77	1.17	1	5		520
Finances	3.03	1.21	1	5		463
Future Uncertainty	3.41	1.22	1	5		519
Relational Stressors						
Family Relationships	2.41	1.22	1	5		513
Friendships (Including peer pressure, romantic relationships)	2.74	1.20	1	5		511
Future Outlook						
Outlook on Future Preparedness	3.53	0.76	1	5		525
Outlook on Sufficiency of Opportunities in Singapore	3.39	0.84	1	5		525
Confidence in Future	5.82	2.08	1	10		525

The youths in the sample ranked themselves with a mean of 3.47 for self-esteem, a moderate level on the Likert scale that hovers between "agree" and "neither agree nor disagree" with the three statements about themselves. Similarly, with regards to resilience, the respondents rated themselves moderately, with a mean of 3.19. For self-efficacy, the respondents rated themselves highly, with a mean of 4.38.

Among the five types of stressors, respondents were more stressed over practical matters. All the practical stressors were scored higher than the relational stressors, topmost of which was studies (3.77) followed by future uncertainty (3.41). Relationship stressors scores were lower, with the lowest being family stressors (2.41) and next lowest stress over friends (2.74). Stress over finances was in the middle ground, with a score of 3.03.

In terms of future outlook, the respondents were moderately optimistic about having what it takes to succeed in the future (3.53) and having opportunities in Singapore to achieve their personal aspirations (3.39). The youths in the sample were moderately confident about their future with a mean of 5.82 out of a 10-point scale.

Findings from Multivariate Analysis

The multivariate analysis starts by examining the independent relationship between students' education pathways and their demographic variables. **Table 4** reports multinomial logistic regression results for the categories of education pathways in columns and the demographic variables in rows, such that each cell represents the likelihood of being in the particular pathway given the demographic characteristic.

With asterisks indicating statistically significant results, the coefficients of parents' highest qualification show that compared to students in the Express/JC track, students in the Normal/ITE, Polytechnic and Private Programme tracks were more likely than Express/JC track students to have lower educated parents, whereas

the students in the IP/IB/Specialised schools track were more likely than Express/JC track students to have higher-educated parents.

The coefficients of the other independent variables show that students from single-parent households were more likely to be in the Normal/ ITE track and students with both parents who are foreign-born were less likely to be in the Polytechnic track and more likely to be in the Private Programmes track. Malay students were more likely to be in the Normal/ITE and Private Programmes track, whereas females were overall less likely to be in the Normal/ITE and Private Programmes track.

DETERMINANTS OF DEVELOPMENTAL OUTCOMES

Now turning to the stepwise regression model being tested in this chapter, we first report the results for educational aspiration, followed by the psychological outcomes and stressors, and ending with future outlook.

The first question to ask is: how much did family SES, youths' education pathways and family environment determine one's educational aspiration? **Table 5** indicates that the answer is very much. Respondents who had more educated parents were more likely to aspire towards higher levels of education. The coefficient for parents' qualification decreases by 39% from 0.14 to 0.086 after adding education pathways in Model 2, and further by 5% to 0.082 after adding the family environment variable in Model 3. Thus, the effect of parental qualification was only partially mediated by education pathways and minimally by family environment, and remained significant. Youths with both foreign-born parents were also more likely to have higher educational aspiration.

Unsurprisingly, education pathways strongly related to aspirations: compared to students in the Express/JC track, students from Normal/ITE track, Polytechnics and Private Programmes had lower educational aspiration, whereas the students in IP/IB/Specialised Schools aspired towards higher levels of education. The effect remained significant in Model 3 except for students in the Private Programme track. Respondents with a more positive family environment also had higher educational aspirations. Those who were aged between 17 and 18 were more likely to have higher educational aspirations. This effect was significant even after education pathways and family environment were controlled for in Models 2 and 3. It is interesting to note that the Malays had lower educational aspirations but this effect disappeared after education pathways and family environment was controlled for in Models 2 and 3.

