



Psychometric evaluation of the Chinese version of self- and social recognition scales: exploring well-being and career development of young adults amidst economic constraints and marginalization

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Accepted: 7 January 2025
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Abstract

Informed by Axel Honneth's recognition theory, the Self- and Social Recognition Scales were initially developed in Western contexts to measure the acknowledgment individuals receive from themselves and others within a specific society. However, there is no Chinese version of these scales. This study aims to assess the psychometric properties of the Chinese version of the Self- and Social Recognition Scales and examine the links of self- and social recognition with the well-being and career development of Chinese young adults, considering the influence of economic constraints and marginalization. A cross-sectional survey was conducted in Hong Kong from October to November 2022, involving 1,016 university students aged 18–29. Exploratory and confirmatory factor analyses supported a three-factor-11-item structure for the Self- and Social Recognition Scales. The findings distinguished self- and social recognition from self-judgment. The scales exhibited satisfactory internal consistency. Overall, the Chinese version of these scales displayed adequate psychometric properties, supporting their future use in Chinese contexts. Moreover, the findings of this study demonstrated the mediating roles played by self- and social recognition in a structural equation model explaining how economic constraints and marginalization influence young adults' well-being and career development. The findings of this study suggested the potential for utilizing self- and social recognition in career support services to mitigate the adverse effects of contextual constraints on the well-being and career development of young adults. (224 words)

Keywords Recognition · Well-being · Career development · Young adults · Scale validation

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The pursuit of recognition defined as acknowledgement from oneself and others in a given society is a life-long yet challenging journey for many people (Honneth, 1995; Su & Wong, 2022a). Navigating a transition journey from childhood to adulthood in a rapidly changing world, young people are having a hard time in striving for recognition for the purpose of justifying their own existence and contribution to others, and the inevitable pressure from the competitive labor market can further amplify the difficulties facing young adults in particular (Su & Wong, 2022b). The recognition theory conceptualized by Honneth (1995, 2001) has provided a philosophical foundation to account for this issue and showed great potential to inform the support services delivered by helping professionals such as social workers and career practitioners to support young people with their career and life transition. The recognition theory has conceptualized three forms of social recognition desired by people, namely, love, respect, and social esteem, which

are deemed to associate with people's self-recognition manifested in self-love, self-respect, and self-esteem. Informed by Honneth's recognition theory, pioneering research studies have explored the influence of different forms of self- and social recognition experiences on the well-being and well-becoming of young individuals (Barry, 2016; Dotolo et al., 2018; Kauhanen & Kaukko, 2020; Marshall et al., 2020; Mitchell, 2021; Munford & Sanders, 2020; Rossiter, 2014). However, most of these contributions were theoretical or based on qualitative data.

In the recent years, Daniela Renger and her research team have developed two scales for measuring self- and social recognition respectively in Western societies and they have constructed a preliminary conceptual framework that explores the relationship between these two concepts and various aspects of well-being and development among young individuals, including life satisfaction and school engagement (Renger et al., 2017, 2020; Sirlopú & Renger, 2020). On the other side of the world, Su and her colleagues have been at the forefront of a recognition-informed youth study conducted in Hong Kong, a special administrative region of China. Their research focuses on integrating a recognition perspective into career support services targeted to young people. Their studies have highlighted the significant influence of self- and social recognition on the well-being and long-term career development of young people, particularly those on the margins of society, such as youth not in education, employment, or training (NEET) (Su et al., 2020; Su & Wong, 2022a), self-secluded youth (Su et al., 2021), and young females with low educational attainment (Su & Wong, 2022b). Notably, their studies have made contributions to the field by considering the impact of contextual factors, such as economic constraints and marginalization, on the well-being and career development of young individuals (Su et al., 2023a).

However, the absence of psychometrically sound measures for assessing self- or social recognition in Chinese contexts has limited the ability of relevant research to support their conceptual framework effectively. This limitation hinders the comprehensive examination of the impact of self- and social recognition, while considering contextual factors, on the well-being and career development of young people, as rigorous quantitative data are lacking. Therefore, the primary objective of this study is to evaluate the psychometric properties of the Chinese version of the Self- and Social Recognition Scales developed by Renger within Chinese contexts, utilizing a sample of young adults. Additionally, this study aims to test a conceptual framework that examines the links of these two concepts with various aspects of young people's well-being, such as life satisfaction and mental health, as well as their career development, including career adaptability, meaning in life, and study

engagement while notably taking into consideration the effects of economic constraints and marginalization.

Young adults' striving for self- and social recognition in Chinese contexts

As a critical theory, recognition theory conceptualized by Honneth (1995, 2001, 2012) proposed three forms of social recognition, namely love, respect and social esteem. According to Honneth's conceptualization, love as a form of social recognition refers to the love and care from others for satisfying a person's affective or tangible needs; respect refers to the recognition of equal rights and dignity of individuals regarding taking part in civil society and societal decision; and social esteem denotes the recognition of a person's strengths, competence, and achievements based on their unique skills and qualities. Therefore, the theoretical bases of three forms of recognition are different: love is based on needs, respect is based on equality, and social esteem is based on achievement (Renger et al., 2017). Honneth further argued that social recognition is central to the development of individuals' self-concepts: being loved and cared will lead to self-love (also called interchangeably as self-confidence by Honneth), being respected will foster self-respect, and being esteemed as a valued person will enhance self-esteem. Self-love highlights the open and trusting relationship to one's own feelings, desires, impulses, emotions, and needs. Self-respect highlights the respect for one's own autonomy and equal rights and dignity. Self-esteem emphasizes one's appreciation of their own values, competence and achievements. Self-love, self-respect, and self-esteem will then develop into a person's overall self-recognition. In a nutshell, the recognition theory highlights an "I-in-We" notion which denotes that love, respect and esteem are psychosocial rather than merely psychological or social. Those people who are recognized by themselves and others are more likely than those being misrecognized or under-recognized to enjoy better psychological, relational, and physical well-being (Munford & Sanders, 2020; Jessen et al., 2021).

