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Article in *British Journal of Guidance & Counselling* · February 2022

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To cite this article: Xuebing Su, Victor Wong & Siu-ming To (2022): Characteristics of longer-term versus transitional NEETs in Hong Kong: implications for career support services, British Journal of Guidance & Counselling, DOI: [10.1080/03069885.2021.2023730](https://doi.org/10.1080/03069885.2021.2023730)

To link to this article: <https://doi.org/10.1080/03069885.2021.2023730>



Published online: 20 Feb 2022.



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Characteristics of longer-term versus transitional NEETs in Hong Kong: implications for career support services

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ABSTRACT

The sociodemographic and career-related characteristics of two types of youth who are not in education, employment or training (NEETs) in Hong Kong were examined and compared: longer-term (≥ 5 months, $n = 787$) and transitional (< 5 months, $n = 3,939$). After controlling for sociodemographic variables, multivariate logistic regression analyses showed that longer-term NEETs are more likely to be associated with risk factors such as taking a carer role, seclusion at home, involvement in deviant activities, having addiction or health problems; whereas higher educational attainment, identification of career interest and plans for future work/study/ training, and higher career adaptability appeared to be protective factors for NEETs and identifiers of transitional NEETs. Implications are drawn for research and career support services for NEETs.

ARTICLE HISTORY

Received 25 November 2019

Revised 11 March 2021

Accepted 8 December 2021

KEYWORDS

NEETs; career adaptability; career engagement; risk factors; protective factors

The global phenomenon of an increasing number of young people who are not in education, employment or training (NEET) has become an important research topic (International Labour Organization, 2020). In 2019, 12.4% of young people in Organisation for Economic Co-operation and Development (OECD) countries were NEETs (World Bank, 2021). As the unemployment rate in Hong Kong has been relatively low in the past few years, NEETs in Hong Kong accounted for 8.9% of the youth population in the second quarter of 2018 (Office of Government Economist, Financial Secretary's Office, 2018). Mascherini and Ledermaier (2016) suggested that NEETs are heterogeneous in terms of many sociodemographic characteristics such as gender, age, race, ethnicity, socioeconomic status, educational attainment, and locality of residence. A recent study conducted in Spain showed that the dynamic experience of moving in and out of education, employment or training institutions at a rapid pace also led to the fluctuating status of young people and increased the complexity of NEETs (Vancea & Utzet, 2018). Research also indicates that the duration spent by youth as NEETs is considered as an important factor to gauge the extent of vulnerability of NEETs (Mojsoska-Blazevski et al., 2017; Ralston et al., 2016; Samoilenko & Carter, 2015); that is, longer-term NEETs, as compared with their short-term or transitional counterparts, are more vulnerable to risks and challenges in their transitions to work, study or training.

Given the growing need to understand the career development needs of NEETs in particular, empirical studies to analyse the heterogeneous characteristics of NEETs regarding the different sociodemographic and career-related profiles of longer-term and transitional NEETs are still lacking. With reference to the context of Hong Kong, the purpose of the present study is to

examine the sociodemographic and career-related characteristics, as well as the risk and protective factors for predicting two different types of NEETs aged 15–21 in terms of the duration spent by youth as NEETs, that is, longer-term and transitional.

NEETs and duration spent by youth as NEETs

The acronym NEET was first used in the UK in the late 1990s, when there was a large increase of unemployment among youth, who found it difficult to make a transition to the labour market (Furlong, 2006). A growing number of post-industrial and developing nations use the term for shaping the development of youth and employment policy, and many more organisations use the term for policy advocacy on behalf of youth as well (Mascherini et al., 2012; Public Health England, 2014; Samoilenko & Carter, 2015). However, the term NEET(s) only generalises the status of youth rather than elaborates the reasons leading to their status; neither does it address the common and different needs of this heterogeneous group (Yates & Payne, 2006). There are many different marginalised groups categorised under the umbrella of NEETs, such as young carers, young mothers, ethnic minority youth, youth self-secluded at home, school dropouts, youth with a disability, and youth with addiction behaviours or health problems. Recent research studies suggest that NEETs may share some common personality traits if not weaknesses such as displaying low motivation, low effort and diligence, lack of clear goals for life, and limitation of personal competencies for goal-achievement (Mendolia & Walker, 2015; Uchida & Norasakkunkit, 2015).

Many young people have a short spell in their life for helping out with intermittent caring tasks, having a break from high school to college, and enjoying a period of rejuvenation after leaving their last stressful job (Hughes & Gration, 2009). Comparatively, longer-term NEETs may be facing more risk factors or confronting more hurdles in their career development, such as assuming a carer role to take care of young or infirm family members, prolonged seclusion at home without having any face-to-face social interaction with others except with the family, suffering from chronic health problems, involvement in deviant behaviours such as sexual harassment and sexual assault, having addictions such as drug abuse and gaming, lack of clear goals for work/study/ life, and self-perceived limitation of abilities to handle life changes (Fergusson et al., 2014; Henderson et al., 2017; Su, Wong, & To, 2021). An increasing number of studies has shown that after going through longer spells of unemployment, young people aged 24 or below in particular tend to suffer from the detriment of ‘scarring effects’, which leads to a higher chance of unemployment and precarious employment with lower earnings, poorer social mobility later on in adulthood (Brandt & Hank, 2014; Dixon, 2013; Mendolia & Walker, 2015; Mojsoska-Blazevski et al., 2017; Ralston et al., 2016).

