

Educational Pathways, Youth Wellbeing & Outlook

Irene Y.H. Ng and Nursila Senin

Department of Social Work, Social Service Research Centre
National University of Singapore



Abstract

Focusing on students aged 15 to 18 in the National Youth Survey (NYS) 2016, this chapter examines the role that educational paths play in mediating the effects of youths' parental and personal background on their developmental outcomes. These include outcomes related to wellbeing such as self-esteem, resilience, practical and relationship stressors, outlook-related outcomes such as educational aspiration and future outlook on family, happiness and money. Four key insights were found. One is the clear advantage of having educated or higher socioeconomic status (SES) parents on youth development. The second insight is that part of the relationship between SES and the youth outcomes is through parents placing their children in more desired educational paths, and resulting in the early settlement of aspirations by education paths. Third, the Integrated Programme (IP) or International Baccalaureate (IB) Programme appears to have become a premier pathway that yields not only superior academic outcomes, but also privileged developmental effects. Fourth, the Normal/ITE path might be shedding some of its stigma, and students in this path seem to be gaining confidence in themselves and their future. These findings suggest a continued role for education and youth policies in promoting social equity for the benefit of youths' wellbeing and future.

Introduction

As youths progress through the education system and spend an increasing amount of time in school, the spheres of influence affecting their developmental outcomes increasingly extend beyond the family to the school.

In terms of educational pathways, several studies in the European context found that early ability tracking in schools leads to social segregation and inequality of educational and occupational outcomes (Hanushek & Wößmann, 2005; Hindriks, Verschelde, Rayp, & Schoors, 2010; Triventi, 2013). Besides youths' socioeconomic outcomes, other research have also investigated the effects of a differentiated education system on psychological outcomes. In Belgium, for instance, students' self-esteem was found to be lower in technical and vocational schools than in general schools (Van Houtte, 2005). In Singapore, Liu, Wang, and Parkins (2005) examined Singaporean students' academic self-concept and found that students from the Normal Academic (NA) stream had a more negative perception of their academic effort and competence than students from the Express stream. However, the longitudinal study also highlighted that the latter group's academic self-concept decreased over time, while the reverse was true for NA students. In their analysis of educational pathways and youth development using National Youth Survey (NYS) 2013, Ng & Cheong (2015) found that parents' educational advantage exerts a large influence on the youths' educational aspiration, self-esteem, relational competence, overseas learning experience, and stress over finances, but not organisational competence and stress over studies and future uncertainty. These effects were partially mediated by education pathways.

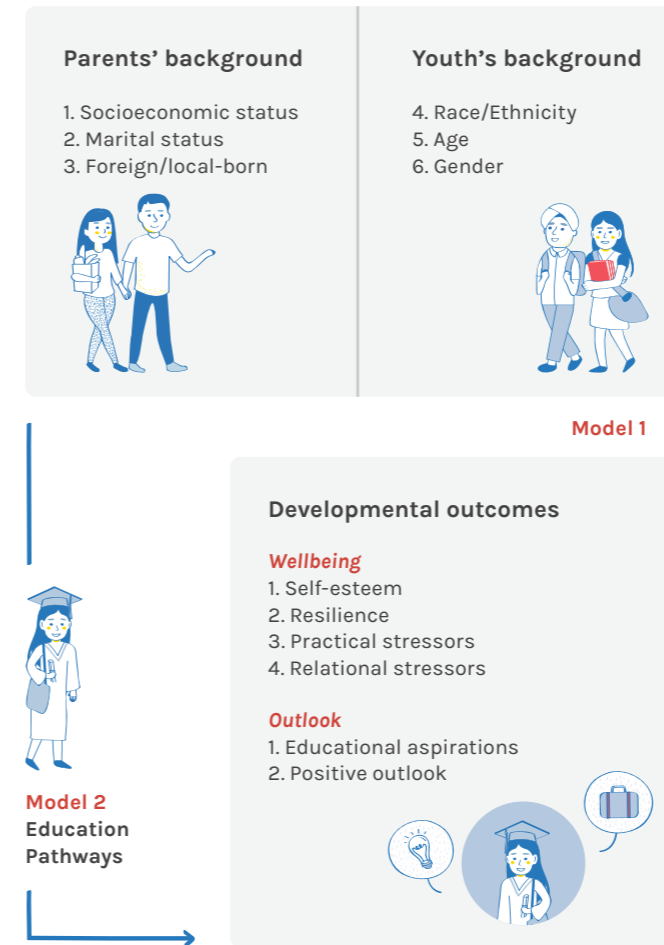
Understanding how the different educational pathways within the Singapore system lead to different educational and psychosocial outcomes for youths is important in ascertaining their impact on social inequalities as a whole. This chapter examines the role that educational pathways play in mediating the effects of youths'

parental and personal background on various developmental outcomes for students aged 15 to 18. It builds on the previous analysis using NYS 2013, which had focused on educational aspiration, self-esteem, organisational and relational competence, overseas learning experience, and practical and relationship stressors. With new variables introduced in NYS 2016, the present analysis focuses our research question on wellbeing and future outlook, thus dropping competence and learning experience, and adding resilience and future expectations. In Resiliency Theory, the concept of resilience provides a strengths-based approach to understanding youths' positive development despite risks (Zimmerman, 2013). Other research shows that being optimistic and having a positive outlook help adolescents to cope with stress (Scheier, Weintraub, & Carver, 1986; Scheier & Carver, 1992) and improve their life satisfaction (Wu, Tsai, & Chen, 2009). Thus, this chapter's interest in educational aspiration, self-esteem, resilience, stressors, and outlook provides an examination of the factors associated with a range of current and aspirational wellbeing outcomes.

