



# Will I get there? Effects of parental support on children's possible selves

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**Background.** Imagining one's future self is a hallmark of adolescence. But imagining is not enough; adolescents must feel that this future is plausibly likely and take action, which may require pragmatic support from parents. Prior research has examined the effect of parental aspirations and expectations on children's possible self, not the effect of their support.

**Aims.** Therefore, this study assessed the role of parental support on youths' possible selves, strategies, and subjective likelihood of attaining possible selves.

**Sample.** A representative sample of Hong Kong Chinese secondary students aged 12–20 ( $N = 3,078$ ).

**Methods.** Students responded to an in-class questionnaire. Responses were analysed using generalized linear mixed models and linear mixed models.

**Results.** Content of hoped-for possible selves was mostly about school and career. Content of feared possible selves was more diverse. Girls had more school- and career-focused possible selves and were more likely to have strategies to attain their positive and avoid their negative possible selves. Students reporting more pragmatic support ('If I need to know something about the world, I can ask my parent about it') from parents had more school- and career-focused possible selves and were more likely to believe they could attain their hoped-for and avoid their feared possible selves and to report having at least one strategy to do so.

**Conclusions.** Parental pragmatic support provides students a secure base to engage in their future generally and in their school- and career-focused future in particular.

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I hope to be a white-collar worker. I think I need to study harder, especially to improve my English language skills. This idea is not influenced by my parents. I am not sure whether this hope can be fulfilled. I don't talk much with them, but they can give me useful information when I need it – 18-year-old boy describing hoped-for future self.

I hope to be a super star. I don't think I can and I don't have any plans for how to do it. My parents don't influence my hopes. They seldom care about me and I don't think they could give me useful information – 12-year-old girl describing hoped-for future self.

When asked about their hoped-for possible selves, children differ in whether their futures feel likely, whether they have any strategies to attain them, and whether they see their parents as influencing them or providing supports in making hopes into realities. In this study, we ask whether youth who experience their parents as supportive are more likely to have strategies to attain their hoped-for and avoid their feared possible selves and to believe that they can. We focus on parental support based on the literature that such support enables adolescents to cope better with life challenges (Cauce, Reid, Landesman, & Gonzales, 1990; Wills, 1990; Wills, Vaccaro, & McNamara, 1992). Rather than focusing narrowly on parental educational aspirations and child parental aspiration (Rimkute, Hirvonen, Tolvanen, Aunola, & Nurmi, 2012) or globally on future orientation (Stoddard, Zimmerman, & Bauermeister, 2011), we focus on the interface between possible selves and parental support. In doing so, we address an important gap in the literature on possible selves. While this literature has demonstrated effects of possible selves and strategies to attain them on behaviour, it is only now beginning to address the role of parents in influencing youths' possible selves (for a review, Oyserman & James, 2009, 2011). As outlined next, our focus on parental support is distinct from prior research on parental effects on possible selves which has examined the positive association between parents' socio-economic status, educational and career aspirations and their children's educational and career aspirations.

Developmentally, adolescence is the time in which youth increasingly focus their attention on their future potential (Erikson, 1959). When asked, adolescents can describe their imagined future self, including positive images of desired or hoped-for attainments and negative images of undesired, to-be-avoided failures. Just as Erikson predicted, these possible future identities often focus on school and career (Chang, Chen, Greenberger, Dooley, & Heckhausen, 2006). Youth hope to become successful in school (Anderman, Anderman, & Griesinger, 1999; Oyserman, Bybee, & Terry, 2006) and attain careers (Brown & Diekmann, 2010; for a review, Oyserman & Fryberg, 2006; Packard & Nguyen, 2003; Pizzolato, 2006; Shepard & Marshall, 1999). But possible future selves do not always translate into action (for a review, Oyserman & James, 2009; for a specific example Haase, Heckhausen, & Köller, 2008). Indeed, the evidence suggests that school-focused possible selves only predict effort in school if linked to strategies to attain them (Oyserman, Bybee, Terry, & Hart-Johnson, 2004) and career-focused possible selves only predict effort in school if the path to get there feels open (Destin & Oyserman, 2010; Oyserman & Destin, 2010).

Prior research has emphasized the positive role of higher parental aspirations (Malmberg, Ehrman, & Lithén, 2005; Marjoribanks, 2003) and more parental communication (Marshall, Young, Domene, & Zaidman-Zait, 2008) on children's aspirations and future orientation (for a review, Nurmi, 1991; Oyserman & James, 2011; Seginer & Vermulst, 2002; Wall, Covell, & MacIntyre, 1999). Some studies have also documented an association between family socio-economic status and adolescents' possible selves,

although the association is sometimes positive (e.g., Massey, Gebhardt, & Garnefski, 2008) and sometimes negative (Oyserman, Johnson, & James, 2010). Synthesizing across studies, it seems that family socio-economic circumstances may not hinder youths' aspirations but may undermine their likelihood of having strategies to attain their possible selves (Oyserman, 2013). Some studies examine the association of parental support on children's future orientation (Kerpelman, Eryigit, & Stephens, 2008), yet we found no prior research examining the effect of parental support on either a child's perceived likelihood of attaining (positive) or avoiding (negative) possible selves, or on whether a child has strategies to attain these selves (for a review, Oyserman & James, 2011). This omission is surprising in the light of the importance attributed to parental support in the parenting and attachment literature (Baldwin, 1992; Bowlby, 1988). According to this literature, parents who are supportive provide their children with a secure base from which to explore their environment and a prototype for how to handle new situations and stresses (Baldwin, 1992; Bowlby, 1988).