Career-related characteristics of NEETs

Despite the recognised importance of duration spent by youth as NEETs, there exist no empirical studies that provide a career-related profile for distinguishing transitional NEETs from longer-term NEETs. In this present study, we aimed to investigate the following career-related characteristics of NEETs: amotivation, social interaction anxiety, identification of plans for future work, study or training, identification of career interest, career adaptability, and career engagement.

Informed by the self-determination theory (Gagné & Deci, 2005; Ryan & Deci, 2000), amotivation is used in the present study to examine the extent to which NEETs suffer from the lack of purpose, expectation or hope concerning their ability to change the course of events. Social interaction anxiety is used to measure the extent of anxiety held by people in relation to daily social interaction activities (Uchida & Norasakkunkit, 2015). The capability to formulate plans for future work, study or training and identify career interest is considered important for enhancing career development (Maree & Sommerville, 2008). Career engagement, used as a general measure for measuring proactive career behaviours, refers to the degree to which an individual is proactively engaging in

behaviours to develop his/her career (Hirschi et al., 2014). Career adaptability refers to self-regulation resources that individuals use to cope with various tasks, transitions, or traumas as fostered by the changing conditions with growing awareness and decision-making capability (Savickas, 2005). Career adaptability provides individuals with psychosocial resources to cope with their school-to-work transition, and individuals with higher level of career adaptability are more successful in mastering vocational transitions (Buyukgoze-Kavas, 2016).

Prior research studies focused more on studying the vulnerability of NEETs, such as lack of motivation (Mendolia & Walker, 2015; Uchida & Norasakkunkit, 2015), low level of educational attainment (Carcillo et al., 2015), and lack of career plan (Tam et al., 2016). However, the status of NEET does not necessarily imply the lack of career-related strengths such as career engagement or career adaptability in the following aspects: (1) some NEETs still show intention for job seeking by searching for relevant job information or attending job fairs, (2) some NEETs are actively networking with others for their future career by their participation in unpaid work experience such as volunteering and job attachment, and (3) some NEETs are still actively engaged in informal learning to enhance their transferable skills for improving their chance of entering or re-entering the labour market (see Gaspani, 2019). Therefore, a study to reveal the career-related characteristics of NEETs in a comprehensive manner and compare the career-related characteristics of longer-term versus transitional NEETs is needed.

The present research is the first-ever study to investigate the diverse career-related characteristics of NEETs with reference to the context of Hong Kong, which is characterised by its neoliberal globalised capitalist economy and non-democratic polity (Lee et al., 2018). Hong Kong is proud of its economic achievements but has failed to thoroughly address a high degree of income inequality as measured by Gini coefficient rising from 0.537 in 2011–0.539 in 2016 (Census and Statistics Department, 2017). The widening gap between Hong Kong's rich and poor is not favourable for achieving a better redistribution of life chances for marginalised social groups such as NEETs, older people, and ethnic minorities (Oxfam Hong Kong, 2018).

NEETs in Hong Kong

Hong Kong has been enjoying a low unemployment rate over the years. The number of total vacant positions in 2008 was 46,910, whereas the corresponding number in 2018 is 77,450, showing an increase of 65% in the past decade (Census and Statistics Department, 2019). However, it is still common for young people to undertake precarious work in Hong Kong. In 2016, the median weekly hours of work of working youth was 40, which was lower than the corresponding figure of 44 h of the whole working population. As reported, 13.6% of the working youth usually worked less than 18 h weekly, much higher than the corresponding figure of the whole working population, which was 6.7% (Census and Statistics Department, 2018).

In their beginning career, many young people undertake precarious jobs at low-paid and labour-intensive industries, such as catering and retailing. The median monthly income from main employment of the working youth was 69.4% of the median income of the whole working population (Census and Statistics Department, 2018). Precarious work characterised by low wages and insecurity may lead to the risky situation of falling into NEET status (Junankar, 2015; MacDonald, 2016). Around 51% of the youth population in 2016 were studying at or had been attending university or other forms of post-secondary education, the corresponding number was 31% in 2006 (Census and Statistics Department, 2018). Compared to 10 years ago, today's youth without post-secondary school academic credentials will experience much more difficulty to find a job with good prospect. On the one hand, the low unemployment rate seems to mitigate the vulnerabilities of the NEETs, as they may foresee a better chance to get a job as long as they can adjust their own expectations. On the other hand, the prevalence of precarious work in Hong Kong may lead to more difficulties of looking for a job with career prospects that young people prefer, and end up experiencing a greater extent of youth marginalisation and disempowerment (Wong & Au-Yeung, 2019a; 2019b).

Despite the importance of the duration spent by youth as NEETs, the exact duration used for making a difference between transitional and longer-term NEETs varies from one society to another (Samoilenko & Carter, 2015). In Hong Kong, upon the introduction of Hong Kong Diploma of Secondary Education Examination since 2012, it has become one of the daunting challenges for young people, which usually starts around the end of March and ends around early May each year. If young people are given an offer to pursue further study, they will start their new qualification-seeking journey as a college or university student around early September. For those youth aged 15 or above, who will not go for further study or training, they are expected to look for a job as soon as possible, or find a pre-vocational or vocational training place around the end of September, which is taken as a stepping stone to the labour market. In the case of Hong Kong, five months can thus be taken as a reasonable cut-off point for making a difference between transitional and longer-term NEETs (Su et al., 2020).