Young people aged between 15 and 24 have been striving for recognition from themselves and others due to their special life stage as a transition from childhood to adulthood, which is characterized by uncertainties, dynamics, and complexities (Su & Wong, 2022a, b). In this transition period, individuals may face a range of challenges in different aspects of their lives. These challenges include academic competition in school, finding employment in the job market, adjusting to a new job, and navigating relationship issues in various settings. All of these challenges, along with their corresponding responses, can influence

their development of self- and social recognition. The competitive labor market is deemed to amplify the difficulties encountered in searching for self- and social recognition among young adults aged 18 or above, as they face pressure to build up a socially legitimate source of recognition through educational qualifications or paid jobs. Those who are unable to enjoy a smooth transition from school to work due to the deprivation of educational credentials or paid work experiences may fall into a trap without access to legitimate recognition, particularly youth who are not engaged in education, employment, or training (NEET) (Su et al., 2020; Su & Wong, 2022b).

The pursuit of recognition among young people is influenced by their social, economic, and cultural contexts, shaping their own exercise of agency. Some contextual constraints, such as poor socio-economic status and marginalization may compromise young people's capacity to achieve self- and social recognition in various societies. It makes sense that young people from disadvantaged or impoverished backgrounds may experience a lower level of satisfaction of affective or tangible needs, encounter more frequent denial or degradation of equal rights and dignity in their efforts to participate in societal decision, or suffer from disesteem about their unique competence and/or achievements in different life contexts, such as workplace and community. Although the theory of recognition originated in Western societies, both self-recognition and social recognition are considered significant for young people residing in non-Western cultural backgrounds as well.

In Chinese contexts, it is reasonable to argue that young people's self-concept development is influenced by their acquired social recognition, as their cultures placed emphasis on collective values, shared goals and collective benefits (Chung & Mallery, 1999; Su & Wong, 2023), and highly value interpersonal relationships (also called as *Guan Xi* in Chinese) for one's self-actualization (Tsui & Farh, 1997). Recognition theory suggests that individuals have a fundamental need for recognition and acknowledgment from their significant others, and this is especially relevant in the case of Chinese young people. In Chinese culture, filial piety is of great importance and highlights the duty and respect that young people owe to their parents. This expectation generates a profound yearning for recognition from parents, serving as a means to fulfill their cultural duties. Various traditional Chinese philosophies, including Confucianism, resonate with the major arguments of recognition theory in different ways. For example, "*Ren Ai*" as an important doctrine of Confucianism emphasizes that people should be trained to show unconditional warmth and care to each other in a given society. Some figures of Confucianism, such as Mengzi, prioritized respecting the equal rights of the people in his famous quote that "*Min Wei Gui, She Ji Ci Zhi, Jun*

Wei Qing" which means "to a state, its citizens rank first in importance, the government second, and the monarch the least". *The Great Learning*, an important publication of Confucianism suggested to esteem a person according to one's competence to manifest his/her virtue, and to manage his/her contribution to the family, the country and the world. Other than Confucianism, Wang Yangming's *Theory of the Mind* also emphasized that every person possesses the ability for self-realization and moral behavior. Only through self-identity and affirmation in oneself and others can one achieve spiritual harmony and an ideal state of humanity. Although the pursuit of self- and social recognition is widespread, empirical evidence is still insufficient to examine the manifestation of different forms of self- and social recognition in Chinese contexts. This study aims to start with examining the manifestation of self- and social recognition in Hong Kong, a special administrative region of China, where young people's recognition seeking is influenced by a fusion of both Chinese and western cultures.

Discriminant validity of self- and social recognition in relation to self-judgement

It is important to differentiate the concepts of self- and social recognition from a term called self-judgement, which denotes how a person judge oneself in relation to their own weaknesses, strengths, performance in difficult situations, and character based on personal standards or criteria (Chen et al., 2011; Neff, 2016). From a conceptual standpoint, individuals who are judgmental often tend to assess themselves in a highly negative manner when circumstances deviate from their prior expectations or past experiences. Their self-judgment can be established with or without using an "I-in-We" lens, indicating that it may not necessarily involve how others perceive, judge, or recognize them when evaluating themselves. People who are judgmental towards themselves enjoy lower satisfaction in life and suffer from more psychological distress as they may tend to draw harsh comments on their own weaknesses, personalities, and failures (Loew et al., 2020). Different from self-judgement, self-recognition and social recognition emphasize an I-in-We notion which highlights how a person's self-concepts developed in a given society is based on their perceived recognition from others (Honneth, 1995, 2012). The "I-in-We" perspective adopted in this study recognizes the importance of contextual factors, including economic constraints, in shaping individuals' well-being and career development. It highlights that these factors are often overlooked when focusing solely on self-judgment. By examining the interplay between individual recognition and societal recognition, a more comprehensive understanding of how contextual factors influence personal

growth and development can be attained. Therefore, it is deemed important to evidence the discriminant validity of self- and social recognition by distinguishing these two concepts from self-judgement.

The association of recognition with well-being and career development

Well-being refers to the overall present well-being which may be manifested in one's satisfaction about life and their mental health situation. Psychosocial resources for career development refer to those resources that are favorable for young people's career development, including career adaptability, study engagement, and meaning in life. Career adaptability as psychological resources refer to one's concern, curiosity, control and confidence used by people to cope with various tasks, transitions, and traumas as fostered by the changing conditions with growing awareness and information seeking, and decision-making capability and career adaptability (Savickas, 2005, 2013). Study engagement denotes a fulfilling state of mind in study, namely vigor, dedication, and absorption in their study activities (Su et al., 2021) and meaning in life refers to one's identification of presence of meaning in life and seeking of meaning or purpose in their lives (Chan, 2017).