Parents who provide a secure base can be approached for pragmatic tangible support as well as for socio-emotional support when needed (Mikulincer & Shaver, 2001). Pragmatic support (defined as interactions with parents that communicate information or provide knowledge, resources, and skills) and socio-emotional support (defined as interactions with parents that communicate esteem and emotional connection and understanding) are likely to be correlated. That is, parents who affirm a child's worth and choices are also likely to provide useful information to the child, and at the same time, by providing useful information to their child, parents are affirming a child's choices. Both forms of support can foster resilience (Larose & Boivin, 1998; Ruchman, Lanyon, Karoly, 1999).

Extrapolating from the processes underpinning pragmatic and socio-emotional support studied in the attachment literature to the support youth need as they face the challenge of creating and working towards possible selves yields the prediction that support bolsters children's possible selves. That is, children who experience their parents as providing pragmatic and socio-emotional support will have a secure base from which to explore their future. As a result, they will perceive their positive possible selves as attainable and their negative possible selves as avoidable with effort, and this sense that the future is attainable (avoidable with effort) should support development of strategies to do so.

Building on prior research, in the current study, we expect that the bulk of adolescents' possible selves will focus on school and career and make three predictions about the role of social support. Our hypotheses are as follows: first, adolescents who feel more supported by their parents are more likely to have school- and career-focused possible selves (which are the normative ones for this life phase). Second, adolescents who feel more supported by their parents are more likely to have strategies to attain their possible selves. And third, adolescents who feel more supported by their parents will see their possible selves as more likely to be attained (and thus worth striving for). In addition to these predictions, we explore the possibility that socio-emotional and pragmatic support will have unique contributions to likelihood and strategy generation across children. While girls outperform boys in school, literature to date has not uncovered consistent gender differences in school or career content of possible selves (e.g., Knox, Funk, Elliott, & Bush, 1998). Therefore, we explore but do not predict gender differences.

Prior research on possible selves has been dominated by convenience samples of youth from North America and Great Britain (for a review, see Oyserman & James,

2011). The current study adds to this literature in a number of ways. First, we included youth from a different region (Hong Kong). Second, rather than a convenience sample, we used a more representative sample (as detailed in the methods section). Third, we attempted to address concerns youths' desire to provide responses that reflect well on them would influence, for example, their report of how likely they thought it was that they would attain their possible selves by including a measure of social desirability responding.

## **Method**

The Human Research Ethics Committee for Non-Clinical Faculties at The University of Hong Kong approved the study, part of a larger study by the Hong Kong Anti-drug Addiction Community Consortium. The questionnaire and instructions were in Chinese. Questions were translated and back-translated following Maneesriwongul and Dixon (2004). The process included six steps. First, two translators double-translated the questionnaire. Second, a translation panel made up of two professors, a doctoral student, and a research assistant with relevant language and content expertise read the versions and provided feedback on ease and comprehensibility. Third, 30 secondary students filled out the questionnaire and gave feedback on ease and understanding. Fourth, given this feedback, the questionnaire was again revised and the translation examined by the translation panel and a youth advisory group made up of four secondary school students, not from the sampled schools, which gave feedback on the understandability and the layout from a youth perspective. Fifth, 10 secondary students filled out the questionnaire and gave feedback on what they thought the questions meant. Lastly, the translation panel confirmed the final version. Letters were sent to parents describing the study and its voluntary nature. Parents wishing to exclude their child could do so by signing and returning a form. This form was used on the day of data collection to exclude the child and then destroyed. This was done to preserve anonymity. Less than 1% of parents returned the form, but the exact number of forms is not known because, due to administrative error, forms were disposed of prior to recording a tally.

Hong Kong has 18 school districts in four regions (Hong Kong, Kowloon, New Territories East, and New Territories West). Rather than attempt to sample all schools, a demographically average public (government-aided and subsidy scheme) school district was selected on the basis of being average on students' ethnicity distribution, family SES, and school banding or public examination results (Hong Kong Census & Statistics Department, 2006). Of the 16 public secondary schools in the district, 15 were invited to participate and 11 agreed, yielding a 73.3% acceptance rate. Within each school, 2 or 3 classrooms from each grade were randomly selected to participate yielding a pool of 3,160 students in 99 classes. One school, the Hong Kong Sea School, was not invited to participate because it serves a very unique student population with specific training and hence would not be expected to generalize to students generally.

Data were collected in spring 2010 in classrooms of 25–30 students supervised by a research assistant. Returned parent exclusion forms were used to insure that only students whose parents had not excluded them were asked to assent to participate and told that the study was voluntary and responses were anonymous. Students were given booklets, which took 15–20 min to complete. Specific instructions and measures used in

this study are detailed next in order of their appearance in the test booklet. The full description of each measure including scale items appears in the supplementary materials.