Purpose of the study

Our aim was to examine the overall sociodemographic and career-related profiles of NEETs in Hong Kong and compare the different profiles of longer-term versus transitional NEETs by taking into consideration their strengths and weaknesses, and risk and protective factors. We have attempted to answer the following four questions:

- (1) How do the following sociodemographic characteristics describe the sample of NEETs: gender, age, educational attainment, and educational attainment of parent(s)?
- (2) How do the following career-related characteristics distinguish longer-term NEETs from their transitional counterparts: amotivation, social interaction anxiety, career engagement, career adaptability, identification of plans for future work, study or training, and identification of career interest?
- (3) How do the following factors function as risk factors in predicting the types of NEETs (i.e. longer-term versus transitional NEETs): assuming the role as a carer, prolonged seclusion at home, involvement in deviant activities, having addiction(s), suffering from health problem, lack of clear goals for work, study and life, and limitation of personal abilities?
- (4) How do the following factors function as protective factors in predicting the types of NEETs (i.e. longer-term versus transitional NEETs): educational attainment, educational attainment of parent(s), identification of plans for future work, study or training, identification of career interest, and career adaptability?

Methods

Research design

A quantitative study using survey method was conducted as part of a much larger five-year-long career support service project (2015-2020) targeted to serve not only 200,000 students but also to reach out and work with about 9,400 NEETs and NEETs-at-risk aged 15–21 in community settings (Hong Kong Jockey Club Charities Trust, 2018). The sample of this cross-sectional quantitative study was taken from a pre-intervention survey in which all NEET participants were invited to fill in a questionnaire before they started receiving career support services from the project. Inviting participants to fill in a pre-intervention or pretest survey was considered appropriate as a pretest-posttest survey design is commonly used to evaluate the effectiveness of service intervention (see Fung, 2019; Thiese, 2014; To et al., 2019).

Participants

Participants of the present study who were NEETs ($N = 4,726$) amounted to 9% of 53,400 NEETs aged 15–24 in Hong Kong in 2015 (Economic Analysis Division, 2016). Table 1 presents the

sociodemographic characteristics of the sample with a total of 4,726 NEETs aged 15–21 ($M_{age} = 17.87$, $SD = 1.48$) of which 2,636 were males and 2,090 females. Around 85% of the participants were aged 15–19 of which 71.7% were with educational attainment at secondary six or above, which is lower than the corresponding figure of 84.6% of the youth population aged 15–19 as a whole in Hong Kong (Census and Statistics Department, 2018).

Measures

The community team of the project designed a sociodemographic questionnaire and a pre-intervention questionnaire to collect the participants' sociodemographic information, presenting problems, plans for future work, study or training, identification of career interest, and assessment scores of some career-related measures including career adaptability, career engagement, amotivation, and

Table 1. Sociodemographic characteristics of the NEET sample (N = 4726).

Sociodemographic characteristics	<i>n</i> (%)
Gender	
Male	2636 (55.8)
Female	2090 (44.2)
Age	
15	299 (6.3)
16	295 (6.2)
17	1487 (31.5)
18	1313 (27.8)
19	630 (13.3)
20	382 (8.1)
21	320 (6.8)
Highest educational attainment	
Primary-Six or below	40 (0.8)
Secondary One	160 (3.4)
Secondary Two	268 (5.7)
Secondary Three	415 (8.8)
Secondary Four	249 (5.3)
Secondary Five	207 (4.4)
Secondary Six	3207 (67.9)
Secondary Seven	20 (0.4)
Post-Secondary	135 (2.9)
Undergraduate degree or above	25 (0.5)
Father's educational attainment	
No formal education or kindergarten	31 (0.7)
Primary School	380 (8.0)
Junior Secondary	529 (11.2)
Senior Secondary	635 (13.4)
Vocational Training	46 (1.0)
Matriculation	29 (0.6)
Post-Secondary	104 (2.2)
Undergraduate Degree or Above	191 (4.0)
Don't know father's educational attainment	2663 (56.3)
Missing data	118 (2.5)
Mother's educational attainment	
No formal education or kindergarten	50 (1.1)
Primary School	387 (8.2)
Junior Secondary	574 (12.1)
Senior Secondary	752 (15.9)
Vocational training	28 (0.6)
Matriculation	53 (1.1)
Post-Secondary	99 (2.1)
Undergraduate Degree or Above	127 (2.7)
Don't know mother's educational attainment	2502 (52.9)
Missing data	154 (3.3)

Note. Secondary One is comparable to Year 7 in the UK and Grade 6 in the US. Post-Secondary refers to sub-degree programmes (e.g. associate degree, high diploma).

social interaction anxiety. With consent sought from the developers of concerned scales, the original scales in English were translated into Chinese by two bilingual researchers of the project for producing an initial translation: one is a postdoctoral research fellow and the other a research associate. A back-translation of all the initial translation was produced by two naive bilingual translators (see Beaton et al., 2000). And a committee of all researchers chaired by the principal investigator of the community-based team of the project reviewed all the translations and reached a consensus on all identified discrepancies. The pre-final version developed by the committee was piloted with 20 youth before developing a final version for collecting data from participants with Chinese as the medium of communication.

Presenting problem was reported by participants whether they had been involved in the following issues (Yes = 1; No = 0) before receiving interventions: assuming a carer role, seclusion at home, involvement in deviant activities, having addiction(s), suffering from health problem, lack of clear goals for work, study, and life, and limitation of personal abilities.