*** TABLE 4: MULTINOMIAL LOGISTIC REGRESSION OF STUDENTS' EDUCATION PATHWAYS^**

	NA/NT/ITE	Polytechnic	IP/IB/ Specialised Schools	Private Programmes/Others
	(n=521)	(n=521)	(n=521)	(n=521)
Parents' Highest Qualification	-0.38***	-0.25***	0.24**	-0.23**
	(0.067)	(0.07)	(0.11)	(0.112)
Single Parent Family	0.81*	0.33	-0.57	0.50
	(0.49)	(0.52)	(0.80)	(0.85)
One parent is foreign born	0.06	-0.19	0.26	-0.17
	(0.33)	(0.33)	(0.36)	(0.64)
Both parents are foreign born	0.00	-1.00**	0.21	1.05*
	(0.40)	(0.43)	(0.37)	(0.60)
Malay	1.88***	0.74	0.44	2.02***
	(0.39)	(0.46)	(0.57)	(0.60)
Indian	0.51	-0.01	-0.26	-0.48
	(0.43)	(0.44)	(0.44)	(0.84)
Female	-0.89***	-0.31	-0.32	-1.24*
	(0.28)	(0.28)	(0.29)	(0.50)
Age between 17 & 18	0.54*	18.38	1.02***	0.90*
	(0.28)	(657.00)ª	(0.29)	(0.48)

Notes

a. The coefficient and standard error for Polytechnic students are oversized due to collinearity.

Standard errors in parentheses

*p<0.1, **p<0.05, ***p<0.01

^Reference categories - Express/JC, Married parents, Both parents are local born, Chinese & Others, Males, Age between 15-16



TABLE 5: ORDERED PROBIT REGRESSIONS OF STUDENTS' EDUCATIONAL ASPIRATION^

	Model 1	Model 2	Model 3
		Educational Aspiration	
	(n=521)	(n=521)	(n=521)
Parents' Highest Qualification	0.14***	0.086***	0.082***
	(0.024)	(0.025)	(0.026)
NA/NT/ITE		-0.94*** (0.15)	-0.99*** (0.15)
Polytechnic		-0.31** (0.15)	-0.35** (0.15)
IP/IB/Specialised Schools		0.55*** (0.17)	0.54*** (0.17)
Private Programmes/Others		-0.94*** (0.15)	-0.042 (0.27)
Family Environment			0.29*** (0.070)
Single Parent Family	-0.19	-0.078	-0.039
	(0.18)	(0.18)	(0.19)
One parent is foreign born	-0.026	-0.056	-0.054
	(0.12)	(0.12)	(0.12)
Both parents are foreign born	0.31**	0.27*	0.31**
	(0.14)	(0.15)	(0.15)
Malay	-0.36**	-0.14	-0.14
	(0.14)	(0.15)	(0.15)
Indian	0.036	0.13	0.042
	(0.16)	(0.17)	(0.17)
Female	0.15	0.075	0.047
	(0.099)	(0.10)	(0.10)
Age between 17 & 18	0.19*	0.22*	0.23*
	(0.10)	(0.12)	(0.12)

Notes

Standard errors in parentheses

*p<0.1, **p<0.05, ***p<0.01

^Reference categories - Express/JC, Married parents, Both parents are local born, Chinese & Others, Males, Age between 15-16