## **Measures**

### *Possible selves*

Instructions and questionnaire matrices were adopted from Oyserman *et al.* (2004; Oyserman & Saltz, 1993). Reliability and validity issues have been discussed in Oyserman and Fryberg (2006) and again in Oyserman and James (2011). Students read: 'Each of us has some images or pictures in mind of what we will be like or what we want to avoid being like in the future. Think about your coming future years – imagine what you hope to be like and write down two hoped-for possible selves below' (87% of participants generated at least one hoped-for self). The questionnaire had space to write in possible selves in the leftmost column and then a column with space to mark 'yes' or 'no' in response to a query about whether one had one or more strategies to attain that possible self (57% reported having one or more strategies). Participants who said they had at least one strategy were asked to fill in what that strategy was in the next column. Finally, for each of the hoped-for selves students wrote, they were also asked to rate how likely it was that the possible self would be attained, using a 5-point scale with '1' if the likelihood was very low and a '5' if the likelihood was very high and the numbers in between to represent increasing likelihood. After completing the hoped-for matrix and questions, students completed the same instruction set for feared possible selves. About 83% of participants generated at least one feared possible self and 30% reported having one or more strategies to avoid becoming like their feared self. Open-ended responses were counted and content coded by the first author and a research assistant (agreement rate is 95%). The most common response for hoped-for possible selves focused on school and career (74% of students have at least one), and the most common response for feared possible selves focused on avoiding drug use and risky behaviour (57% of students have at least one). Likelihood responses were averaged separately for the two hoped-for possible selves ( $\alpha = .62$ ) and the two feared possible selves ( $\alpha = .74$ ).

### *Perceived parental support*

Two subscales from Wills *et al.*'s (1992) Support Received from Parents were used. One subscale is the 7-item pragmatic support ( $\alpha = .85$ ) scale. An example item is 'If I need to know something about the world, I can ask my parent about it'. The other subscale is the 5-item socio-emotional support ( $\alpha = .92$ ) scale. An example item is 'When I feel bad about something, my parent will listen'. Each uses a 5-point response scale (1 = strongly disagree, 5 = strongly agree).

### *Social desirability*

Mak's (1993) 4-item social desirability scale was used. An example item is 'Have you failed to keep a promise?' Questions focused on 2 years preceding the questionnaire (each question was asked twice, once about the past year and once about the year before that). Following Mak, each socially desirable 'never' response was coded as a '1' and all

responses summed to obtain a social desirability score ranging from 0 (lowest) to 8 (highest),  $M = 2.7$ ,  $SD = 2.6$ ,  $\alpha = .88$ .

### *Demographics*

Age ( $M = 14.8$  years,  $SD = 1.8$  years), gender (53% boys, 46% girls, 1% who did not report their gender), and monthly allowance ( $M = 2.7$   $SD = 1.4$ ) were obtained. The allowance question was asked with a close-ended range from 1 = none to 8 = more than HK\$3,000 (US\$400) using a scale adapted from Currie, Elton, Todd, and Platt (1997). The mean reflects responses between '2' (under US \$70) and '3' (between US \$70 and US \$140). Monthly allowance is a measure of the financial resources children receive from parents (Ridge, 2002) and has been used as a proxy for family economic support (Shah, Syeda, & Bhatti, 2012).

### **Analysis plan**

We first examined questionnaires for patterns indicating that participants had withdrawn their willingness to participate. Following Schwarz and Sudman (1996), we assumed that participants would communicate withdrawal through excessive skipping and repeating of answers, which we operationalized here as skipping over 30% of questions or giving the same answer to over 30% of items in a row. Using these criteria, only 2.6% of questionnaires needed to be omitted prior to analysis. A sample of 3,078 valid cases was used for this analysis.

Once these cases were removed, missing data in each analysis were handled by listwise deletion. Missing data were typically very few, ranging from 0.5% to 1.6% for demographic and parental support variables. For the possible selves data, 87% of children provided at least one hoped-for possible self response and 83% of children provided at least one feared possible self response. Those who did not respond were not included in possible self or strategy analyses. The percentage of children who did not provide a likelihood response was only marginally higher (13.6% for hoped-for and 17.9% for feared). To test the predicted effect of parental support on adolescents' possible selves, we used generalized linear mixed models and linear mixed models. Because data were non-normally distributed, we used bootstrapping with 2,000 resamplings (Efron, 1979, 1981; Efron & Tibshirani, 1993). We used the statistical package R (R Development Core Team, 2012) with the lme4 library (Bates, Maechler, & Bolker, 2011) for data analysis. Bootstrapping is an approach that avoids bias due to non-normal data distribution. Two thousand is a commonly acceptable number for resampling (Yu, 2003).

We tested the effect of parental support on content of possible selves, having strategies to attain one's possible selves, and experienced likelihood of attaining possible selves. In addition to our main predictors (parental pragmatic and socio-emotional support), we included four demographic control variables (gender, age, allowance, and social desirability score). Because children were nested in their regular classrooms during testing, we were able to examine the possible effect of classroom on content of possible selves, strategies, and subjective likelihood ratings. Subjective likelihood of attaining the possible self was included in the strategies models for children might not think they needed strategies for subjectively unlikely possible selves. The strategies variable was included in the likelihood models as additional controls as having strategies might increase subjective likelihood of attaining a particular possible self. Finally, as a precaution, all

questions asked in the larger survey prior to the possible self and parenting items were included as controls (questions included questions about drug use). Adding these controls did not change results, and so they are not presented in the final analyses but are available to the interested reader.