The mediating role of educational paths between family socioeconomic status (SES) and youth outcomes is studied through a two-step multivariate process. First, in Model 1, the set of background variables are regressed on each of the youth outcomes without the educational pathways. Then, in Model 2, the set of variables representing the educational pathways is added. A significant decrease in the coefficients of the background variables suggests that educational pathway significantly mediates 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 education aspiration, practical stressors, relationship stressors, and positive outlook), ordered probit regression is used. For self-esteem and resilience, which are treated as variables on a continuous scale, ordinary least squares (OLS) regression is used.

• **FIGURE 1: TWO-STEP EMPIRICAL MODEL OF DETERMINANTS OF STUDENTS' DEVELOPMENTAL OUTCOMES**



All analyses control for the same set of background variables, which include parents' socioeconomic status, marital status, and immigrant status; and youths' ethnicity, age, and gender. Before the above two-step regression analysis, the background variables are regressed on educational pathways to understand the relationship between the background variables and educational pathways. As educational pathways are in five non-ranked categories, multinomial logistic regression is used.

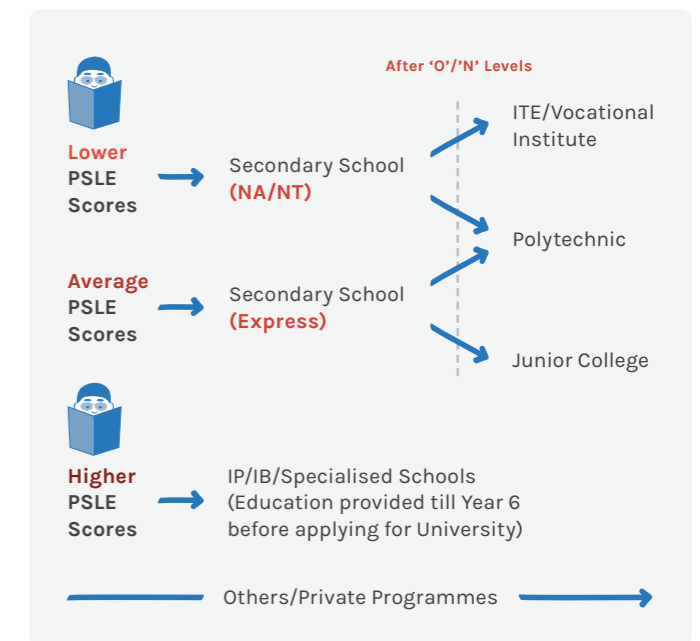
Data & Methodology

Survey data and educational pathways

The study focuses on youths aged 15 to 18 in the NYS 2016. The age range was chosen to represent the various educational pathways of school-going age youths as illustrated in **Figure 2**.

The most common pathway to a local public university (and one which can perhaps be taken as the default) for most students is the group that enters the secondary school Express stream in a standard programme and then progresses to junior college (JC) after the GCE 'O' Level Examination taken at the end of Secondary 4. Another group of students with lower average Primary School Leaving Examination (PSLE) results enter 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.

• **FIGURE 2: EDUCATION PATHWAYS**



Besides JC and ITE, a large group of students also enter 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, enter the Express stream into the Integrated Programme (IP) or International Baccalaureate (IB) Programme which take them through till Year 6 when they apply for university.

Finally, a small group of students are in 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 education paths in **Figure 2** represent the main and common tracks that students experience, and thus form the main classification system for the educational 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 to Polytechnic; (c) vocational: Normal 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 712 youths.

Other independent variables

Parents' background

Two measures of parents' SES were first considered: parents' highest qualification and housing type. Housing type was found to be more strongly correlated to education paths, as results will later show. However, the results from either housing type or parents' educational attainment on youth outcomes were similar. For comparability with the NYS 2013 findings, parents' highest qualification was used as a proxy for SES in the subsequent regression models.

Parents' highest qualification was based on 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) ITE/Vocational Institute (VI), (5) GCE 'A' Levels/Post-secondary, (6) Diploma, (7) University graduate or other professional qualifications, and lastly (8) Postgraduate.

The second measure of parents' SES was housing type. This variable was rank-ordered into the following seven levels: (1) HDB 1 to 2 rooms, (2) HDB 3 rooms, (3) HDB 4 rooms, (4) HDB 5 rooms, (5) HDB Executive/Maisonette/HUDC/DBSS/Executive condominium, (6) Private flat/Condominium, and (7) Landed property/Others.

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 contains 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.

Youths' 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 are aged 17 to 18. Gender equals one for female respondents.