Amotivation was measured by four items drawn from the subscale of amotivation in the *Free-Time Motivation Scale for Adolescents* (FTMS-A) developed by Baldwin and Caldwell (2003), which was modified by replacing the “free-time activity” with “career”, “occupation” or “work” with a future implication to measure amotivation of NEETs in relation to their vocational career. The participants were asked to indicate their amotivation on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). A higher score indicated a higher level of amotivation and vice versa. The Cronbach’s alpha of this amotivation scale with the NEET sample was found to be .86.

Social interaction anxiety was measured by *Social Interaction Anxiety Scale-6* (SIAS-6) developed by Mattick and Clarke (1998). SIAS-6 consists of six items and perceived to be an efficient method of measuring social phobia (Peters et al., 2012). Participants were asked to indicate their characteristics on a five-point Likert-type scale, ranging from 0 to 4 (very untrue of me to very true of me). The Cronbach’s alpha coefficient of the SIAS-6 for the present NEET sample is .89.

Career engagement was measured by the *Career Engagement Scale* developed by Hirschi et al. (2014), which assesses the general degree to which a person has demonstrated various proactive behaviours to develop his/her career in the past six months. The career engagement scale consists of nine items: three items describe career management activities in general terms, while the other six tap into career management behaviours in terms of career planning, self- and environmental-exploration, networking, positioning behaviour, and voluntary training. Answers were provided on a five-point Likert-type scale. The Cronbach’s alpha of this scale with the current NEET sample is .93.

Career adaptability was measured by two scales: The *Career Adapt-Abilities Scale-China Form* (CAAS-China Form) and the *Career Future Inventory-Revised* (CFI-R). The CAAS-China Form validated by Hou et al. (2012) in Chinese context was aligned with the CAAS-International Form developed by Savickas and Porfeli (2012) of which career adaptability was operationalised into four dimensions: concern, curiosity, control and confidence; whereas in the *Career Future Inventory-Revised* (CFI-R) scale developed by Rottinghaus et al. (2012), career adaptability was defined to comprise occupational awareness, career agency, negative career outlook, support, and work-life balance. The CFI-R is perceived to be more comprehensive, as it takes into consideration protective factors defined in terms of different kinds of support. NEETs may be able to develop their career adaptability in terms of personal resources such as confidence and control, and seek support from their families and friends during their past and current experience. Therefore, the two scales were included to measure the different forms of career adaptability of NEETs. These two scales use five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The CAAS-China Form is of four subscales, namely concern, curiosity, control and confidence. This study used four subscales of CFI-R with the exclusion of the subscale of negative career outlook, for its low relevance to the purpose of this study. A higher score indicated a higher level of career adaptability. The Cronbach’s alpha with the current NEET sample is .95 for the CAAS-China form and .93 for the CFI-R.

Identification of plans for future work, study or training: Participants were asked to respond whether they have plans for future work, study or training before receiving intervention by response to 1 (Yes) or 0 (No).

Identification of career interest: Participants were asked to respond whether they have identified their career interest before receiving intervention by response to 1 (Yes) or 0 (No).

Procedure

Social workers or youth workers of five district service teams of the project providing career support service in five geographical districts all over Hong Kong invited their service users to complete the questionnaires. With the assistance from the workers, a total of 5,100 participants completed the questionnaires via an online survey system of Qualtrics. Voluntary participation was ensured throughout the study and written informed consent was collected from each participant. Prior to the study, the community team obtained ethical approval from the research ethics committee of the university of the corresponding author. Included in the analyses were all participants with valid data for specifying the duration spent by them as NEETs ($N = 4,726$).

Data analysis

T-test and Chi-square were performed to compare the sociodemographic and career-related characteristics of transitional and longer-term NEETs. Next, multivariate logistic regressions were conducted to examine the risk and protective factors distinguishing longer-term NEETs from the transitional. Two models were tested for ascertaining the risk factors that predict each of the two types of NEETs. Predictor variables in Model 1 included sociodemographic factors of gender, age, and educational attainment. In Model 2, hypothetical risk factors were entered: including assuming a carer role; seclusion at home; involvement in deviant activities; having addiction(s); suffering from health problems; lack of clear goals for work, study or training; and limitation of abilities.

Protective factors that predict the two types of NEETs were examined in four models, using multivariate logistic regressions. Sociodemographic variables (gender, age, educational attainment), parent(s)' educational attainment, identification of plans for future work, study or training, and identification of career interest were entered in the first model. CAAS was entered in the second model and CFI-R in the third model. The last model included all sociodemographic variables and hypothetical protective factors. To avoid multicollinearity, the intercorrelations between variables in the models were tested and collinearity diagnosis was also conducted in the multivariate logistic regressions.

Results

We present: (a) the sociodemographic characteristics of the NEET sample, (b) the comparison of sociodemographic and career-related psychometric characteristics between longer-term NEETs and transitional NEETs, (c) the multivariate logistic regression analyses for examining the risk factors for predicting the type of NEETs as longer-term or transitional NEETs, and (d) the multivariate logistic regression analyses for examining the protective factors for predicting the type of NEETs as longer-term or transitional NEETs. First, with regard to the sociodemographic characteristics of the NEET sample as a whole (see [Table 1](#)), we found that 787 were longer-term NEETs and 3,939 transitional NEETs. For the transitional group, their duration as NEETs ranged from 1 to 4 months ($M_{duration} = 2.17$ months, $SD = .76$, $Median_{duration} = 2$ months); whereas for the longer-term group, their duration as NEETs ranged from 5 to 84 months ($M_{duration} = 12.38$ months, $SD = 10.56$, $Median_{duration} = 8$ months). Amongst the participants who reported their parents' educational attainment, 51.7%

of father's educational attainment was senior secondary or above, and for mothers it was 51.2%. However, over half of the participants did not report their parents' education background.