Table 1 provides descriptive information and correlations for each of these variables. As can be seen in Table 1, correlations among the possible selves measures are mostly low, significant, and in the expected direction. The highest correlation lays between having at least one strategy to attain a hoped-for possible self and having at least one strategy to avoid a feared possible self ( $r = .66$ ).

Turning to the predictor variables, as can be seen in Table 1, correlations among predictors are low, with the exception of the pragmatic and socio-emotional support measures that are correlated at  $r = .76$ . As highly correlated predictors might result in multicollinearity in model fitting, we examined the variance inflation factors (VIF) for socio-emotional and pragmatic support in the four fitted models that ranged from 1.0 to 1.6, well below the typical cut-off point of 10; therefore, all predictor variables were included in analyses.

We test the effect of parental support on possible selves although of course it is possible that possible selves influence parental support. The full analyses are available from the first author but, briefly, we used two information criteria, Akaike (AIC) and Bayesian (BIC), as model comparison indexes to compare the hypothesized models and the alternative reverse models. Generally, the AIC and BIC of the models from parental support to youth possible selves from 52,187 to 56,187 were smaller than the alternative reverse models from possible selves to parental support, which ranged from 54,911 to 60,933. This indicates that the models predicting possible selves from parental support were a better fit to the data than the reversed models predicting parental support from possible selves.

As a final note in interpreting effects, as can be seen in our summary tables, some significant effects are small in size. While we report all significant effects in the Results section, in the Discussion section, we focus only on effects that are both significant and likely meaningful due to a combination of the size of the effect and the consistency of the effect across analyses.

## Results

### *Descriptive statistics and correlations*

Hoped-for possible selves most commonly involved school and/or career. Thus, 74% of respondents gave either one or both of these responses, 46% of respondents gave at least one career-focused response (e.g., doctor, teacher), and 36% of respondents gave at least one school-focused response (e.g., a university student, making progress in school). Note that the sum of career- and school-focused responses is >74% because some children wrote both a school-focused and a career-focused response. Unlike hoped-for possible selves, feared possible selves were less clearly focused on a single domain. In descending order, the most common feared possible selves described drug and alcohol use (43%, e.g., drug user, smoker), crime and delinquency (21%, e.g., criminal, triad member), negative personal traits (12%, e.g., lazy, hypocrite), having an undesired career (12%, e.g., beggar), and school failures (9%, e.g., dropping out of school).

**Table 1.** Predictor and dependent variables: descriptive information and correlations

	M (SD), %	1	2	3	4	5	6	7	8	9	10	11
<b>Predictor variables</b>												
1. Gender (% female) <sup>a</sup>	46%											
2. Age (Years)	14.8 (1.8)	-.07*										
3. Allowance	2.7 (1.4)	-.08*	.20***									
4. Social desirability	2.7 (2.6)	-.09***	-.17***	-.13***								
5. Socio-emotional support	3.4 (0.9)	.01	-.02	.00	.14***							
6. Pragmatic support	3.5 (0.7)	.11***	-.17***	-.03	.10***	.76***						
<b>Dependent variables</b>												
7. No. School-career PS	74%	.15***	.01	.00	-.09*	.12***	.14***					
8. No. drug-risk PS	57%	-.04	-.17***	-.03	.09***	.02	.10***	-.11*				
<i>Hoped-for possible selves</i>												
9. Likelihood rating	3.4 (0.8)	-.05	-.05*	.09***	.14***	.18***	.16***	-.17***	.14***			
10. Strategies (% any) <sup>a</sup>	57%	.31***	.09**	.04	-.14***	.14***	.15***	.38***	-.04	.08**		
<i>Feared possible selves</i>												
11. Likelihood rating	4.1 (1.0)	-.05	-.03	.02	.07**	.14***	.14***	.07*	.23***	.20***	.06*	
12. Strategies (% any) <sup>a</sup>	30%	.25***	.09***	-.01	-.12***	.09**	.12***	.19***	-.12***	.02	.66***	.02

Notes. <sup>a</sup>Categorical variables are presented as percentages. Pearson's, polychoric correlations were computed between continuous variables, between categorical (dichotomous or ordinal) and continuous variables, and between categorical variables, respectively. Confidence intervals were estimated based on 2,000 bootstrap samples. \*95% bootstrap CI does not contain 0, \*\*99% bootstrap CI does not contain 0, \*\*\*99.9% bootstrap CI does not contain 0. Monthly allowance averaged close to US\$70 monthly (1 = none, 8 = more than US\$400 a month, see text for intermediate values), social desirability scored as sum of never responses to eight items (e.g., Have you lied?), support scores (1 = strongly disagree, 5 = strongly agree), likelihood rating (1 = very unlikely, 5 = very likely). The skewness and kurtosis of non-categorical variables were examined, all are below 1, suggests normal distribution with the exception of the allowance item (skewness = 1.59, kurtosis = 3.25) and the mean likelihood of feared possible selves score (skewness = 1.23, kurtosis = 1.18). Given skewness, bootstrapping was used in all analysis.