* TABLE 6: OLS REGRESSIONS OF STUDENTS' PSYCHOLOGICAL OUTCOMES^

	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
		Self-Esteem			Resilience			Self-Efficacy	
		(n=521)			(n=521)			(n=521)	
Parents' Highest	0.029	0.021	0.010	-0.00071	-0.016	-0.023	-0.0082	-0.011	-0.018
Qualification	(0.022)	(0.023)	(0.023)	(0.022)	(0.023)	(0.023)	(0.023)	(0.024)	(0.024)
NA/NT/ITE		-0.041 (0.14)	-0.096 (0.14)		-0.22* (0.14)	-0.23* (0.14)		0.081 (0.14)	0.054 (0.14)
Polytechnic		0.043 (0.14)	-0.013 (0.14)		-0.12 (0.14)	-0.15 (0.14)		-0.27* (0.14)	-0.32** (0.14)
IP/IB/Specialised Schools		0.23 (0.14)	0.20 (0.15)		0.059 (0.14)	0.035 (0.14)		0.013 (0.15)	-0.020 (0.15)
Private Programmes/Others		-0.11 (0.23)	-0.0087 (0.23)		-0.24 (0.23)	-0.18 (0.23)		-0.18 (0.239)	-0.13 (0.239)
Family Environment			0.56*** (0.063)			0.30*** (0.061)			0.32*** (0.065)
Single Parent Family	0.14	0.16	0.24	0.088	0.12	0.16	0.26	0.27	0.31*
	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)	(0.18)	(0.18)	(0.18)
One parent is	-0.041	-0.048	-0.046	0.095	0.089	0.094	0.098	0.059	0.089
foreign born	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Both parents are	-0.043	-0.044	0.011	0.089	0.084	0.12	-0.12	-0.13	-0.13
foreign born	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.14)
Malay	-0.088	-0.065	-0.066	-0.25**	-0.19	-0.20	0.12	0.089	0.094
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.14)	(0.14)	(0.14)
Indian	0.14	0.15	-0.0068	0.029	0.040	-0.049	0.47***	0.46***	0.38**
	(0.15)	(0.15)	(0.15)	(0.14)	(0.14)	(0.15)	(0.16)	(0.16)	(0.16)
Female	-0.15*	-0.15*	-0.23**	-0.19**	-0.22**	-0.25***	0.067	0.070	0.047
	(0.090)	(0.091)	(0.091)	(0.090)	(0.090)	(0.091)	(0.093)	(0.094)	(0.095)
Age between	0.054	0.027	0.036	-0.0057	0.018	0.022	0.010	0.13	0.14
17 & 18	(0.091)	(0.10)	(0.10)	(0.090)	(0.10)	(0.10)	(0.094)	(0.11)	(0.11)

Notes

Standard errors in parentheses

*p<0.1, **p<0.05, ***p<0.01

^Reference categories - Express/JC, Married parents, Both parents are local born, Chinese & Others, Males, Age between 15-16

Table 6 gives the results of the three psychological outcomes – selfesteem, resilience and self-efficacy. There were no significant effects from parental education on any of the psychological outcomes. Thus, there was no mediation when education pathways were added in Model 2. Some effects from education pathways were noticed. Students from the Normal/ITE track were less resilient and students from Polytechnic had less self-efficacy compared to students from the Express/JC track. These significant effects of education pathways were also not mediated by adding family environment in Model 3. They continued to be significant with no decrease in coefficients. Family environment, on the other hand, had statistically significant effects on all three psychological outcomes – students with a positive family environment were more likely to have higher self-esteem, resilience and self-efficacy.

Turning to the other independent variables, females were more likely to have lower self-esteem and resilience as compared to males. Malay students were less resilient but this effect disappeared after education pathways and family environment were controlled for in Models 2 and 3. Indian youths rated their self-efficacy higher and these effects remained significant in both Models 2 and 3. For self-efficacy, respondents from single-parent families had higher self-efficacy in Model 3 when the family environment variable was added.

Do youths from different backgrounds and family environments perceive their stress differently? Looking first at practical stressors, the findings in **Table 7** show that youths with more educated parents were less stressed over finances and more stressed over studies. The significant effects remained even after education pathways and family environment were controlled for in Models 2 and 3. There were no significant effects from parental qualification on stress over future uncertainty. In terms of education pathways, students from the Polytechnic track were less stressed over studies but the significant effect disappeared in Model 3 after the family environment was added. Youths from Private Programmes were less stressed over their future uncertainty and this effect remained in Model 3. For practical stressors, a positive family environment only had a significant effect on stress over future uncertainty. Respondents with a positive family environment were less stressed over future uncertainty.

Students from single-parent families were more likely to be stressed over finances and this significant effect remained in both Models 2 and 3. Youths with one parent who is foreign-born and those aged between 17 and 18 were more likely to be stressed over studies after adding education pathways in Model 2 but this significant effect disappeared after family environment was added in Model 3 for youths with one foreign-born parents but remained significant for those aged between 17 and 18. Females were also more stressed over studies and over future uncertainty and these significant effects remained in both Models 2 and 3. Now turning next to relational stressors, **Table 8** reveals that family SES and education pathways had no significant associations with relational stressors. Thus, there was no mediation when education pathways were added in Model 2. Model 3 shows a significant relationship between family environment and both relational stressors – youths with a more positive family environment were less stressed over family relationships and friendships.