Dependent variables

Self-esteem

For self-esteem, the respondents were asked whether they agreed or disagreed 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 respondents then chose their responses based on a five-point Likert scale, namely (1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree, and (5) strongly agree. 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 ($\alpha=.70$).

Resilience

For resilience, the respondents were asked whether they agreed or disagreed 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".

The respondents then chose their responses based on a five-point Likert scale, namely (1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree, and (5) strongly agree. 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 ($\alpha=.73$).

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 include 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 following options: (1) not at all stressful, (2) a little stressful, (3) moderately stressful, (4) very stressful, and (5) extremely stressful.

Educational aspirations

The respondents were asked about the highest level of education that they perceived they could achieve and this question was used as a measure of their educational aspiration. The educational aspirations were rank-ordered into four categories: (1) GCE 'N' or GCE 'O' Levels/ITE/VI/GCE 'A' Levels/Post-secondary, (2) Diploma, (3) University graduate or other professional qualifications, and (4) Postgraduate.

Positive outlook

The respondents were asked whether they agreed or disagreed with nine statements about their future outlook with regards to specific issues. The respondents then chose their responses based on a five-point Likert scale, namely (1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree, and (5) strongly agree. Out of these nine statements in the questionnaire, three that had significant results were extracted for reporting in this chapter. These were outlooks with regards to having a nice family in 10 years time, being afraid that life will be unhappy, and expectations of not having enough money. The negative statements were reverse coded such that a higher value indicated a more positive outlook.

Summary Statistics

Table 2 provides the summary statistics of the independent variables. A majority (39.18%) of the sample was either in the Express stream in secondary school or in regular junior colleges, followed by Normal/ITE (21.64%), polytechnic (16.97%), IP/IB (13.86%), and others (8.35%). There were higher proportions of respondents in the Normal/ITE and IP/IB streams in comparison to the NYS 2013 data.

Compared to the 2016 youth statistics, Malays were slightly under-represented and youths of other ethnicities were over-represented in the sample. There was also an over-representation of females in the sample. The majority (27.11%) of the respondents had parents with a Bachelor's degree. The other more common qualification types of parents were 'O' Levels (17.56%), Postgraduates (15.59%) and Diploma holders (14.47%).

• **TABLE 2: SUMMARY STATISTICS OF INDEPENDENT VARIABLES**

	n	%	Youth Statistics in 2016 (%)*
Education Types	707		
Secondary School (NA/NT)/ITE/Vocational Institute (VI)	153	21.64	
Secondary School (Express)/Junior College (JC) (Regular)	277	39.18	
Polytechnic	120	16.97	
Integrated Programme (IP)/International Baccalaureate (IB)/Specialised School (Sec/JC)	98	13.86	
Private Programmes ('O' Levels/'A' Levels/IB)/Others	59	8.35	
Ethnicity	712		
Chinese	517	72.61	72
Malay	92	12.92	16
Indian	68	9.55	9
Others	35	4.92	3
Age	712		
15	102	14.33	
16	213	29.92	
17	200	28.09	
18	197	27.67	
Gender	712		
Male	280	39.33	49
Female	432	60.67	51

• **TABLE 2: SUMMARY STATISTICS OF INDEPENDENT VARIABLES (CONTINUED)**

	n	%	Youth Statistics in 2016 (%)*
Parents' Highest Qualification	712		
PSLE and below	68	9.55	
GCE 'N' Levels	25	3.51	
GCE 'O' Levels	125	17.56	
ITE/VI	45	6.32	
GCE 'A' Levels/Post Sec	42	5.90	
Diploma	103	14.47	
Bachelor's degree/Others	193	27.11	
Post Grad	111	15.59	
Housing Type	672		
HDB 1-2 rooms	29	4.32	
HDB 3 rooms	91	13.54	
HDB 4 rooms	202	30.06	
HDB 5 rooms	161	23.96	
HDB Executive/Maisonette/HUDC/DBSS/Executive Condominium	83	12.35	
Private flat/Condominium	104	15.48	
Landed property/Others	2	0.30	
Parents' Marital Status	712		
Married	644	90.45	
Single parent	68	9.55	
Parents' Immigrant Status	712		
One parent not born in Singapore	156	21.91	
Both parents not born in Singapore	117	16.43	

*Source: Yearbook of Statistics 2016, Department of Statistics

A majority of the sample stayed in HDB 3 to 4 rooms flats (43.60%) followed by HDB 5 rooms/HDB Executive/Maisonette/HUDC/DBSS/Executive Condominium (36.31%). The percentage of respondents staying in HDB 1 to 2 rooms flats was 4.32% while 0.30% of the respondents stayed in landed property or other property types.

A small but significant proportion (9.55%) of respondents had single parents. A high proportion of parents were foreign-born. With 21.91% of the respondents having one parent who was

foreign-born and 16.43% with both parents who were foreign-born, 38.34% of the sample youths had at least one foreign-born parent.

Table 3 gives the summary statistics of the dependent variables. A majority of the sample aspired to obtain at least a University Degree or other Professional Qualifications (50.71%), followed by an even higher qualification of a Postgraduate Degree (29.26%). 14.35% aspired towards a Polytechnic Diploma, leaving only 5.68% who aspired to qualifications lower than a diploma.