Students were more likely to think they would succeed in avoiding their feared ( $M = 4.1$ ,  $SD = 1.0$ ) than succeed in attaining their hoped-for ( $M = 3.4$ ,  $SD = 0.8$ ) possible selves,  $t(2,461) = 30.09$ ,  $p < .001$ , Cohen's  $d = .77$ . Yet they were also less likely to have at least one strategy to avoid their feared (30%) than to attain their hoped-for possible selves (57%),  $\chi^2(1, n = 3,078) = 553.29$ ,  $p < .001$ ,  $\Phi = .42$ .

### Content of possible selves

As detailed in the left half of Table 2, school-career hoped-for possible selves were common and were predicted by (more) parental support, (female) gender, and (low) social desirability scores. Specifically, parental pragmatic support increased the likelihood of having a school-career hoped-for possible self (OR = 1.06,  $p < .01$ ), girls were more likely to have at least one school-career hoped-for possible self than boys (OR = 1.10,  $p < .01$ ), and social desirability score decreased the likelihood of having a school-career hoped-for possible self (OR = 0.99,  $p < .01$ ). No effect of parental socio-emotional support was found.

As detailed in the right half of Table 2, drug-risk behaviour-feared possible selves were predicted by parental pragmatic support and child age. Parental pragmatic support increased (OR = 1.06,  $p < .01$ ) and being older decreased the likelihood of having at least one drug-risk behaviour-feared possible self (OR = 0.97,  $p < .001$ ). No effect of parental socio-emotional support was found.

We looked for but did not find an effect of classroom on content of possible selves. Thus, intraclass correlation coefficients (ICCs) comparing the variability across class-

**Table 2.** Predicting who has at least one hoped-for possible self about school-career and who has at least one feared possible self about drugs (generalized linear mixed models)

	Who has at least one hoped-for possible self about school-career				Who has at least one feared possible self about drug use				
	Coefficient		Odds ratio		Coefficient		Odds ratio		
	Est.	SE	Est.	95% CI	Est.	SE	Est.	95% CI	
<b>Fixed effects</b>									
Intercept									
Gender	0.10	0.02	1.10***	1.06, 1.14	0.01	0.02	1.01	0.97, 1.05	
Age	0.00	0.01	1.00	0.98, 1.01	-0.03	0.01	0.97***	0.96, 0.99	
Allowance	0.00	0.01	1.00	0.99, 1.01	-0.01	0.01	0.99	0.98, 1.01	
Social desirability score	-0.01	0.00	0.99**	0.98, 1.00	0.00	0.00	1.00	0.99, 1.01	
Socio-emotional support	0.01	0.01	1.01	0.98, 1.04	-0.01	0.02	0.99	0.96, 1.03	
Pragmatic support	0.05	0.02	1.06**	1.02, 1.09	0.06	0.02	1.06**	1.02, 1.10	
<b>Random effects</b>									
	Variance				Variance				
Intercept (Class)	Est.	SE			Est.	SE			
ICC	0.04				0.03				

Notes. \*95% bootstrap CI does not contain 1; \*\*99% bootstrap CI does not contain 1; \*\*\*99.9% bootstrap CI does not contain 1. Standard errors and confidence intervals were estimated based on 2,000 bootstrap samples.

**Table 3.** Predicting who has at least one strategy to attain hoped-for possible selves and who has at least one strategy to avoid feared possible selves (generalized linear mixed models)

Fixed effects	Who has at least one strategy to attain a hoped-for possible self				Who has at least one strategy to avoid a feared possible self			
	Coefficient		Odds ratio		Coefficient		Odds ratio	
	Est.	SE	Est.	95% CI	Est.	SE	Est.	95% CI
Intercept								
Gender	0.65	0.11	1.92***	1.56, 2.39	0.55	0.1	1.74***	1.45, 2.12
Age	0.08	0.04	1.08*	1.00, 1.16	0.09	0.03	1.10**	1.03, 1.17
Allowance	-0.01	0.04	0.99	0.93, 1.07	-0.06	0.04	0.95	0.88, 1.02
Social desirability score	-0.08	0.02	0.92***	0.89, 0.95	-0.07	0.02	0.94***	0.90, 0.97
Likelihood rating	0.18	0.05	1.19***	1.07, 1.33	0.04	0.05	1.05	0.96, 1.15
Socio-emotional support	0.08	0.08	1.09	0.93, 1.28	-0.01	0.08	0.99	0.84, 1.17
Pragmatic support	0.25	0.10	1.29*	1.05, 1.56	0.25	0.10	1.28**	1.06, 1.56
	Variance		Variance					
Random effects	Est.	SE	Est.	SE				
Intercept (Class)	0.28	0.07	0.06	0.04				
ICC	0.14		0.14					

Notes. \*95% bootstrap CI does not contain 1; \*\*99% bootstrap CI does not contain 1; \*\*\*99.9% bootstrap CI does not contain 1. Standard errors and confidence intervals were estimated based on 2,000 bootstrap samples.

rooms to the total amount of variability were near zero (ICCs = 0.01) for both likelihood of having a school-career hoped-for or a drug-risk behaviour-feared possible self, implying no significant classroom effect in these two models, following Muthén (1994) who argues that ICCs below .05 can safely be ignored and Hox (2010) who argues that ICCs from .10 are 'small' but not ignorable.