Prior studies have discussed the influence of recognition on young people's well-being and career development, and supported such arguments with data collected from Western societies and Chinese contexts. For example, Renger and her colleagues have revealed that self- and social recognition are positively associated with university students' life satisfaction and school engagement in Western societies (Renger et al., 2017, 2020; Sirlopú & Renger, 2020). Su and her colleagues have drawn insights from the recognition-informed interventions targeting young people with vulnerabilities in community settings in Hong Kong and indicated that by expanding the sources of self- and social recognition for young people pushed to the margin of society, such as those NEET youth, their present well-being such as mental health (Su et al., 2021) and psychosocial resources such as career capabilities favorable for long-term career development may be enhanced (Su & Wong, 2022a, b; Su et al., 2023b). Nevertheless, relevant research studies conducted in Chinese contexts are still bounded by the missing of psychometrically sound measures for assessing self- or social recognition, which is limiting the generalization of their findings. This study will provide empirical evidence demonstrating that both self-recognition and social recognition experienced by young individuals are associated with their well-being, including increased life satisfaction and reduced mental health problems. Furthermore, the study will examine how these forms of recognition contribute to

the development of psychosocial resources necessary for career advancement, such as enhanced study engagement, meaning in life, and career adaptability. These associations will be explored within the specific context of Hong Kong, while also considering the potential effects of economic constraints and marginalization.

Purpose of this study and hypotheses

This study aims to examine the psychometric properties of the Chinese version of the Self- and Social Recognition Scales among young adults, including factorial validity, scale reliability, and discriminant validity. Furthermore, it aims to explore the associations between these scales and well-being and career development of young adults, considering the impact of economic constraints and marginalization. The study is guided by hypotheses formulated in accordance with Honneth's recognition theory and previous findings in the literature as depicted in Fig. 1.

- H1. Social recognition will be positively associated with self-recognition, career adaptability, meaning in life, life satisfaction, study engagement, and negatively associated with mental health problems among Chinese young adults.
- H2. In addition to social recognition, self-recognition will be also positively associated with career adaptability, meaning in life, life satisfaction, and study engagement, but negatively associated with mental health problems among Chinese young adults.
- H3. The correlation between self-recognition and social recognition will be stronger than their individual correlations with self-judgement.
- H4. Social recognition will mediate the effects of economic constraints and marginalization on the well-being (i.e. life satisfaction and mental health problems), and career development (i.e. career adaptability, meaning in life and study engagement) among Chinese young adults. Specifically, economic constraints and marginalization are hypothesized to diminish social recognition among young adults, thereby reducing their career adaptability, meaning in life, life satisfaction, and study engagement, while simultaneously increasing their mental health problems.
- H5. Self-recognition will mediate the effects of economic constraints and marginalization on the well-being (i.e. life satisfaction and mental health problems), and career development (i.e. career adaptability, meaning in life and study engagement) among Chinese young adults. Specifically, economic constraints and marginalization are hypothesized to diminish self-recognition among