Table 2 presents the comparison between the sociodemographic and career-related psychometric characteristics of longer-term and transitional NEETs. T-test/Chi-square analyses revealed significant differences between transitional NEETs and longer-term NEETs in relation to the following sociodemographic factors: age, educational attainment, father's educational attainment, and mother's educational attainment. NEETs who were older with a lower level of educational attainment, and lower level of parents' educational attainment were more likely to become longer-term NEETs. Transitional NEETs were more likely to have identified their plans for future work, study/training and their career interest before receiving intervention. When compared with longer-term NEETs, transitional NEETs showed higher scores in terms of occupational awareness, agency, support, work-life balance, CFI-R, CAAS, and career engagement, and reported lower scores in the areas of amotivation and social interaction anxiety.

Table 3 displays the results of multivariate logistic regression analyses for examining the risk factors in models predicting two different types of NEETs. The effect sizes of intercorrelations between variables in the tested models of multivariate logistic regressions analyses were relatively low, only the intercorrelation between CAAS and CFI-R was in the medium range of effect size ($r = .62$), which was lower than .7. Besides, the collinearity diagnostics showed that in performing the logistic regressions, the Tolerance values for all the predictor variables ranged from .54 to .98 and the variance inflation factor (VIF) values ranged from 1.02–1.85, therefore the issue of multicollinearity was not a concern (Pallant, 2007). Results in Model 2 revealed that after controlling for the influence of sociodemographic factors (age, gender, and educational attainment), those participants who had been assuming a carer role, secluding themselves at home, having addiction(s), suffering from health problems, and having limitation of abilities were more likely to be longer-term NEETs. More specifically, when compared with those not assuming a carer role, NEETs who had been assuming a carer role were 11.6 times more likely to be longer-term NEETs. Those secluding at home, participating in deviant activities, having addiction(s), suffering from health problems, and who had limitation of abilities were 6.64, 2.48, 2.30, 4.20, and 1.19 times more likely to be long-term NEETs, respectively.

Table 4 shows the results of multivariate logistic regression analyses for examining the protective factors in models for predicting the types of NEETs. Results in Model 1 revealed that for every one-unit increase in educational attainment, there was a 51% decreased odds of participants reporting themselves as longer-term NEETs. Those participants who had identified their plans for future work, study or training were 43% less likely to be longer-term NEETs than those who had not. Compared with participants who had not identified their career interest(s), participants who had identified their career interest(s) were 50% less likely to be longer-term NEETs. The results in Model 2 revealed that CAAS score was not a significant predictor variable in the model predicting the types of NEETs, after controlling for predictor variables entered in Model 1. The results in Model 3 suggested that for every one-unit increase in CFI-R score, there was a 56% decreased odds of participants reporting themselves as longer-term NEETs, after controlling for the predictor variables entered in Model 1. The results of Model 4 revealed that the predictive effects of CFI-R functioned well even after controlling for CAAS and predictor variables in Model 1. Educational attainment and identification of career interest were also significant predictors in Models 2, 3, and 4.

Discussion

This study provides empirical data for showing the sociodemographic and career-related profiles of NEETs aged 15–21 in Hong Kong, enriching existing literature on studying this specific group of youth. All the participants recruited for the study constituted about 9% of the total NEET population in Hong Kong. Many youth groups under the umbrella of NEETs are hard-to-be-reached and engaged, such as youth with a prolonged seclusion at home. Therefore, the profile of the NEET

Table 2. Comparison of sociodemographic and career-related psychometric features of longer-term NEETs and transitional NEETs.