### Having strategies

As detailed in Table 3, the odds of having at least one strategy to attain one's hoped-for or avoid one's feared possible selves increased significantly for children reporting parental pragmatic support. The impact of pragmatic support was about the same for hoped-for (OR = 1.29,  $p < .05$ ) and feared possible selves (OR = 1.28,  $p < .01$ ). High pragmatic parental support increased the odds of having at least one strategy by 29% for hoped-for and by 28% for feared possible selves. No effect of socio-emotional support on the odds of having a strategy was found. In addition, girls (OR = 1.92,  $p < .001$ ) and students who perceived higher likelihood of attaining their hoped-for possible selves (OR = 1.19,  $p < .001$ ) were more likely to have at least one strategy to attain hoped-for possible selves. Girls (OR = 1.74,  $p < .001$ ) were also more likely to have at least one strategy to avoid their feared possible selves than boys. Students who scored higher in social desirability were less likely to have at least one strategy to attain their hoped-for (OR = 0.92) and to avoid their feared (OR = 0.94) possible selves ( $ps < .001$ ), implying that results are not

due to socially desirable responding. Older respondents were also more likely to have at least one strategy to attain their hoped-for (OR = 1.08,  $p < .05$ ) and to avoid their feared possible selves (OR = 1.10,  $p < .01$ ).

While classroom did not affect content of possible selves, it did affect having strategies to attain positive and avoid negative possible selves. The ICCs for strategies to attain hoped-for and strategies to avoid feared possible selves were 0.14. This implies that students may learn from one another in the same class to consider the future and to plan for it. Taken together, effects paralleled the bivariate correlations shown in Table 1 with the exception that emotional support from parents, not significant within the nested model analyses, did have a simple correlation with strategies.

As detailed in Table 4, we repeated our analyses focusing on predictors of having at least one strategy to attain each of the two most common hoped-for possible selves, school and career. As presented in Table 4, the same factors that predict having at least one strategy to attain hoped-for selves generally predict having at least one strategy to attain school-focused (OR<sub>pragmatic support</sub> = 1.46,  $p < .05$ , OR<sub>girl</sub> = 1.82,  $p < .001$ , classroom ICC = .10) and career-focused (OR<sub>pragmatic support</sub> = 1.33,  $p < .05$ ; OR<sub>girl</sub> = 2.19,  $p < .001$ ; OR<sub>age</sub> = 1.18  $p < .01$ ; classroom ICC = .20) possible selves in particular. In addition, likelihood mattered for having at least one strategy to attain career-focused possible selves. Students who rated likelihood of attaining career-focused possible selves

**Table 4.** Predicting who has at least one strategy to attain hoped-for possible selves about school and who has at least one strategy to attain hoped-for possible self about career (generalized linear mixed models)

	Who has at least one strategy to attain a school hoped-for possible self				Who has at least one strategy to attain a career hoped-for possible self			
	Coefficient		Odds ratio		Coefficient		Odds ratio	
	Est.	SE	Est.	95% CI	Est.	SE	Est.	95% CI
<b>Fixed effects</b>								
Intercept								
Gender	0.60	0.16	1.82***	1.34, 2.51	0.78	0.16	2.19***	1.64, 3.02
Age	0.09	0.05	1.10	1.00, 1.21	0.16	0.05	1.18**	1.06, 1.31
Allowance	-0.01	0.07	0.99	0.87, 1.14	0.01	0.05	1.01	0.92, 1.11
Social desirability score	-0.06	0.03	0.94	0.88, 1.00	-0.07	0.03	0.93*	0.88, 0.99
Likelihood rating	0.17	0.10	1.18	0.97, 1.43	0.31	0.08	1.37***	1.17, 1.60
Socio-emotional support	0.04	0.13	1.04	0.80, 1.34	-0.02	0.12	0.98	0.77, 1.22
Pragmatic support	0.38	0.15	1.46*	1.09, 1.99	0.28	0.14	1.33*	1.01, 1.77
<b>Random effects</b>								
	Variance		Variance		Variance		Variance	
	Est.	SE	Est.	SE	Est.	SE	Est.	SE
Intercept (Class)	0.20	0.10			0.47	0.14		
ICC	0.10				0.20			

Notes. \*95% bootstrap CI does not contain 1; \*\*99% bootstrap CI does not contain 1; \*\*\*99.9% bootstrap CI does not contain 1. Standard errors and confidence intervals were estimated based on 2,000 bootstrap samples.