Among demographic variables, family structure, immigrant status, gender and age were significantly related to relational stressors. Youths in single-parent families and those aged between 17 and 18 were more likely to feel stressed over family relationships and these effects remained significant even when education types and family environment were controlled for in Models 2 and 3. Those whose parents were both born overseas were more likely to feel stressed over family relationships and the effect remained significant after education types were controlled for in Model 2 but this significant effect disappeared after adding family environment in Model 3. For stress over friendships, females were found to be more stressed over friendship than males.

DETERMINANTS OF FUTURE OUTLOOK

Turning to the determinants of outlook outcomes, **Table 9** shows that family SES had no statistically significant effects on students' future outlook and thus there was no mediation when education pathways were added in Model 2. Among the education pathways, youths from the IP/IB/Specialised schools were more likely to be optimistic about their outlook on future preparedness and having sufficient opportunities in Singapore. This effect was not mediated by family environment, remaining significant and of almost the same size when family environment was added in Model 3. Family environment itself was significantly related to outlook. Youths with a positive family environment were more optimistic about both their outlook on future success and having enough opportunities in Singapore to achieve personal aspirations.

The coefficient of the other independent variables shows that Indian youths were more optimistic about their outlook on future preparedness while females were less optimistic about their outlook on future preparedness. These effects remained significant even after controlling for education pathways and family environment in Models 2 and 3.

TABLE 7: ORDERED PROBIT REGRESSIONS OF STUDENTS' PRACTICAL STRESSORS

	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
		Finances			Studies		Fut	ure Uncertainty	
		(n=460)			(n=516)			(n=515)	
Parents' Highest	-0.076***	-0.062**	-0.061**	0.074***	0.064***	0.066***	-0.0095	-0.025	-0.019
Qualification	(0.024)	(0.025)	(0.025)	(0.023)	(0.025)	(0.025)	(0.023)	(0.024)	(0.025)
NA/NT/ITE		0.22 (0.15)	0.22 (0.15)		-0.099 (0.15)	-0.018 (0.18)		-0.21 (0.14)	-0.20 (0.14)
Polytechnic		0.087 (0.15)	0.097 (0.15)		-0.57*** (0.15)	-0.19 (0.12)		-0.21 (0.14)	-0.18 (0.14)
IP/IB/Specialised Schools		-0.089 (0.16)	-0.083 (0.16)		-0.18 (0.16)	-0.17 (0.14)		0.021 (0.15)	0.032 (0.15)
Private Programmes/Others		-0.36 (0.27)	-0.37 (0.27)		-0.17 (0.25)	-0.084 (0.14)		-0.46* (0.24)	-0.51** (0.25)
Family Environment			-0.076 (0.068)			-0.094 (0.067)			-0.23*** (0.065)
Single Parent Family	0.34*	0.31*	0.31*	-0.0032	-0.0079	-0.018	0.14	0.16	0.14
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.17)	(0.18)	(0.18)
One parent is	0.0022	0.0047	0.0035	-0.17	-0.19*	-0.19	-0.081	-0.091	-0.086
foreign born	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.11)	(0.11)	(0.11)
Both parents are	-0.032	-0.0092	-0.017	-0.11	-0.16	-0.17	0.050	0.043	0.026
foreign born	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.13)	(0.14)	(0.14)
Malay	-0.039	-0.065	-0.065	-0.075	-0.082	-0.084	-0.066	-0.0016	0.0056
	(0.14)	(0.15)	(0.15)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
Indian	-0.16	-0.18	-0.16	-0.19	-0.20	-0.18	-0.16	-0.099	-0.041
	(0.17)	(0.17)	(0.17)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)
Female	0.046	0.050	0.058	0.62***	0.62***	0.63***	0.33***	0.31***	0.33***
	(0.099)	(0.10)	(0.10)	(0.098)	(0.099)	(0.10)	(0.095)	(0.096)	(0.096)
Age between	0.19*	0.18	0.18	0.048	0.28**	0.28**	0.089	0.15	0.15
17 & 18	(0.10)	(0.12)	(0.12)	(0.097)	(0.11)	(0.11)	(0.095)	(0.11)	(0.11)

Notes

Standard errors in parentheses

*p<0.1, **p<0.05, ***p<0.01

Reference categories - Express/JC, Married parents, Both parents are local born, Chinese & Others, Males, Age between 15-16