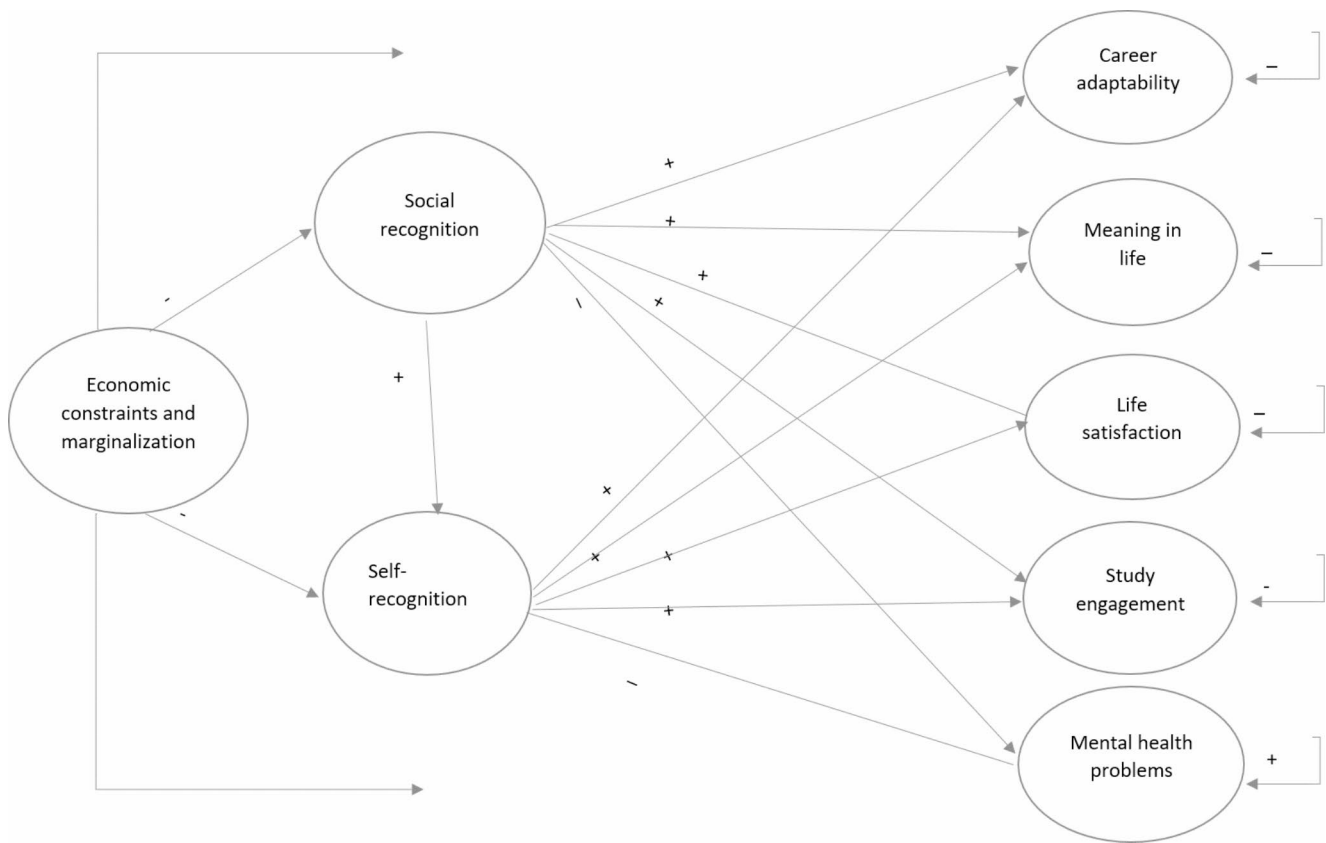


Fig. 1 Conceptual Framework Connecting Self- and Social Recognition with Well-Being and Career Development Variables in Young Adults, Considering Economic Constraints and Marginalization. Note. The arrows behind career adaptability, meaning in life, life sat-

isfaction, study engagement and mental health problems refer to the direct effects of economic constraints and marginalization on these variables

young adults, thereby reducing their career adaptability, meaning in life, life satisfaction, and study engagement, while simultaneously increasing their mental health problems.

H6. Social recognition and self-recognition are proposed to act as sequential mediators in the relationship between economic constraints and marginalization and the well-being and career development of Chinese young adults.

Method

Sample

Table 1 presents the sociodemographic information of the participants. We have in total 1,016 Chinese young adults aged 18 to 29, who were all university students and studying associate degree (1.8%), degree (52.1%) or postgraduate degree (46.2%) programs in Hong Kong. Among the participants, 35.4% were males and 64.6% were females. It is worth noting that the ratio of males to females among our participants was slightly lower than the ratio of male to

female students enrolled in undergraduate and postgraduate programs funded by the University Grants Committee (UGC). According to the Census and Statistics Department of the Hong Kong Special Administrative Region, the gender distribution among university students in the academic year of 2021–2022 was reported to be around 48% male and 52% female. This study included students from different disciplines, namely humanities and arts (12.5%), science (7.6%), business/management/finance (23.8%), construction and environment (9.3%), health and social science (32.3%), and engineering (14.6%). The average length of duration for living in Hong Kong among the participants is 133 months. Most of the participants (49.1%) were not engaged in paid work in the past three months, while 35.9% had part-time jobs and 15% had full-time jobs.

Instrument

Social recognition is assessed using the 12-item social recognition scale developed by Renger et al. (2017) in English and German. The scale comprises four items each for measuring love and care, respect, and social esteem. An

Table 1 Socio-Demographic Information of Participants

	all cases <i>n</i> = 1,016	EFA <i>n</i> = 506	CFA <i>n</i> = 510
	N (%)		
Gender			
Male	360	(35.4) 190	(37.5) 170 (33.3)
Female	656	(64.6) 316	(62.5) 340 (66.7)
Age	22.05	(2.85) 22.00	(2.90) 22.10 (2.79)
18	107	(10.5) 59	(11.7) 48 (9.4)
19	109	(10.7) 52	(10.3) 57 (11.2)
20	114	(11.2) 61	(12.1) 53 (10.4)
21	123	(12.1) 64	(12.6) 59 (11.6)
22	182	(17.9) 88	(17.4) 94 (18.4)
23	110	(10.8) 46	(9.1) 64 (12.5)
24	83	(8.2) 40	(7.9) 43 (8.4)
25	52	(5.1) 27	(5.3) 25 (4.9)
26	47	(4.6) 22	(4.3) 25 (4.9)
27	34	(3.3) 19	(3.8) 15 (2.9)
28	20	(2.0) 10	(2.0) 10 (2.0)
29	35	(3.4) 18	(3.6) 17 (3.3)
Studying program level			
Associate degree	18	(1.8) 9	(1.8) 9 (1.8)
Degree	529	(52.1) 275	(54.3) 254 (49.8)
Postgraduate degree	469	(46.2) 222	(43.9) 247 (48.4)
Study discipline			
Humanities and Arts	127	(12.5) 60	(11.9) 67 (13.1)
Science	77	(7.6) 30	(5.9) 47 (9.2)
Business/Management/Finance	242	(23.8) 130	(25.7) 112 (22.0)
Construction and Environment	94	(9.3) 42	(8.3) 52 (10.2)
Health and Social Sciences	328	(32.3) 164	(32.4) 164 (32.2)
Engineering	148	(14.6) 80	(15.8) 68 (13.3)
Paid work engagement			
Working \geq 35 h	152	(15.0) 72	(14.2) 80 (15.7)
Working < 35 h	365	(35.9) 188	(37.2) 177 (34.7)
Not engaged in paid work	499	(49.1) 246	(48.6) 253 (49.6)
Mean (<i>SD</i>)			
Duration of living in HK (months)	132.56	(127.40) 133.64	(127.55) 131.49 (127.37)
Economic constraints and marginalization (2–17) ^a	6.59	(2.27) 6.58	(2.27) 6.60 (2.27)
Career adaptability (12–60)	45.60	(7.69) 45.57	(7.54) 45.64 (7.83)
Meaning in life (10–70)	47.47	(8.93) 47.60	(8.73) 47.33 (9.14)
Study engagement (0–18)	10.89	(4.01) 11.03	(3.92) 10.76 (4.09)
Life satisfaction (5–35)	21.56	(6.41) 21.72	(6.35) 21.40 (6.46)
Mental health problems (0–12)	4.55	(2.70) 4.52	(2.69) 4.57 (2.72)
Self-judgement (0–25)	15.62	(3.91) 15.60	(3.83) 15.65 (3.99)