	Transitional NEETs (<5 months)	Longer-term NEETs (≥5 months)	T-test/Chi-square	Cohen's d/ Cramer's V
	<i>Mean (SD) or n (%)</i>		<i>t or χ^2</i>	
Demographic factors				
Gender			χ^2 (1, $n = 4726$) = .96	.02
Male	2210 (83.8)	426 (16.2)		
Female	1729 (82.7)	361 (17.3)		
Age	17.82 (1.36)	18.10 (1.95)	t (943.74) −3.81***	.17
	$n = 3939$	$n = 787$		
Educational attainment	6.49 (1.39)	4.87 (2.02)	t (940.85) 21.46***	.93
	$n = 3939$	$n = 787$		
Father's educational attainment	3.96 (1.84)	3.65 (1.73)	t (1943) 2.94**	.17
	$n = 1565$	$n = 380$		
Mother's educational attainment	3.78 (1.66)	3.53 (1.57)	t (2068) 2.87**	.15
	$n = 1637$	$n = 433$		
Identification of plans for future work, study or training			χ^2 (1, $n = 3069$) 127.71***	.21
Yes	2145 (87.9)	296 (12.1)		
No	435 (69.3)	193 (30.7)		
Career interest			χ^2 (1, $n = 4450$) 46.46***	.10
Yes	1964 (87.6)	277 (12.4)		
No	1769 (80.1)	440 (19.9)		
Occupational awareness	3.07 (.64)	2.87 (.74)	t (666.03) −6.00***	.29
	$n = 2871$	$n = 519$		
Agency	3.33 (.62)	3.16 (.72)	t (624.62) −5.10***	.25
	$n = 2870$	$n = 519$		
Support	3.33 (.67)	3.17 (.65)	t (674.83) 4.52***	.22
	$n = 2859$	$n = 517$		
Work-life balance	3.36 (.65)	3.21 (.70)	t (3375) 4.83***	.22
	$n = 2859$	$n = 518$		
CFI-R	3.25 (.53)	3.07(.61)	t (667.00) 6.26***	.32
	$n = 2871$	$n = 519$		
Concern	3.48 (.65)	3.38 (.74)	t (667.79) 2.83**	.14
	$n = 2869$	$n = 519$		
Curiosity	3.58 (.63)	3.47 (.67)	t (3386) 3.60***	.17
	$n = 2869$	$n = 519$		
Control	3.67 (.67)	3.59 (.74)	t (673.96) 2.27*	.11
	$n = 2843$	$n = 514$		
Confidence	3.63 (.69)	3.52 (.74)	t (635.05) 3.24**	.15
	$n = 2843$	$n = 514$		
CAAS	3.59 (.57)	3.49 (.63)	t (629.39) 3.33**	.17
	$n = 2843$	$n = 514$		
Amotivation	2.44 (.83)	2.58 (.87)	t (3386) −3.31**	.16
	$n = 2869$	$n = 519$		
Career engagement	3.20 (.71)	3.00 (.78)	t (673.54) 5.17***	.27
	$n = 2842$	$n = 514$		
Social interaction anxiety	2.60 (.81)	2.73 (.83)	t (3354) −3.30**	.16
	$n = 2842$	$n = 514$		

Note. The sample size of each pair of comparison varied due to discarding of missing data; father's and mother's educational attainment ranges from 1 (no formal education or kindergarten) to 8 (undergraduate degree or above); NEET youth's educational attainment ranges from 1 (primary six or below) to 10 (undergraduate degree or above); * $p < .05$, ** $p < .01$, *** $p < .001$.

group shown in this study can be taken as an important reference for outlining the diversity and complexity of this specific youth group, and will help researchers and career work practitioners in working with youth of differing levels of vulnerability.

Table 3. Odds ratios (OR) and confidence intervals (CI) from multivariate logistic regression analyses examining risk factors in the models predicting the type of NEETs.

Predictor	Model 1 OR (95% CI)	Model 2 OR (95% CI)
Gender	.76 (.64-.91)**	.88 (.73-1.07)
Age	1.61 (1.52-1.71)***	1.49 (1.40-1.59)***
Educational attainment	.48 (.46-.51)***	.55 (.52-.58)***
Assuming the role of carer		11.63 (6.78-19.94)***
Seclusion at home		6.64 (4.53-9.73)***
Involvement in deviant activities		2.48 (1.45-4.22)**
Having addiction(s)		2.30 (1.29-4.09)**
Suffering from health problems		4.20 (2.61-6.75)***
Lack of clear goals for work, study & life		.77 (.60-.99)**
Limitation of abilities		1.19 (.88-1.61)

Note. Predictor variables in Model 1 include sociodemographic factors (gender, age, and educational attainment); predictor variables in Model 2 include sociodemographic factors plus proposed risk factors (assuming the role of carer, seclusion at home, involvement in deviant activities, having addiction(s), suffering from health problems, lack of clear goals for work, study & life, and limitation of abilities). Model fit statistics: Model 1: $\chi^2(3) = 830.48^{***}$, $-2 \log \text{likelihood} = 3426.08$, Cox & Snell $R^2 = .16$, Nagelkerke $R^2 = .27$, $n = 4726$; Model 2: $\chi^2(7) = 284.63^{***}$, $-2 \log \text{likelihood} = 3141.45$, Cox & Snell $R^2 = .21$, Nagelkerke $R^2 = .35$, $n = 4726$. OR = odd ratio; CI = confidence interval. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4. Adjusted Odds ratios (aOR) and confidence intervals from multivariate logistic regression analyses examining protective factors in the models predicting the type of NEETs.

Predictors	Model 1 aOR (95% CI)	Model 2 aOR (95% CI)	Model 3 aOR (95% CI)	Model 4 aOR (95% CI)
Gender	.71 (.51- 1.00)	.75 (.50-1.10)	.76 (.51-1.12)	.77 (.52- 1.14)
Age	1.72 (1.53- 1.94)***	1.90 (1.65-2.20)***	1.90 (1.64-2.20)***	1.93 (1.66-2.24)***
Educational attainment	.49 (.44-.55)***	.45 (.39-.52)***	.45 (.39-.53)***	.45 (.39-.52)***
Father's educational attainment	1.02 (.91-1.14)	.99 (.87-1.13)	.99 (.87-1.13)	1.01 (.88-1.15)
Mother's educational attainment	.96 (.85-1.08)	.98 (.85-1.13)	1.00 (.87-1.15)	.99 (.85-1.14)
Identification of plans for future work, study or training	.57 (.38-.85)**	.70 (.42-1.16)	.73 (.44-1.21)	.66 (.39-1.11)
Identification of career interest	.50 (.36-.70)***	.48 (.32-.71)***	.59 (.39-.88)**	.56 (.37-.84)**
CAAS		.72 (.51-1.01)		1.35 (.87-2.11)
CFI-R			.44 (.30-.63)***	.36 (.23-.58)***