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

Variables	Mean	Standard Deviation	Min	Max	%	n
Educational Aspirations						704
'A' Levels/Post-secondary/ITE/'O' Levels/'N' Levels/PSLE					5.68	40
Diploma					14.35	101
University Graduate/Other Professional Qualifications					50.71	357
Postgraduate					29.26	206
Self-Esteem	3.59	0.75	1	5		704
Resilience	3.21	0.60	1	5		704
Practical Stressors						
Studies	3.84	1.03	1	5		698
Finances	2.85	1.17	1	5		637
Future Uncertainty	3.59	1.20	1	5		688
Relational Stressors						
Family Relationships	2.24	1.10	1	5		693
Friendships (including peer pressure, romantic relationships)	2.53	1.03	1	5		699
Positive Outlook						704
Nice family in 10 years time	3.69	0.88	1	5		
Life will be happy	2.51	1.11	1	5		
Have enough money	3.14	1.08	1	5		

The youths in the sample ranked themselves a mean of 3.59 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 rate themselves moderately, with a mean of 3.21.

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 (3.84) followed by future uncertainty (3.59). Relationship stressors scores were lower, with the lowest being family stressors (2.24) and next lowest stress over friends (2.53). Stress over finances was in the middle ground, with a score of 2.85.

In terms of future outlook, the youths in the sample are moderately optimistic about having a nice family in 10 years time and having enough money, with means of 3.69 and 3.14 respectively.

However, they are less optimistic about having a happy life, with a mean of 2.51, which falls between "disagree" and "neither agree nor disagree" on the Likert scale.

Findings from Multivariate Analysis

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

• **TABLE 4: MULTINOMIAL LOGISTIC REGRESSIONS OF STUDENTS' EDUCATION PATHWAYS**

	NA/NT/ITE	Polytechnic	IP/IB/ Specialised Schools	Private Programmes/ Others
n	667	667	667	667
Housing type	-0.50*** (0.11)	-0.13 (0.11)	0.39*** (0.11)	0.11 (0.13)
Parents' highest qualifications	-0.22*** (0.056)	-0.098 (0.062)	0.25*** (0.088)	-0.087 (0.077)
Single parent family	0.16 (0.38)	0.12 (0.44)	-1.04 (0.78)	0.30 (0.52)
One parent is foreign-born	-0.55* (0.29)	-0.29 (0.31)	-0.78** (0.38)	-0.23 (0.41)
Both parents are foreign-born	-0.48 (0.36)	-0.63 (0.41)	0.27 (0.35)	0.49 (0.44)
Malay	1.84*** (0.36)	0.49 (0.48)	-1.15 (1.06)	2.25*** (0.44)
Indian	0.99*** (0.37)	0.13 (0.47)	-0.153 (0.488)	0.54 (0.52)
Female	-0.84*** (0.24)	-0.71*** (0.27)	-0.46* (0.28)	-0.45 (0.32)
Age between 17-18	0.80*** (0.24)	5.395*** (1.015)	0.64** (0.27)	1.06*** (0.32)

Notes Standard errors in parentheses
*p<0.1, **p<0.05, ***p<0.01
^ The base category is Express/JC.

Using both parents' highest qualification and housing type as measures of the respondents' socioeconomic background, housing type has stronger effects than parents' education in terms of coefficient sizes. However, the statistical significances are the same. With asterisks indicating the statistically significant results, the coefficients of housing type and parents' highest qualification show that compared to Express stream and JC students, students in the Normal and ITE track more likely lived in smaller flats and had lower educated parents, whereas the students in the IP/IB track more likely lived in bigger housing and had higher educated parents. Given the similarity in results of housing type and parents' education, in subsequent analysis, housing type is dropped, and parents' highest education is used as the sole proxy for socioeconomic status for comparability with the NYS 2013 findings.

The coefficients of the other independent variables show that females were overall more likely to be in the Express/JC education track. Students from minority ethnicities were more likely to be in the Normal/ITE track and/or other/private tracks. In the NYS 2013 analysis by Ng & Cheong (2015), respondents whose parents were both born overseas were less likely to be in the Normal or ITE track or in the IP/IB track. However, this effect is not statistically significant in NYS 2016. Instead, respondents with one foreign-born parent were less likely to be in the Normal or ITE track or in the IP/IB track.

Determinants of wellbeing outcomes

Now turning to the two-step empirical model being tested in this chapter, we are interested in the determinants of youth developmental outcomes.

Table 5 gives the results of the first wellbeing outcome, self-esteem. In contrast to the findings of the NYS 2013, which found significant effects of education types on self-esteem, one's education pathway is no longer a determinant of self-esteem. Parents' education, however, remains a significant predictor of self-esteem. Respondents with more educated parents had higher self-esteem, mediated very slightly by their education pathways. The only other variable that had a correlation with self-esteem was gender, whereby females were more likely to have lower self-esteem. The effect of gender remained significant even after education pathway was controlled for.