▲ TABLE 8: ORDERED PROBIT REGRESSIONS OF STUDENTS' RELATIONAL STRESSORS[^]

	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
		Family Relationships		(Including pe	Friendships er pressure, romantic r	elationships)
		(n=509)			(n=507)	
Parents' Highest	-0.034	-0.029	-0.021	-0.0037	-0.0059	-0.0021
Qualification	(0.023)	(0.025)	(0.025)	(0.023)	(0.024)	(0.024)
NA/NT/ITE		0.079 (0.14)	0.12 (0.15)		0.063 (0.14)	0.072 (0.14)
Polytechnic		-0.23 (0.14)	-0.19 (0.15)		0.071 (0.14)	0.10 (0.14)
IP/IB/Specialised Schools		-0.25 (0.15)	-0.21 (0.16)		0.19 (0.15)	0.22 (0.15)
Private Programmes/Others		-0.031 (0.25)	-0.14 (0.25)		-0.24 (0.24)	-0.29 (0.25)
Family Environment			-0.47*** (0.067)			-0.26*** (0.071)
Single Parent Family	0.48***	0.46***	0.44**	0.11	0.12	0.10
	(0.18)	(0.18)	(0.18)	(0.17)	(0.17)	(0.17)
One parent is	0.057	0.055	0.050	0.013	0.0080	0.0037
foreign born	(0.12)	(0.12)	(0.12)	(0.11)	(0.11)	(0.11)
Both parents are	0.24*	0.23*	0.19	0.13	0.14	0.11
foreign born	(0.14)	(0.14)	(0.14)	(0.13)	(0.14)	(0.14)
Malay	0.11	0.070	0.069	-0.10	-0.098	-0.12
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
Indian	-0.063	-0.077	0.051	0.21	-0.21	-0.18
	(0.15)	(0.15)	(0.16)	(0.16)	(0.16)	(0.16)
Female	0.078	0.085	0.13	0.16*	0.16*	0.19**
	(0.095)	(0.096)	(0.097)	(0.094)	(0.095)	(0.096)
Age between	0.17*	0.27**	0.28**	0.064	0.035	0.034
17 & 18	(0.097)	(0.11)	(0.11)	(0.095)	(0.11)	(0.11)

Notes

Standard errors in parentheses

*p<0.1, **p<0.05, ***p<0.01

^Reference categories - Express/JC, Married parents, Both parents are local born, Chinese & Others, Males, Age between 15-16

▲ TABLE 9: OLS REGRESSIONS OF STUDENTS' FUTURE OUTLOOK[^]

	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	
	Outlo	ook on Future Prepared	ness	Outlook on Suf	ficiency of Opportunitie	s in Singapore	
		(n=521)		(n=521)			
Parents' Highest	0.0030	-0.0020	-0.0092	0.010	0.00893	0.00266	
Qualification	(0.022)	(0.024)	(0.024)	(0.022)	(0.0234)	(0.0235)	
NA/NT/ITE		0.098 (0.14)	0.072 (0.14)		0.20 (0.14)	0.17 (0.14)	
Polytechnic		0.031 (0.14)	-0.00034 (0.14)		-0.017 (0.14)	-0.048 (0.14)	
IP/IB/Specialised Schools		0.34** (0.15)	0.33** (0.15)		0.35** (0.15)	0.33** (0.15)	
Private Programmes/Others		0.12 (0.24)	0.19 (0.24)		0.063 (0.24)	0.12 (0.24)	
Family Environment			0.31*** (0.063)			0.28*** (0.063)	
Single Parent Family	0.14	0.15	0.19	0.068	0.065	0.10	
	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)	
One parent is	-0.025	-0.037	-0.033	-0.00060	-0.015	-0.014	
foreign born	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	
Both parents are	-0.093	-0.11	-0.085	0.028	0.0016	0.030	
foreign born	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	
Malay	0.051	0.028	0.033	-0.00080	-0.049	-0.047	
	(0.13)	(0.14)	(0.14)	(0.13)	(0.14)	(0.14)	
Indian	0.42***	0.43***	0.35**	0.20	0.20	0.12	
	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	
Female	-0.31***	-0.30***	-0.34***	-0.022	-0.0031	-0.035	
	(0.092)	(0.093)	(0.094)	(0.091)	(0.093)	(0.093)	
Age between	0.10	0.088	0.094	-0.069	-0.053	-0.050	
17 & 18	(0.093)	(0.11)	(0.11)	(0.092)	(0.11)	(0.11)	