**Table 5.** Predicting who believes they will attain their hoped-for possible selves and who believes they will avoid becoming like their feared possible selves (linear mixed models)

Fixed effects	Who believes they are likely to attain their hoped-for possible selves			Who believes they are likely to avoid their feared possible selves		
	Coefficient			Coefficient		
	Est.	SE	95% CI	Est.	SE	95% CI
Intercept						
Gender	-0.10***	0.03	-0.17, -0.04	-0.10*	0.04	-0.19, -0.02
Age	-0.01	0.01	-0.03, 0.01	-0.01	0.01	-0.03, 0.02
Allowance	0.05***	0.01	0.03, 0.08	0.01	0.02	-0.02, 0.04
Social desirability score	0.05***	0.01	0.03, 0.06	0.02**	0.01	0.01, 0.04
Strategy or not	0.12***	0.04	0.05, 0.19	0.04	0.04	-0.04, 0.12
Socio-emotional support	0.06*	0.03	0.00, 0.12	0.01	0.04	-0.06, 0.08
Pragmatic support	0.11**	0.04	0.03, 0.18	0.15***	0.04	0.06, 0.24
Random effects	Variance			Variance		
	Est.	SE		Est.	SE	
Intercept (Class)	0.00	0.00		0.00	0.00	
Residual	0.82			0.98		
ICC	0.01			0.01		

Notes. 13.6% of students did not provide a likelihood rating for their hoped-for selves, and 17.9% of students did not provide a likelihood rating for their feared possible selves; these students are not included in the analyses. \*95% bootstrap CI does not contain 0; \*\*99% bootstrap CI does not contain 0; \*\*\*99.9% bootstrap CI does not contain 0. Standard errors and confidence intervals were estimated based on 2,000 bootstrap samples.

higher (OR = 1.37,  $p < .001$ ) were more likely to have a strategy to work towards this possible self.

### Likelihood of possible selves

As shown on the left-hand side of Table 5, students who had at least one strategy to attain their hoped-for possible selves ( $b = .12$ ,  $p < .001$ ) and had more parental support (pragmatic support  $b = .11$ ,  $p < .01$ ; socio-emotional support  $b = .06$ ,  $p < .05$ ) perceived their hoped-for possible selves as more likely to be attained. In addition, boys thought that their hoped-for selves were more likely to be attained ( $b = .10$ ,  $p < .001$ ) than girls, as did children with higher allowances ( $b = .05$ ,  $p < .001$ ), and children with higher social desirability scores ( $b = .05$ ,  $p < .001$ ). As shown on the right-hand side of Table 5, higher parental pragmatic support ( $b = .15$ ,  $p < .001$ ) and being male ( $b = .10$ ,  $p < .05$ ) was significantly and positively associated with perceived likelihood of avoiding ones' feared possible selves.

With regard to classroom effects, while classroom mattered for having strategies to attain possible selves, it did not seem to influence students' beliefs about the likelihood of attaining their possible selves. The effect of classroom on students' perceived likelihood of attaining hoped-for or avoiding feared possible selves was near zero (both ICCs = .01), implying no classroom effect.

**Table 6.** Predicting who believes they will attain their hoped-for school possible selves and who believes they will attain their hoped-for career possible selves

Fixed effects	Who believes they are likely to attain their hoped-for school possible selves			Who believes they are likely to attain their hoped-for career possible selves		
	Coefficient			Coefficient		
	Est.	SE	95% CI	Est.	SE	95% CI
Intercept						
Gender	-0.13*	0.05	-0.22, -0.03	-0.06	0.05	-0.15, 0.03
Age	-0.03*	0.02	-0.06, 0.00	0.00	0.01	-0.02, 0.03
Allowance	0.09***	0.02	0.05, 0.13	0.05**	0.02	0.01, 0.08
Social desirability score	0.04***	0.01	0.02, 0.06	0.06***	0.01	0.04, 0.08
Strategy or not	0.09	0.05	-0.01, 0.20	0.21***	0.05	0.11, 0.31
Socio-emotional support	0.05	0.04	-0.03, 0.13	0.06	0.04	-0.02, 0.15
Pragmatic support	0.14**	0.05	0.05, 0.24	0.07	0.05	-0.02, 0.16
	Variance			Variance		
Random effects	Est.	SE		Est.	SE	
Intercept ( <i>Class</i> )	0.02	0.01		0.00	0.00	
Residual	0.74			0.81		
ICC	0.04			0.00		

Notes. 13.6% of students did not provide a likelihood rating for their hoped-for selves, and 17.9% of students did not provide a likelihood rating for their feared possible selves. These students are not included in the analyses. \*95% bootstrap CI does not contain 0; \*\*99% bootstrap CI does not contain 0; \*\*\*99.9% bootstrap CI does not contain 0. Standard errors and confidence intervals were estimated based on 2,000 bootstrap samples.

As detailed in Table 6, the final set of analyses examined predictors of likelihood ratings for the subsample of participants who had school- and career-focused hoped-for selves. Five of the six significant predictors reported above were also significant in these subgroup analyses.

## Discussion

The current study contributes to the literature in a number of ways. First, it provides information on the possible selves and strategies of Hong Kong secondary school children, an as yet unstudied population. Second, it links these possible selves to adolescents' perceptions of their parent's support and thus addresses a gap in the literature on adolescents' possible selves. With regard to the first contribution, we find that youth focus mostly on career and academics. We also find that small classroom effects on whether youth had strategies to work on their possible selves. Generally youth were more likely to have strategies to work towards their hoped-for possible selves than to have strategies to avoid their feared possible selves and girls were more likely to have strategies than boys. Results imply that one way that school context matters is by influencing whether students develop strategies (like studying) to attain their future school and career possible selves.