• **TABLE 5: OLS REGRESSIONS OF STUDENTS' SELF-ESTEEM & RESILIENCE**

	Model 1	Model 2	Model 1	Model 2
	Self-Esteem	Self-Esteem	Resilience	Resilience
n	699	699	699	699
Parents' highest qualifications	0.029** (0.013)	0.027** (0.014)	0.020* (0.01)	0.012 (0.011)
Single parent family	-0.12 (0.098)	-0.12 (0.098)	-0.056 (0.078)	-0.040 (0.078)
One parent is foreign-born	0.038 (0.071)	0.046 (0.072)	0.053 (0.057)	0.061 (0.057)
Both parents are foreign-born	0.11 (0.084)	0.12 (0.084)	0.060 (0.067)	0.058 (0.067)
Malay	-0.026 (0.088)	0.0098 (0.093)	-0.093 (0.071)	-0.068 (0.074)
Indian	0.079 (0.099)	0.090 (0.100)	-0.17** (0.079)	-0.15* (0.080)
Female	-0.11* (0.059)	-0.100* (0.060)	-0.13*** (0.047)	-0.14*** (0.047)
Age between 17-18	-0.006 (0.058)	-0.035 (0.063)	-0.005 (0.046)	-0.023 (0.051)
NA/NT/ITE		0.025 (0.084)		-0.060 (0.067)
Polytechnic		0.11 (0.092)		0.052 (0.073)
IP/IB/Specialised Schools		0.12 (0.091)		0.14* (0.073)
Private Programmes/Others		-0.15 (0.11)		0.089 (0.089)

Notes

Standard errors in parentheses

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

^ The base category is Express/JC.



Turning next to resilience, **Table 5** reveals that educational pathways matter to resilience. In Model 1, parents' education positively correlates with higher resilience, but the significant relationship disappears when education pathways were added in Model 2. This indicates that the effect of parents' SES on resilience is fully mediated through education pathway. The coefficient for parents' education also decreases from 0.020 to 0.012, hence education pathways absorb 40% of the association between SES and resilience. Correspondingly, students in the IP/IB track were found to have a higher level of resilience, and there were no other significant correlations between education tracks and resilience. Indian and female youths rated their resilience lower, and these effects remained significant even in Model 2.

Do youths from different backgrounds perceive their stress differently? Looking first at practical stressors, the findings reveal multiple determinants of youths' stress over finances (**Table 6**). Those with less educated parents were more stressed over finances, an effect that remained significant even after education pathways were controlled for in Model 2. Correspondingly, students from the IP/IB track were less stressed over their finances, while the reverse was true for private students. Malays and youths from single parent families were also more stressed over finances, unlike those whose parents were both born overseas.

Youths from different SES backgrounds did not differ in terms of stress over studies or future uncertainty (**Table 6**). However, in Model 2, it appears that youths from different education pathways experience stress over studies and future uncertainty differently. Students from the Express/JC track rated themselves as being more stressed over their studies, in comparison to their counterparts from all other education streams. This finding differs

from the NYS 2013 results, which found that only polytechnic and private students were less stressed than the Express/JC students. With regards to future uncertainty, students from the IP/IB track and polytechnics were less likely to be stressed.

Students from different ethnicities also experienced different levels of stress. Indians were more stressed than Chinese over their studies, an effect that remains significant in Model 2. When education types were controlled for, Malay students also similarly experienced more stress over their studies than the Chinese students. Being an immigrant also seems to matter when it comes to practical stressors. Youths with either one or both parents born overseas were less stressed over their studies, even when education types were controlled for. Youths with both parents born overseas were also less preoccupied with future uncertainty. In a finding that is consistent with the NYS 2013, girls were found to be more stressed over studies and the future than boys, indicating that gender remains a significant determinant of youth's practical stressors.

Unlike the NYS 2013 findings, SES and educational pathways had no significant associations with relationship stress (**Table 7**). The drivers of relational stressors for the NYS 2016 youths were ethnicity, family structure, immigrant status and gender. Indians and youths in single parent families were more likely to feel stressed over family relationships while those whose parents were both born overseas were less stressed over such relationships. These effects remain significant even when education types were controlled for in Model 2. For stress over friendships, the only significant effect is gender, which is predictive of higher stress for females.

• **TABLE 6: ORDERED PROBIT REGRESSIONS OF STUDENTS' PRACTICAL STRESSORS**

	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	Finances	Finances	Studies	Studies	Future Uncertainty	Future Uncertainty
n	632	632	693	693	683	683
Parents' highest qualifications	-0.072*** (0.019)	-0.062*** (0.020)	-0.0068 (0.019)	-0.016 (0.020)	-0.0006 (0.019)	0.004 (0.020)
Single parent family	0.43*** (0.14)	0.40*** (0.14)	0.24* (0.14)	0.25* (0.15)	0.12 (0.14)	0.11 (0.14)
One parent is foreign-born	-0.10 (0.12)	-0.14 (0.12)	-0.21** (0.10)	-0.24** (0.10)	-0.10 (0.10)	-0.12 (0.10)
Both parents are foreign-born	-0.27** (0.12)	-0.28** (0.12)	-0.24** (0.12)	-0.24** (0.12)	-0.24** (0.12)	-0.25** (0.12)
Malay	0.48*** (0.13)	0.43*** (0.14)	0.18 (0.13)	0.31** (0.14)	0.081 (0.13)	0.087 (0.14)
Indian	0.24 (0.15)	0.21 (0.15)	0.30** (0.14)	0.35** (0.15)	0.10 (0.14)	0.097 (0.14)
Female	0.011 (0.087)	0.013 (0.088)	0.18** (0.084)	0.14* (0.085)	0.24*** (0.084)	0.22*** (0.084)
Age between 17-18	0.15* (0.085)	0.13 (0.094)	-0.12 (0.083)	-0.026 (0.092)	0.049 (0.083)	0.12 (0.091)
NA/NT/ITE		-0.044 (0.12)		-0.45*** (0.12)		-0.11 (0.12)
Polytechnic		0.060 (0.13)		-0.32** (0.13)		-0.25* (0.13)
IP/IB/Specialised Schools		-0.39*** (0.14)		-0.39*** (0.13)		-0.31** (0.13)
Private Programmes/Others		0.34** (0.16)		-0.47*** (0.16)		-0.21 (0.16)