a. The numbers in the brackets behind the variables refer to the range for the sum scores

example item for this scale is “Other people show unconditional affection toward me”. Participants were asked to respond to each item using a seven-point Likert-type scale, where one indicated “strongly disagree” and seven indicated “strongly agree.” In Renger’s study, Cronbach’s alpha coefficients were found to be .88, .92, and .88 for love and care, respect, and social esteem, respectively. In this study, both McDonald’s Omega and Cronbach’s alpha coefficients were calculated to test the reliability for the three factors

and the overall scale, and they were found to be equivalent. Cronbach’s alpha coefficients for the corresponding factors were .90, .91, and .91, respectively, while for the overall scale was .93.

Self-recognition is assessed using the 12-item self-recognition scale developed by Renger et al. (2018) in both German and English. The scale consists of four items each for measuring self-love and self-care, self-respect, and self-esteem. An example item for this scale is “When I think

about myself, I mostly feel safe and secure". Participants were asked to respond to each item using a seven-point Likert-type scale, where one indicated "strongly disagree" and seven indicated "strongly agree." In Renger's study, Cronbach's alpha coefficients were found to be .91, .91, and .90 for self-love and self-care, self-respect, and self-esteem, respectively. In this study, Cronbach's alpha coefficients for the corresponding factors were .86, .93, and .91, respectively, while the overall scale reliability was .92. The McDonald's Omega coefficients for these factors were .87, .93, .92, respectively, while for the overall scale was .92.

Economic constraints and marginalization were evaluated using three items. Participants were asked to assess their family economic status on a scale of 1 (very well-off) to 5 (very poor). They were also asked to rate how often they had experienced discrimination or marginalization due to their economic situation on a scale of 0 (never) to 6 (always). Additionally, participants were requested to describe the level of economic difficulties they were facing by selecting a number from 0 (lowest level) to 5 (highest level). The sum of these three items was considered as the level of economic constraints and marginalization. The Cronbach's alpha coefficient for these three items was found to be 0.75. The McDonald's Omega coefficient for these three items was 0.74.

Career adaptability was assessed using a 12-item short-form of the Career Adapt-Abilities Scale, derived from the original scale developed by Savickas and Porfeli (2012) and validated by Maggiori et al. (2017) in Western societies. The 12 items assessed participants' levels of concern, curiosity, control, and confidence, with four items dedicated to each of these factors. The validation of this scale was later conducted by Yu et al. (2020) in China. Participants were asked to indicate the extent to which they had developed each of their abilities based on the 12 items. Their responses were gathered using a five-point Likert-type scale ranging from not strong (1) to strongest (5). To determine their career adaptability, the mean score of these 12 items was calculated. An example item for this scale is "Preparing for the future". Cronbach's alpha coefficients for concern, curiosity, control, and confidence were 0.80, 0.84, 0.75, and 0.79, respectively. The overall scale exhibited a Cronbach's alpha coefficient of 0.91. Similarly, the McDonald's Omega coefficients for these factors were 0.80, 0.84, 0.75, and 0.80, respectively. The overall scale demonstrated a McDonald's Omega coefficient of 0.90.

Meaning in life was measured by the ten-item meaning in life questionnaire originally developed by Steger et al. (2006) and validated by Chan (2017) in Chinese contexts. Participants were instructed to reflect on what makes their life feel personally important and indicate the extent to which they experience the presence of meaning in their

life and their search for meaning in life. Their responses were recorded using a seven-point Likert-type scale, where one corresponded to "absolutely untrue" and seven corresponded to "absolutely true." An example item from this scale is "My life has a clear sense of purpose". For the presence of meaning in life, both the Cronbach's alpha and McDonald's Omega coefficients were .86. Similarly, for the search for meaning in life, both coefficients were .85. Cronbach's alpha coefficient for the overall scale was .83, while the McDonald's Omega coefficient for the scale was .79.

Study engagement was assessed using the three-item Chinese version of the ultra-short work engagement scale which was originally developed by Schaufeli et al. (2006) and later validated by Su et al. (2022a, b). Each item measured the level of vigor, dedication, and absorption exhibited by the participants during the study. Their responses were recorded using a seven-point Likert-type scale, where zero indicated "never" and six indicated "always/every day." An example item from this scale is "I am enthusiastic about my study". Both Cronbach's alpha and McDonald's Omega coefficients for these three items were 0.92.

Life satisfaction was assessed using the five-item life satisfaction scale developed by Pavot and Diener (1993). Wang et al. (2009) validated the Chinese version of this scale. It is a seven-point Likert-type scale ranging from one (strongly disagree) to seven (strongly agree). An example item from this scale is "In most ways my life is close to my ideal." In our study, both Cronbach's alpha and McDonald's Omega coefficients for these five items were 0.90.

Mental health problems, specifically depression and anxiety, are common issues among young people. In this study, these problems were assessed using the Chinese version of the four-item Patient Health Questionnaire. This questionnaire was originally developed by Kroenke et al. (2009) and validated in Chinese contexts by Fong et al. (2023). It consists of two items measuring symptoms of depression and two items measuring anxiety in participants. Two example items for this scale are "Feeling nervous, anxious, or on edge" and "Feeling down, depressed, or hopeless". It is a four-point Likert-type scale ranging from zero (not at all) to three (almost every day). In the current study, the four-item questionnaire demonstrated good internal consistency, with both Cronbach's alpha and McDonald's Omega coefficients of 0.85.