Note. Predictor variables in Model 1 include sociodemographic variables (gender, age, educational attainment, and parents' educational attainment) and identification of plans for future work, study or training and identification of career interest; predictors in Model 2 include variables in Model 1 plus CAAS; predictors in Model 3 include variables in Model 1 plus CFI-R; predictors in Model 4 include all variables in model 1–3 conjointly. *Ns* range from 962 to 1284. Model fit index: Model 1: $\chi^2(7) = 271.22^{***}$, $-2 \log \text{likelihood} = 929.80$, Cox & Snell $R^2 = .19$, Nagelkerke $R^2 = .31$; Model 2: $\chi^2(8) = 225.23^{***}$, $-2 \log \text{likelihood} = 690.28$, Cox & Snell $R^2 = .21$, Nagelkerke $R^2 = .34$; Model 3: $\chi^2(8) = 241.77^{***}$, $-2 \log \text{likelihood} = 686.19$, Cox & Snell $R^2 = .22$, Nagelkerke $R^2 = .36$; Model 4: $\chi^2(2) = 243.65^{***}$, $-2 \log \text{likelihood} = 671.87$, Cox & Snell $R^2 = .22$, Nagelkerke $R^2 = .36$ * $p < .05$, ** $p < .01$, *** $p < .001$.

Implications in view of sociodemographic characteristics of NEETs

The results of the current study indicated the relatively lower educational attainment of the majority of our NEET sample as compared to the age group of 15–19 in Hong Kong. As Hong Kong highly values academic achievement, the comparatively lower educational qualification of our NEET sample will lead to their comparative disadvantages in labour market (Tam & Ip, 2017). When delivering career support service to NEETs, it is important to take into consideration the development of vocational education and training (VET), which is, however, not well received by Hong Kong parents and students because of the poor image of blue-collar status occupations (Yau et al., 2018). There is thus an urgent need to further promote VET and enhance respect for non-office-based jobs, as recommended by the Task Force of Promotion of Vocational Education (2015) in Hong Kong.

Over half of the participants reported that they had no idea about their parents' educational attainment. An explanation for this finding may relate to a lack of communication between NEETs and their parents. Prior studies revealed that vulnerable youth showed lack of family support and an inadequacy of communication with their parents (Brendtro & Brokenleg, 2009; Grossman et al.,

1992). As parents play an important role in influencing their children's academic performance and their career decision-making (Crafter et al., 2019; Hsieh & Huang, 2014), it is advisable for career practitioners to seek parental involvement and support and address the quality of parent–child relationship when delivering career support services to NEETs.

Implications with reference to career-related characteristics of transitional versus longer-term NEETs

This is the first study examining the career-related profile of NEETs by distinguishing transitional NEETs from longer-term NEETs, whereas prior studies (Hayward et al., 2008; Tam et al., 2016) have examined the different sociodemographic characteristics of longer-term NEETs and transitional NEETs. As shown in the present study, when compared with their transitional counterparts, longer-term NEETs were characterised as relatively older with a lower level of individual educational attainment and parental educational attainment as well. When compared with longer-term NEETs, transitional NEETs showed their strengths in the following career-related characteristics: identification of plans for future work, study or training, identification of career interest before receiving interventions, higher scores in terms of occupational awareness, agency, support, work-life balance, career engagement and career adaptability as measured by CAAS and CFI-R, and lower scores in the areas of amotivation and social interaction anxiety. The distinguished socio-demographic and career-related characteristics between these two groups suggests that the delivery of career support services for longer-term NEETs would be more challenging and demanding than that for transitional NEETs in terms of both time and effort. Social workers and career practitioners should be equipped with more relevant training and consider allocating more time and resources for engaging and working with longer-term cases characterised by a relatively lower level of career adaptability, along with higher levels of amotivation and social interaction anxiety.

Implications with reference to the risk factors identified

The risk and protective factors distinguishing longer-term NEETs from transitional ones, identified in this study, have implications for designing career support services. Multivariate logistic regression suggested that longer-term NEETs are more likely to be associated with risk factors, which can be interpreted as needs to be satisfied in relation to their career development. Therefore, career intervention targeted to transitional NEETs will need to prevent them from being associated with these risk factors and their antecedents, whereas career intervention targeted to longer-term NEETs will need to address these risk factors and associated consequences, which would likely constrain their career development and deter them from taking proactive career actions. Prior studies on the influences of these risk factors on young people may partially explain how these risk factors may exacerbate the challenges of providing career interventions for longer-term NEETs (Lőrinc, Ryan, D'Angelo, & Kaye, 2020). However, prior studies also have shown that assuming a carer role may be a fully conscious and voluntary choice made by youth, such as young mothers, which is not necessarily associated with vulnerability but with their decision and actions to fulfil the carer role (Yates & Payne, 2006). For those NEETs who have been secluded at home for a protracted period of time, communication and social interaction with others other than their family members would be seen as a demanding challenge to overcome (Chan & Lo, 2014; Wong, 2009). Involvement in deviant behaviours and having health problems are also barriers, which can jeopardise young people's plans for career and life development. However, there is a need for more research on the mechanisms of how these risk factors affect the career development of longer-term NEETs in particular.