Notes

Standard errors in parentheses

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

^ The base category is Express/JC.

• **TABLE 7: ORDERED PROBIT REGRESSIONS OF STUDENTS' RELATIONAL STRESSORS**

	Model 1	Model 2	Model 1	Model 2
	Family Relationships	Family Relationships	Friendships (including peer pressure, romantic relationships)	Friendships (including peer pressure, romantic relationships)
n	689	689	694	694
Parents' highest qualifications	-0.014 (0.019)	-0.014 (0.020)	-0.021 (0.018)	-0.031 (0.020)
Single parent family	0.27* (0.14)	0.27* (0.14)	-0.027 (0.14)	-0.009 (0.14)
One parent is foreign-born	-0.095 (0.10)	-0.093 (0.10)	-0.090 (0.10)	-0.093 (0.10)
Both parents are foreign-born	-0.21* (0.12)	-0.24* (0.12)	-0.17 (0.12)	-0.18 (0.12)
Malay	0.17 (0.13)	0.11 (0.13)	0.071 (0.12)	0.094 (0.13)
Indian	0.28** (0.14)	0.26* (0.14)	0.079 (0.14)	0.099 (0.14)
Other Race	-	-	-	-
Female	0.050 (0.084)	0.046 (0.085)	0.20** (0.083)	0.19** (0.084)
Age between 17-18	0.014 (0.083)	0.052 (0.091)	-0.020 (0.081)	0.012 (0.089)
NA/NT/ITE		0.061 (0.12)		-0.19 (0.12)
Polytechnic		-0.14 (0.13)		-0.13 (0.13)
IP/IB/Specialised Schools		0.030 (0.13)		-0.007 (0.13)
Private Programmes/Others		0.30* (0.16)		0.17 (0.16)

Notes
Standard errors in parentheses
*p<0.1, **p<0.05, ***p<0.01
^ The base category is Express/JC.

Determinants of outlook outcomes

Next, turning to the determinants of outlook outcomes, the first question to ask is: how much do parents' SES and youths' educational pathways determine one's education aspiration? **Table 8** indicates that the answer is very much. Respondents who had more educated parents were more likely to aspire towards

higher levels of education. Even after adding education pathways in Model 2, the coefficient for parents' education decreases by 0.04 to 0.15, a figure that is still very significant. Thus, education pathways absorb 21% of the association between SES and educational aspirations. Unsurprisingly, education pathways

strongly relate to aspirations: compared to students in the Express/JC track, vocational and other track students had lower educational aspirations and the students in IP/IB/Specialised Schools aspired towards higher levels of education. The educational aspirations of polytechnic students did not significantly differ from that of Express/JC students.

The other variables that were significantly predictive of educational aspirations were ethnicity and age group. Malays had lower educational aspirations whereas Indians had higher aspirations. Respondents in the 17 to 18 age group were also more likely to have higher educational aspirations than their counterparts in the 15 to 16 age group. These effects remained significant even after education pathways were controlled for in Model 2.

• **TABLE 8: ORDERED PROBIT REGRESSIONS OF STUDENTS' EDUCATION ASPIRATION**

	Model 1	Model 2
	Educational Aspiration	Educational Aspiration
n	699	699
Parents' highest qualifications	0.19*** (0.020)	0.15*** (0.021)
Single parent family	-0.079 (0.15)	0.034 (0.15)
One parent is foreign-born	0.047 (0.11)	0.091 (0.11)
Both parents are foreign-born	0.15 (0.13)	0.17 (0.13)
Malay	-0.65*** (0.13)	-0.35** (0.14)
Indian	0.29* (0.15)	0.47*** (0.16)
Other Race	-	-
Female	-0.046 (0.088)	-0.10 (0.090)
Age between 17-18	0.20** (0.086)	0.24** (0.098)
NA/NT/ITE		-0.70*** (0.13)
Polytechnic		-0.11 (0.14)
IP/IB/Specialised Schools		0.86*** (0.15)
Private Programmes/Others		-0.44*** (0.17)

Notes Standard errors in parentheses
*p<0.1, **p<0.05, ***p<0.01
^ The base category is Express/JC.