Notes

Standard errors in parentheses

*p<0.1, **p<0.05, ***p<0.01

^Reference categories - Express/JC, Married parents, Both parents are local born, Chinese & Others, Males, Age between 15-16

• TABLE 10: ORDERED PROBIT REGRESSIONS OF STUDENTS' CONFIDENCE IN FUTURE

	Model 1	Model 2	Model 3
		Confidence in Future	
	(n=521)	(n=521)	(n=521)
Parents' Highest Qualification	-0.00020	0.0063	-0.0018
	(0.022)	(0.023)	(0.023)
NA/NT/ITE		0.22 (0.14)	0.19 (0.14)
Polytechnic		0.18 (0.14)	0.14 (0.14)
IP/IB/Specialised Schools		0.24* (0.15)	0.22 (0.15)
Private Programmes/Others		0.14 (0.24)	0.22 (0.24)
Family Environment			0.40*** (0.063)
Single Parent Family	0.12	0.11	0.16
	(0.17)	(0.17)	(0.17)
One parent is foreign born	0.066	0.064	0.073
	(0.11)	(0.11)	(0.11)
Both parents are foreign born	0.10	0.10	0.14
	(0.13)	(0.13)	(0.13)
Malay	0.00038	-0.047	-0.044
	(0.13)	(0.14)	(0.14)
Indian	0.078	0.075	-0.039
	(0.15)	(0.15)	(0.15)
Female	-0.29***	-0.27***	-0.32***
	(0.090)	(0.091)	(0.092)
Age between 17 & 18	-0.0084	-0.065	-0.063
	(0.091)	(0.11)	(0.11)

Notes

Standard errors in parentheses

*p<0.1, **p<0.05, ***p<0.01

Reference categories - Express/JC, Married parents, Both parents are local born, Chinese & Others, Males, Age between 15-16

Lastly, how confident do our youths feel towards their future? **Table 10** shows that family SES had no effect on student's confidence in future and thus no mediation was noticed when education pathways were added in Model 2. Youths from IP/IB/Specialised schools were more likely to be more confident in their future, but the slightly attenuated

effect became statistically insignificant after family environment was added in Model 3. Youths with a positive family environment were more confident in their future. The only other significant effect was gender. Females were less confident in their future and this effect remained significant in Models 2 and 3.



The first insight in this chapter is that family SES significantly relates to practical outcomes, but not to psychosocial outcomes. Parental qualification was significantly associated with educational aspiration and practical stressors, but not to self-esteem, resilience, self-efficacy, relational stressors, or future outlook. The significant effects were partially mediated by youths' education pathways, thus indicating that some of the SES advantages are transmitted through youths' differential pathways in the school system.

Education pathways themselves had significant effects on all the categories of outcomes studied. The strongest associations were with educational aspiration, which yielded significant coefficients in all pathways. For the other outcomes, while Normal/ITE students scored lower in resilience, IB/IP/Specialised schools' students had significantly more positive future outlook. Polytechnic students had lower self-efficacy, but were less stressed over studies. Private school students were less stressed over future uncertainty.

Among the three key variables of interest, however, family environment had the most statistically significant effects on all the youth outcomes in this chapter. Youths who self-rated more supportive family environments had higher educational aspirations, had more positive psychological outcomes, were less stressed over future uncertainty, relationships with families and friends, and were more confident of their future. The only variables for which family environment did not matter were stressors over finance and studies. Family environment did little to mediate the effects of parents' education and education pathways. How do these results compare with those found in 2013 and 2016?

Table 11 summarises the effects of parents' highest qualification and education pathways on common variables in NYS 2013, 2016, and 2019. Consistently through the various surveys, parents' highest qualification significantly predicts educational aspiration and stress over finances. Polytechnic students are also found to be less stressed over studies than students in the Express/JC track. Possible positive trends include the following: parents' qualification no longer significantly relate to youths' psychological outcomes, and education pathways no longer affect self-esteem, stress over finance or relational stressors.