With regard to the second contribution, we predicted that parental support would scaffold development of possible selves and strategies to attain them. We found that parental support mattered and that while correlated, pragmatic and socio-emotional support each provided separate contributions to possible selves. Parental socio-emotional support was significantly related to adolescents' confidence in attaining their hoped-for possible selves but did not help children generate strategies for their future or increase their confidence in avoiding their feared possible selves. For that, parents needed to provide pragmatic resources that help children develop specific abilities and skills to attain their goals.

Our core finding, that pragmatic support matters, is both culturally attuned (Chinese parents have high expectations and relatively strict control over their children, Chao, 1994; Ho, 1989; Hwang & Han, 2010) and potentially more universal. Children who saw their parents as a source of pragmatic support were more likely to believe they could attain their possible selves and have strategies to do so. Compared with pragmatic support, socio-emotional support played a relatively minor role. It is possible that during the adolescent phase, youth who perceive their parents as knowing something useful are more likely to draw from their parents a sense that they can and should develop strategies to take action to attain their possible selves. By helping youth access information and resources to tackle the problems they may encounter, parental pragmatic support may focus adolescents' attention on taking current action (having strategies) and help them formulate possible selves that are not only imaginable but also likely and thus worth current effort. The reverse may also be true of course, and effects are likely to be reciprocal. Parents may feel more inclined or more able to provide pragmatic support for youth who have detailed strategies to attain their possible selves and feel more certain that they will attain them. As we noted in our analyses section, the models fit better going from parental support to possible selves than the reverse. However, there is no reason not to believe that over time, children's responses to parent's nurturing, structuring, and advise-giving attempts likely shape parents just as much as parents' responses to their child's future selves.

While we focus explicitly on possible selves, our findings are consistent with prior research on related topics. For example, parental socio-emotional support is associated with children's self-esteem (Wills, 1990) and hope for the future (Bostik & Everall, 2007) while parental pragmatic support is associated with children's coping competency (Wills, 1990; Wills *et al.*, 1992), adjustment (Demaray, Malecki, Davidson, Hodgson, & Rebus, 2005; Malecki & Demaray, 2003), self-esteem (Colarossi & Eccles, 2003), and both academic (Chen, 2005) and occupational goals (Jodl, Michael, Malanchuk, Eccles, & Sameroff, 2001).

### **Limitations and strengths**

The limitation of our study is that it is cross-sectional. Responses are from the youths' perspective, and the order of the questionnaire was fixed. This means that it is possible that some of our results are due to the order in which questions were asked, that others might see parental support differently, that the nature of the effects might change over time, or that the relationship between possible selves and parental support is reciprocal. We focused on the effect of support on possible selves although of course having certain possible selves might influence parental receptivity to provide emotional and pragmatic support.

Our effects, although statistically significant and robust across models, cannot be seen as causal as all data were collected at the same time. Considering parental support, it may be that once children have strategies to attain their possible selves, they seek out pragmatic support. This reversal of implied causal direction can only be ruled out empirically with longitudinal data. Although we show important effects of parental pragmatic and socio-emotional support, we are unable to address how these effects may be moderated by poverty or socio-economic status. Asking children to report on their parents' income and education was not culturally appropriate. We substituted pocket money as our measure. Pocket money provided a direct measure of children's liquid assets and an imperfect measure of parental assets.

Our study also has a number of unique strengths. We used a large and representative sample of school children, assessed parental pragmatic and socio-emotional support, and asked children not only to describe their possible selves but also report on any strategies they have to attain positive and avoid negative possible selves and to report their own assessment of the likelihood of successfully attaining positive and avoiding negative possible selves. Thus, we obtained a more complete picture than typically obtained and focus on those elements of possible selves demonstrated to matter in predicting behaviour (Oyserman & James, 2009). Unlike other possible selves studies, we included a measure of social desirability responding to control for effects of giving what appears to be a 'good' or 'right' answer to questions about oneself and one's parents. Indeed, consistent with expectations research (e.g., Hoorens, Smits, & Shepperd, 2008), students who scored higher on this measure also said that their possible selves were more likely to be attained. However, social desirability did not predict strategies, perhaps because it was less clear what the desired answer would be to this open-ended question.

### **Implications**

Taken as a whole, our results provide several new insights into the relationship between family support and the action-relevant aspects of adolescents' possible selves. First, both pragmatic support and socio-emotional support are associated with seeing a path to one's hoped-for possible selves – supported youth feel that attaining their hoped-for selves is more likely. Second, socio-emotional support alone is not enough; only pragmatic support is associated with generation of strategies to attain possible selves and of seeing a path to avoid one's feared possible selves. Third, classroom matters and influences whether youth have strategies to attain their possible selves. Future research is needed to unpack the nature of these effects. It may be that children working on strategies are more focused on their context; hence, they pay attention to what peers are doing and what parents have to offer, or it may be the reverse, that enriched contexts and supportive parents make the future seem nearer for the average teen, spurring a search for strategies to work on possible selves. Both paths are likely in real world settings, implying that parent-based interventions can have positive carry-over effects even if not all children in a classroom receive them and also that classrooms that impart a sense that the future is too far away may undermine children's strategy development.

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