What are the determinants of positive outlook among youths in Singapore? **Table 9** shows that parents' education had a significant effect on youths' expectation for a happy life and having enough money, but not their expectation of having a nice family. Unsurprisingly, respondents whose parents have higher educational qualifications were more likely to be optimistic about their chances in being happy and having enough money in the future. The other determinants of youths' positive outlook include ethnicity, whereby Malays were more likely to be optimistic about their ability to have a nice family in 10 years time, and Indians had a more positive outlook with regards to their financial status in the future.

Females, conversely, were less optimistic about their chances in having a happy life, while youths in the 17 to 18 age group were more pessimistic that they will have enough money in the future. Educational pathways had no effect on outlook. When education pathways were added in Model 2, the only significant finding was that youths from the IP/IB track were more likely to be optimistic about having enough money in the future. The association between SES and having positive outlook over having enough money also remained significant in Model 2. The coefficient for parents' education decreased from 0.058 to 0.040, indicating that education pathways absorb 31% of the association.

• **TABLE 9: ORDERED PROBIT REGRESSIONS OF STUDENTS' POSITIVE OUTLOOK**

	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	Nice Family	Nice Family	Happy Life	Happy Life	Enough Money	Enough Money
n	699	699	699	699	699	699
Parents' highest qualifications	-0.007 (0.019)	-0.005 (0.20)	0.034* (0.018)	0.036* (0.019)	0.058*** (0.018)	0.040** (0.019)
Single parent family	0.042 (0.14)	0.037 (0.14)	0.097 (0.14)	0.097 (0.14)	-0.021 (0.14)	0.016 (0.14)
One parent is foreign-born	-0.084 (0.10)	-0.088 (0.10)	0.092 (0.10)	0.10 (0.10)	-0.006 (0.010)	0.018 (0.100)
Both parents are foreign-born	0.099 (0.12)	0.091 (0.12)	0.17 (0.12)	0.18 (0.12)	0.16 (0.12)	0.15 (0.12)
Malay	0.29** (0.13)	0.26** (0.13)	-0.039 (0.12)	-0.043 (0.13)	0.086 (0.12)	0.15 (0.13)
Indian	0.15 (0.14)	0.15 (0.14)	0.19 (0.14)	0.19 (0.14)	0.26* (0.14)	0.29** (0.14)
Female	-0.011 (0.083)	-0.020 (0.084)	-0.17** (0.082)	-0.16* (0.083)	-0.009 (0.082)	-0.021 (0.083)
Age between 17-18	0.10 (0.082)	0.13 (0.091)	-0.13 (0.081)	-0.17* (0.089)	-0.27*** (0.081)	-0.23*** (0.089)
NA/NT/ITE		0.002 (0.12)		0.077 (0.12)		-0.097 (0.12)
Polytechnic		-0.10 (0.13)		0.13 (0.13)		-0.16 (0.13)
IP/IB/Specialised Schools		-0.079 (0.13)		0.10 (0.13)		0.36*** (0.13)
Private Programmes/Others		0.054 (0.16)		0.023 (0.16)		-0.067 (0.16)

Notes Standard errors in parentheses
 *p<0.1, **p<0.05, ***p<0.01
 ^ The base category is Express/JC.

Discussion

The first insight from the findings in this analysis is the strong relationship between parents' socioeconomic background and a range of youth developmental outcomes. In this study, having parents who are more highly educated (i.e. from a higher SES) puts one on a higher educational pathway. It is also associated with higher self-esteem, greater resilience, lower financial stress, higher educational aspiration, higher expectations of a happy life in future and higher expectations of earning enough money. Some may find these associations expected, that is, it is expected that one will have higher educational aspiration if one's parents are more educated. However, that SES is associated to other less seemingly-related outcomes such as resilience and expectations of a happy life points to some undercurrent of anxiety over future outlook when one is of a lower SES.

The second insight from the findings is that part of the relationship between SES and the youth outcomes is through parents placing their children in more desired educational paths, especially in the IP/IB Programme. The effects through educational pathways are especially strong for educational aspiration, resilience and future outlook on having enough money. Educational pathways absorb 40% of the association between SES and resilience, 31% of the association between SES and money-related future outlook, and 21% of the association between SES and educational aspiration.

The third insight is that being in the IP/IB Programme strongly relates to several youth outcomes, independent of parents' education.

Respondents who are in the IP/IB track are more resilient, have higher educational aspiration, are less stressed about studies, finances and future uncertainty, and are more optimistic about earning enough money in the future.

Comparison with the previous analysis on educational pathways and youth development also throws up some interesting insights. To start, the relationship between educational pathways and educational aspiration was found to be the same in both NYS 2013 and 2016. Compared to Express/JC stream students, Normal/ITE and private students have lower educational aspirations and IP/IB students have higher aspirations. However, the effects on the other youth development outcomes has shifted away from the Normal/ITE path.

In NYS 2013, Normal/ITE students were found to have lower self-esteem and were more stressed about family relationships. Also, Normal/ITE, polytechnic and private/other students (that is, all except IP/IB students) were more stressed over finances compared to Express/JC stream students. In NYS 2016, the Normal/ITE students did not rate differently from Express/JC students in self-esteem and stress over finances. Instead, IP/IB students came out as clearly more advantaged. They had higher self-esteem and were less stressed over finance and future uncertainty. Also, instead of Normal/ITE students showing greater disadvantage, private/other students were more stressed over finances, whereas Express/JC students (the group used as basis for comparison) were more stressed over studies.