Self-judgement was measured by the five items measuring the component of self-judgement derived from the self-compassion scale validated by Chen et al. (2011) which requested the participants to evaluate their attitudes towards themselves in difficult situations. An example item for this scale is "When I see aspects of myself that I don't like, I get down on myself". It is a five-point Likert-type scale ranging from one (almost never) to five (almost always). The

Cronbach's alpha coefficient for these five items was .84 whereas McDonald's Omega coefficient was .83.

Procedure

All instruments were available in Chinese, except the self- and social recognition scales, which required a translation and back-translation process. Two bilingual researchers, proficient in both English and Chinese, translated the English scales into Chinese. The initial translation of the two scales from English to Chinese was a collaborative effort between the first author, who is also the principal investigator of the project, and a research assistant. Before starting the translation process, the first author conducted a comprehensive literature review on the topic of self- and social recognition. The findings of this review were shared with the research assistant, who was thereby able to deepen his understanding of these two concepts. The translation process itself involved extensive discussions within the research team consisting of all the co-authors of this study, with a strong focus on developing a comprehensive understanding of the two concepts and recognition theory. Then, two native bilingual translators produced a back-translation of the initial translation. To ensure accuracy, a committee, chaired by the first author, reviewed all translations. The committee comprised the research assistant, two bilingual translators, and the second author. Each committee member is not only a native Chinese speaker but also possesses excellent English proficiency. Their high level of English proficiency has been attained through the completion of bachelor's and master's programs pursued in either Hong Kong or other English-speaking countries. Throughout the process, the first author sought guidance from Dr. Daniela Renger via email correspondence to clarify the meaning of any specific items. They worked collaboratively to resolve any discrepancies and reach a consensus.

The methodology utilized in this study involved the development of a questionnaire by the research team, composed of all co-authors who were actively engaged in the project. The establishment of the questionnaire's content involved the research team referring to previous research studies. These studies focused on the relationship between self- and social recognition and various aspects of well-being and career development among young people. The studies encompassed a range of societies, including both Western and non-Western contexts. Based on this comprehensive review, the first author, having chaired five panel meetings on zoom, developed the initial draft of the questionnaire. During these meetings, the research team engaged in thorough discussions, meticulously examining each item selected for inclusion in the questionnaire. These

discussions were guided by the team's conceptual understanding of self- and social recognition, as well as their knowledge of various aspects related to the well-being and career development of young individuals. In addition, the team considered the length of the questionnaire, ensuring that it could be completed within a reasonable time frame of approximately 20 min.

The research team finalized a pre-final version of the questionnaire, which was then piloted with a group of 20 university students. These students were specifically selected from the universities, where the first and second authors were affiliated. The students were selected due to their professional training in social science backgrounds, and because they belong to the targeted group for this study. The first and second authors personally invited the students to participate in the pilot testing of the questionnaire. The pilot phase took place prior to the commencement of data collection for the study. During this phase, the research team solicited feedback from the participating students regarding the clarity of the item expressions. The research team also acknowledged concerns raised by the students regarding the clarity of the questionnaire introduction. This piloting process was crucial in ensuring the quality and understanding of the instruments before the study officially began. The feedback received from the pilot phase was carefully considered and used to refine the questionnaire for optimal effectiveness.

Data collection took place in Hong Kong during the period between October 14 and November 15, 2022. The recruitment of participants from the eight UGC-funded Universities in Hong Kong necessitated the implementation of various strategies. In the universities where the first and second authors were affiliated, comprehensive emails were sent out. The emails were sent through the secretary of the general office of the department where the first author was affiliated, reaching all current students. These emails contained an invitation letter and a poster designed to encourage participation in the study. Additionally, at the other six UGC-funded universities, the research assistant displayed prominent posters across the campuses to attract students to potentially participate. To meet the eligibility criteria of the study, students were required to be aged 18 to 29 years old and actively pursuing a qualification such as an associate degree, degree, or postgraduate degree. Upon meeting the stated criteria, eligible participants were invited to complete an online survey administered through the Qualtrics system. Ethical approval had been granted by the Institutional Review Board of the University where the first author is affiliated before the commencement of this study. To maintain strict confidentiality, the questionnaire was designed without any personal identifiers, ensuring that participants' identities remained anonymous. Additionally, access to

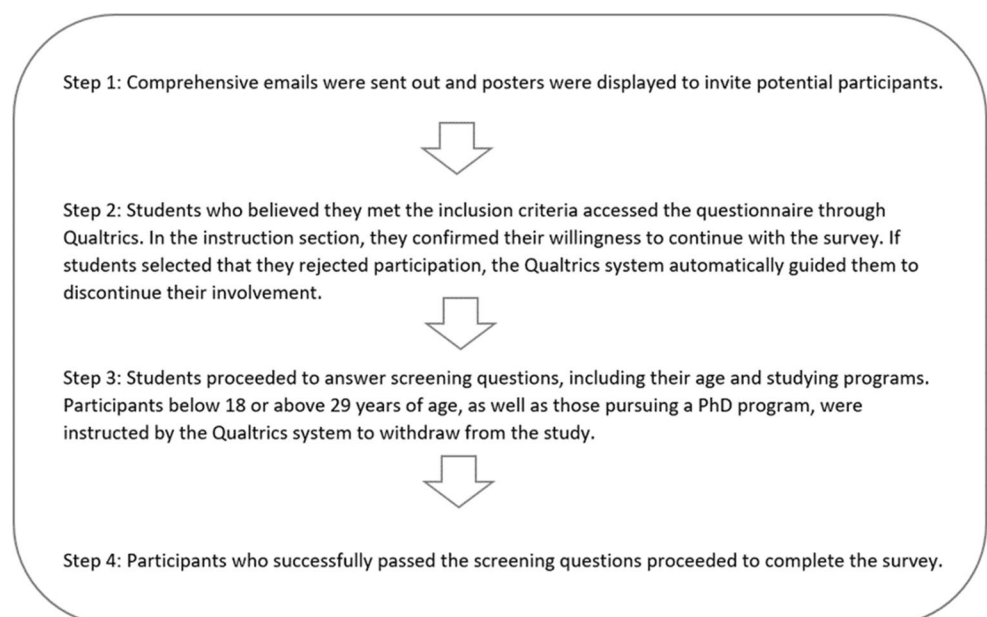
the collected data was limited to the research team exclusively, safeguarding the privacy and confidentiality of the participants.