However, in 2019, parents' qualification now significantly relates to stress over studies, when it did not matter in the past surveys. The effects of education pathway on psychological outcomes fluctuate. While in NYS 2016, IB/IP/Specialised schools students rated higher in resilience than Express/JC stream students, in NYS 2019, Normal/ITE students rated lower in resilience than Express/JC stream students.

A final noteworthy finding from NYS 2019 is that female youths were more likely to have lower psychological wellbeing outcomes such as lower self-esteem and resilience, higher stress over their studies, future uncertainty and friendships. Females were also less confident about their future outlook as compared to males.



TABLE 11: EFFECTS OF PARENTS' HIGHEST QUALIFICATION & EDUCATION PATHWAYS ON YOUTH OUTCOMES THROUGH NYS 2013-2019

	Pare	nts' Highest Qualifica	tion	Education Pathways			
	2013	2016	2019	2013	2016	2019	
Educational Aspirations	(+)	(+)	(+)	NA/NT/ITE (-) IP/IB (+) Private Prog (-)	NA/NT/ITE (-) IP/IB (+) Private Prog (-)	NA/NT/ITE (-) Polytechnic (-) IP/IB (+) Private Prog (-)	
Psychological Outco	mes						
Esteem	(+)	(+)	Insignificant Effect	NA/NT/ITE (-)	Insignificant Effect	Insignificant Effect	
Resilience		(+)	Insignificant Effect		IP/IB (+)	NA/NT/ITE (-)	
Practical Stressors							
Studies	Insignificant Effect	Insignificant Effect	(+)	Polytechnic (-) Private Prog (-)	All pathways (-)	Polytechnic (-)	
Finances	(-)	(-)	(-)	NA/NT/ITE (+) Polytechnic (+) Private Prog (+)	IP/IB (-) Private Prog (+)	Insignificant Effect	
Future Uncertainty	Insignificant Effect	Insignificant Effect	Insignificant Effect	Insignificant Effect	Polytechnic (-) IP/IB (-)	Private Prog (-)	
Relational Stressors							
Family Relationships	Insignificant Effect	Insignificant Effect	Insignificant Effect	NA/NT/ITE (+)	Private Prog (+)	Insignificant Effect	
Friendships (Including peer pressure, romantic relationships)	(-)	Insignificant Effect	Insignificant Effect	Insignificant Effect	Insignificant Effect	Insignificant Effect	

Notes

The base category is Express/JC.

(+) refers to the independent variable (demographic) having a positive effect on the dependent variable (outcome).

(-) refers to the independent variable (demographic) having a negative effect on the dependent variable (outcome).

Limitations & Implications

The usual limitations of a cross-sectional repeated survey apply to this analysis. First, the quantitative analysis is only able to show the associations between factors but unable to explain why. Second, the lack of longitudinal data limits causal claims. However, some causal claims can be made of parents' highest qualification because parents' qualification precedes the youth outcomes used as dependent variables such as their current state and aspiration. Thus, it can be said that the level of parents' highest qualification, as a proxy for family SES, has an influence on the students' aspiration and outlook. Another advantage of this analysis based on the NYS is that as a nationally representative survey, the findings here can be generalisable to the youth student population in Singapore.

With the above in mind, there are a few clear insights to note from the findings in this analysis. One is the consistent advantage of family SES on youth's education pathways. Youths with higher SES were still more likely to settle early into more prestigious education pathways (i.e., IP/IB Programme) which subsequently allowed them to have higher educational aspiration. The IP/IB/Specialised schools track also appears to confer advantages on the youths' outlook and confidence in the future. However, we also observe that the Normal/ITE track continues to shed its stigma. Since NYS 2016, students in this path no longer rate themselves to have lower self-esteem. Youths from the Normal/ ITE track also do not differ significantly from their peers in many developmental outcomes. This is heartening. The recent shift in our education system towards subject-based banding (SBB) and a shift away from grades might have caused the stigma and negative labels to be shed. However, the journey is not over yet. Many of these changes are still at its implementation and pilot-testing stage and there is still a need to monitor and to study these trends through its execution and its receptiveness from the ground.

Lastly, from this latest NYS analysis, we see the critical role that the family plays in our youths' development. Even though a positive family environment did not absorb much of the significant effects of parents' SES, it was significantly related to youth's outcomes. The findings suggest the need to research further on how families can be supported to be a protective factor to our youth's education and development.

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