Implications with reference to the protective factors identified

The findings that some protective factors such as identification of career interest, and career adaptability (measured by CFI-R), which may prevent NEETs from becoming longer-term NEETs, have profound implication for justifying a strengths-based approach to delivering career support service. Many NEETs may have traumatic experience with mainstream education. Pushing them to resume studying or searching for formal training offers without making any efforts to build a working relationship with them and facilitating them to psychologically prepare for transitioning to work or study would likely trigger re-traumatisation. For example, youth who are chronically self-secluded at home with resultant difficulties in normal interactions with others and transition to work, are not inactive on their side (Hong Kong Christian Service, 2006). Yuen et al. (2019) have urged that it is important to start where they are by acknowledging and staying tuned to their current interest, routines, and the activities they are performing on their own, which will help build trust; they contend that it is important to deliver other home-based intervention before empowering them to step out their comfort zone and venture into the community.

Similarly, Wong (2015) has argued that it is strategic to expand the learning experience of NEETs through equipping, supporting and managing their informal learning spaces in community settings, which will restart the learning momentum needed for their career development. Identification of career interests through exposure to various types of one-off or short-term activities can help provide disadvantaged youth a direction for exploring future career alternatives (Su et al., 2020). Without demanding any personal commitment, either unstructured or semi-structured activities such as singing, dancing, drama, physical sports, e-sports, photo-taking, video-making, coffee brewing, fine arts, street busking music, to name a few, may help engage young people and support them to explore the career interests they prefer in the first place.

In our study, career adaptability measured by four factors in CFI-R, namely occupational awareness, career agency, support, and work-life balance, is identified to be another protective factor of NEETs. However, another measure of career adaptability, that is, the CAAS-China Form was not found out to be a significant protective factor. Unlike the CAAS-China Form which emphasises self-regulation resources, CFI-R comprises both individual factors and environmental support. The subscales of occupational awareness and career agency emphasise the personal agency of participants, while those of support and work-life balance are focused on support from peers, family and other sources. Conventional career intervention underscores the importance of enhancing positive psychosocial resources on an individual basis. Hooley et al. (2019) has reiterated the importance of addressing social justice regarding the design, delivery and evaluation of career guidance and interventions particularly in view of growing social inequalities in the course of neoliberal globalisation. The general public tends to view NEETs as responsible for their own disengagement from mainstream institutions, who are not taking action for their own career development. However, without the provision of an enabling environment, NEETs are more vulnerable to risk factors. In developed economies such as Hong Kong, the gap between the rich and the poor has been widening. The lack of social resources, opportunities, and networks among NEETs contributes to their threat and deprivation experienced in their career development journey. Therefore, Wong and Yip (2019) strongly recommend mobilising resources to support NEETs by engaging with different stakeholders such as parents, NGOs, and business corporations.

Providing external social support to young people through collective communication and collaboration amongst multiple stakeholders is very important to enhance youth agency and capacities (Toporek et al., 2005; Young, 1990). Social workers or career practitioners may therefore consider taking a proactive role to engage in partnership with employers to deliver tailor-made workplace learning opportunities to facilitate NEET youth to learn soft skills and implicit rules of workplace, seek support and advice from experienced frontline employees as mentors, and review user-journey experience for career development. As shown in a case study on the

design and delivery of career support services to NEETs, business stakeholders would be best engaged in delivering workplace learning programmes to NEETs both as a corporate responsibility but also as an opportunity to recruit the right talents (Hong Kong Jockey Club Charities Trust, 2018).

Future research implications

First, in this study the career-related characteristics, risks factors and protective factors of NEETs were identified by quantitative measures. As NEETs are characterised by heterogeneity with different levels of complexity and vulnerability, qualitative studies are recommended to investigate the experience of NEETs in depth, including longer-term and transitional NEETs. Second, we need more research to examine the effects of strengthening both individual psychosocial resources and external social support on reducing the duration of being NEET.

Limitations

First, as officially defined in Hong Kong, the age range of NEETs falls between 15 and 24 (Office of Government Economist Financial Secretary's Office, 2018), which is in line with most European countries, whereas we included youth aged 15-21. Second, all the study variables were measured in a self-reported manner, which could have led to bias particularly in view that a lengthy questionnaire was used for data collection. Third, the psychometric properties of the adopted scales, which were originally developed in non-Chinese contexts, may be compromised due to the issue of cultural adaptation. Finally, although the sample size is big enough to cover 9% of all NEETs in Hong Kong, it is still not a random sample. Thus, caution has to be exercised in making generalisations to the overall population of NEETs.

Conclusion

In conclusion, the findings of this study make an important contribution with regard to the socio-demographic and career-related characteristics of a large sample of hard-to-be-reached NEETs by distinguishing between longer-term vs. transitional NEETs. Moreover, it is clear from our study that there is an urgent need to provide NEETs with an enabling environment which can strengthen their personal agency by addressing their need for further education and training, helping them to identify their career interests, and taking up the challenge to enhance career adaptability for making a transition to an aspired future. There is also the need for working in partnership with community stakeholders including employers to provide well-targeted support for a wide spectrum of NEETs who are definitely characterised by heterogeneity and different levels of vulnerability.

Funding

This work was supported by The Hong Kong Jockey Club Charities Trust: [Grant Number #HKBU/HKJCCT-33-14-211].

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by The Hong Kong Jockey Club Charities Trust: [Grant Number #HKBU/HKJCT-33-14-211].

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