To ensure the inclusion of eligible participants, specific screening items were implemented within the survey. Given the focus of this study on young adults, participants were asked to provide their age, and those who were below 18 or above 29 were advised to discontinue their participation in order to maintain the specific demographic scope of the research. In addition, participants were asked about their current enrollment in a program in Hong Kong. Participants who indicated that they were not currently enrolled in any study programs or were pursuing a PhD program were instructed to discontinue their participation. This decision was made because educational attainment has the potential to influence an individual's self- and social recognition, and a significant discrepancy in this aspect among participants could impact the study results. These thorough screening measures were put in place to guarantee that only participants who clearly met the required criteria for the study would be included. After completing the survey, all participants were given a supermarket coupon worth HK\$50 (approximately US\$6.4) as a token of appreciation for their participation. The incentives for this study were funded by the university with which the first author is affiliated. Figure 2 illustrates the sequential steps involved in participant recruitment and screening.

Data analyses

We randomly split the whole sample into two halves and used one half ($n=506$) to conduct exploratory factor analysis (EFA), and the second half ($n=510$) for conducting confirmatory factor analysis (CFA) and for testing the conceptual framework. The two halves of dataset showed no statistically significant differences in gender, age, and studying programs, study discipline, duration of living in Hong Kong and paid work engagement. We used three methods for EFA, namely parallel analysis, principal axis factoring and scree test, to inform the decision-making about factor and item retention. First of all, we conducted parallel analysis using SPSS 28.0 following the procedures suggested by O'Connor (2000) to get a recommended number of factors for the self- and social recognition scales. Second, we conducted principal axis factoring and scree test with the rotation method of Oblimin with Kaiser Normalization to extract factor structure and item loadings of the two scales. The Kaiser-Meyer-Olkin (KMO) index preferably to be higher than 0.60 was used to judge the factorability of the data when we conducted EFA. The following criteria such as items with factor loadings below 0.30 in all factors and item presenting cross-loading were used to inform the decision regarding item removal. Then, using Amos 28.0, we performed CFA testing the correlational, second-order, and bifactor models of the two scales based on the EFA results. Next, in order to examine the discriminant validity of self- and social recognition, we ran Pearson correlations among all study variables, and then compared the magnitude of associations between each factor in self- and social recognition with the magnitude of their individual associations with the total score of self-judgement. Finally, using Amos 28.0,

Fig. 2 Steps Involved in Participant Recruitment and Screening



we conducted structural equation modeling (SEM) to test a conceptual framework hypothesizing self-recognition and social recognition as indirect mechanisms through which economic constraints and marginalization influence well-being (i.e. life satisfaction and mental health problems), and career development (i.e. career adaptability, meaning in life and study engagement). The test of SEM model consisted of two steps, namely testing the measurement models of all included measures and testing the holistic conceptual model. The maximum likelihood method was used in CFA and SEM for estimation. To determine the degree of model fit for CFA and SEM, we adopted a cluster of criteria on goodness-of-fit statistics: normed chi-square (X^2/df) ≤ 3 , a CFI > 0.90 , a Tucker–Lewis index (TLI) > 0.90 , a RMSEA ≤ 0.08 (Hu & Bentler, 1998; Schermelleh-Engel et al., 2003).

Results

The parallel analysis using 12 items measuring social recognition suggested a three-factor solution, which was confirmed by principal axis factoring and scree test. The three-factor-12-item model explained 77.86% of variance, with a KMO of 0.91. Item 8 showed cross loading on

factors 1 and 2. After removing Item 8, the results of parallel analysis, principal axis factoring and scree test still led to a three-factor model and no items presenting cross-loading or factor loading of below 0.30. The three-factor-11 item model explained 79.23% of variance with a KMO of 0.91. These results favor keeping 11 items and removing Item 8 for measuring social recognition. The factor loadings of the 12 items drawn from principal axis factoring with Oblimin rotation are presented in Table 2. After removing Item 8, all the rest items loaded on their respective factor consistent with recognition theory with factor loading ranging from 0.75 to 0.87 for the factor of love, from 0.88 to 0.96 for the factor of respect, and from 0.73 to 0.96 for social esteem.

The parallel analysis using 12 items for measuring self-recognition also suggested a three-factor solution, which was confirmed by principal axis factoring and scree test. The three-factor-12-item model explained 79.01% of variance, with a KMO of 0.90. Item 4 showed cross loading on both factors 2 and 3. After removing Item 4, all three types of analyses still suggested a three-factor model and no items presenting cross-loading or factor loading of below 0.30. The three-factor-11 item explained 81.31% of variance with a KMO of 0.90. To conclude, the EFA results for self-recognition all suggest the 11-item-3-factor solution. The factor loadings of 12 items for self-recognition drawn from principal axis factoring with Oblimin rotation are presented in Table 3. After removing Item 4, all the rest items loaded on their respective factors consistent with recognition theory with factor loading ranging from 0.68 to 0.92 for the factor of self-love, from 0.77 to 0.93 for self-respect, and from 0.67 to 1.0 for self-esteem.