Limitations & Implications

The fluctuating trends above beg a few questions. From NYS 2013 to NYS 2016, why did the disadvantages faced by Normal/ITE students decrease and the advantages of IP/IB students increase? Are new risks emerging among the "sandwiched" group of students, where Express/JC students feel the competitive pressure of being between the elite IP/IB Programme above and the polytechnic programme below? Are private/other students feeling the pinch of private school fees? A macro analysis through the regressions in this chapter cannot answer these "why" questions, which will require longitudinal analyses with more specific measures of the youth psychosocial variables mixed with a qualitative inquiry of these research questions.

As a cross sectional repeated survey, the findings from the NYS cannot tease out causal effects. For instance, it cannot be concluded that being in the IP/IB Programme improves self-esteem. It might be students with higher self-esteem are selected into IP/IB. Some causal claim can be made of parents' education, however. Since parents' education is acquired before the students' current state and aspiration, it can be said that the level of parents' education has influence on the student's aspiration and outlook.

Another caveat is that females were over-represented and Malays under-represented in NYS 2016. It is unclear whether the different composition might have led to the slightly different results.

With the above limitations in mind, there are a few clear insights to note from the findings in this analysis. One is the clear advantage to youth development of having better educated or higher SES parents. The second insight is the early settlement of aspirations by education paths. Early selection into programmes might lead youths to settle on their educational goals early. Third, the IP/IB Programme appears to have become a premier pathway that yields not only superior academic outcomes, but also privileged developmental effects. Fourth, the Normal/ITE path might be shedding some its stigma, and students in this path seem to be gaining confidence in themselves and their future.

The latter finding is heartening news to the many years of aggressive promotion of ITE and its image. The recent SkillsFuture movement, which emphasises mastery of skills over academic pursuit, might have given vocational careers a boost. However, the other findings suggest the need to continue addressing equity in youth education and development. With Singapore's fast pace economic development, social stratification has become an inevitable modern reality. Today, Singapore families are stratified by basic social goods such as housing type, education level and school types. That parental advantage and education paths define youth wellbeing and outlook suggests the role that educational and youth policies can play to undo class and educational privileges, and mitigate path-dependent development. Some rebalancing from competitive economic outcomes to social equity might yield social and societal gains without much economic sacrifice.

References

- Brooks-Gunn, J., & Duncan, G. J. (1997). The effects of poverty on children. *Future of Children*, 7(2), 55-71. <http://doi.org/10.2307/1602387>
- Hanushek, E. A., & Wößmann, L. (2005). Does educational tracking affect performance and inequality? Differences-in-differences evidence across countries (NBER Working Paper 11124). Retrieved from <http://www.nber.org/papers/w11124>
- Hindriks, J., Verschelde, M., Rayp, G., & Schoors, K. (2010). School tracking, social segregation and educational opportunity: evidence from Belgium. *CORE DP n 2010, 8*.
- Liu, W. C., Wang, C. K. J., & Parkins, E. J. (2005). A longitudinal study of students' academic self-concept in a streamed setting: The Singapore context. *British Journal of Educational Psychology*, 75(4), 567-586.
- Ng, I. Y. H., & Cheong, A. (2015). Educational pathways and youth development. *YOUTH.sg: The State of Youth in Singapore 2014 - Research Compilation*. Singapore: National Youth Council.
- Painter, G., & Levine, D. I. (2000). Family Structure and Youths' Outcomes: Which Correlations are Causal? *Journal of Human Resources*, 35(3), 524-549. <http://doi.org/10.2307/146391>
- Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical wellbeing: Theoretical overview and empirical update. *Cognitive Therapy and Research*, 16(2), 201-228. <http://doi.org/10.1007/BF01173489>

Scheier, M. F., Weintraub, J. K., & Carver, C. S. (1986). Coping with stress: divergent strategies of optimists and pessimists. *Journal of Personality and Social Psychology*, 51(6), 1257-1264. <http://doi.org/10.1037/0022-3514.51.6.1257>

Triventi, M. (2013). The role of higher education stratification in the reproduction of social inequality in the labor market. *Research in Social Stratification and Mobility*, 32, 45-63. <http://doi.org/10.1016/j.rssm.2013.01.003>

Van Houtte, M. (2005). Global Self-Esteem in Technical/Vocational Versus General Secondary School Tracks: A Matter of Gender? *Sex Roles*, 53(9-10), 753-761. <http://doi.org/10.1007/s11199-005-7739-y>

Wu, C. H., Tsai, Y. M., & Chen, L. H. (2009). How do positive views maintain life satisfaction? *Social Indicators Research*, 91(2), 269-281. <http://doi.org/10.1007/s11205-008-9282-z>

Zimmerman, M. A. (2013). Resiliency Theory: A strengths-based approach to research and practice for adolescent health. *Health Education & Behavior*, 40(4), 381-383. <http://doi.org/10.1177/1090198113493782>