In view that a hierarchical model is consistent with the arguments of recognition theory, we tested the second-order model by conducting CFA to confirm the factor structures of self- and social recognition. With regard to social recognition, the model fit index for the three 11-item second-order model ($\chi^2=124.52$, $df=41$, $\chi^2/df = 3.04$, $p<.001$, CFI=0.98, TLI=0.98, RMSEA=0.06) was more satisfactory than the 12-item model ($\chi^2=266.03$, $df=51$, $\chi^2/df = 5.22$, $p<.001$, CFI=0.96, TLI=0.94, RMSEA=0.09). Taking into consideration both EFA and CFA results, we suggest keeping 11 items for measuring social recognition and removing Item 8 shown in Fig. 3 to present the construct of social recognition in further analysis. The Cronbach's alpha for the 11 items was 0.92. Regarding self-recognition, the model fit index for the 12-item second-order was unsatisfactory ($\chi^2=281.30$, $df=51$, $\chi^2/df = 5.52$, $p<.001$, CFI=0.95, TLI=0.94, RMSEA=0.09). The model fit index showed that the second-order models with 11 items were satisfactory ($\chi^2=140.57$, $df=40$, $\chi^2/df = 3.51$, $p<.001$, CFI=0.98, TLI=0.97, RMSEA=0.07). Based on the results of EFA and CFA, we opt to use the second-order model with 11 items

Table 2 Factor loading after Oblimin Rotation of the Social Recognition Scale ($n=506$)

Items	Love	Respect	Social Esteem
1. Other persons show unconditional affection toward me.	0.80	-0.00	0.05
2. Quite independently of my behaviour, other people show a lot of warmth toward me.	0.80	-0.02	-0.02
3. Other persons always satisfy my emotional needs.	0.88	0.08	-0.04
4. Other people behave toward me in a very caring manner.	0.75	-0.10	-0.06
5. Other people always communicate with me as with a person of equal worth.	0.01	0.83	-0.03
6. All in all, other people definitely treat me as a bearer of equal rights.	-0.06	0.95	0.02
7. Other people always treat me as a human being with equal worth.	0.02	0.90	0.00
8. I'm consistently treated as a counterpart that is to be taken seriously.	0.31	0.47	-0.12
9. The people I interact with let me know very often that they see me as competent.	-0.01	-0.04	0.78
10. I consistently get positive feedback for what I'm doing.	0.11	0.03	0.73
11. Other persons express very often that I'm seen as very capable.	-0.10	0.01	0.97
12. My accomplishments are regarded as being of high value by other people.	0.05	-0.01	0.80

Factor loadings higher than 0.30 were in bold

Table 3 Factor loading after Oblimin Rotation of the self-recognition scale ($n=506$)

Items	Self-esteem	Self-respect	Self-love
1. When I think about myself, I mostly feel safe and secure.	0.08	0.04	0.79
2. I have the feeling that, emotionally, I always stand on very firm ground in life.	0.02	0.09	0.87
3. I look at myself with warmth and affection.	0.04	-0.15	0.76
4. It is always worth taking good care of myself.	-0.03	-0.46	0.40
5. In everyday life I always see myself as a person with equal rights.	-0.04	0.93	-0.03
6. I always see myself as a person of equal worth compared with other people in my life.	0.01	0.90	-0.02
7. I am always aware that I have the same dignity as all other human beings.	0.05	0.90	-0.04
8. If I look at myself, I see a person who is equally worthy compared with others.	0.11	0.77	0.03
9. I think that I'm consistently very good at the things I do.	0.67	-0.05	0.10
10. I am always very capable.	1.01	0.10	-0.05
11. If I look at myself, I see a competent person.	0.85	-0.11	-0.02
12. I am always capable of doing something great.	0.78	-0.02	0.05

Factor loadings higher than 0.30 were in bold

displayed in Fig. 4 for measuring self-recognition in further analysis. The Cronbach's alpha for the 11 items was 0.91.

Table 4 presents the Pearson correlations among the variables. Three factors in social recognition were positively associated with three factors in self-recognition, and with career adaptability, meaning in life, life satisfaction, study engagement, and negatively associated with mental health problems. In addition to social recognition, three factors in self-recognition were also positively associated with career

adaptability, meaning in life, life satisfaction, and study engagement, but negatively associated with mental health problems. Therefore, hypotheses 1 and 2 were supported. The correlation analyses indicated weak associations between self-judgment and the three dimensions of social recognition, with correlation coefficients of -0.26 , -0.19 , and -0.27 for love, respect, and social esteem, respectively. Additionally, weak associations were found between self-judgment and two dimensions of self-recognition, with correlation coefficients of -0.20 for self-respect and -0.34 for self-esteem. Notably, self-judgment demonstrated a moderate level of correlation with self-love ($r=-.44$). The correlation between self-judgment and all dimensions in self- and social recognition displayed smaller magnitudes compared to the correlation between the dimensions in self-recognition and social recognition, with one exception. Specifically, self-love exhibited a stronger correlation with self-judgment (-0.44) than with respect (0.42). Overall, the results indicated a stronger association between social and self-recognition (0.71) compared to their association with self-judgment (-0.29 and -0.38 , respectively), providing support for Hypothesis 3.

Prior to conducting the analysis on testing the conceptual framework, measurement models were tested for all latent variables. These measurement models depicted the connections between latent variables and their factors and observed items, with arrows indicating the relationship from the latent variable to their corresponding factors and then to their observed items. The results of these tests were found to be satisfactory (see supplementary Table 5). Specifically, the measurement models included a second-order three-factor-11-item model for self-recognition, a three-factor-11-item model for social recognition, a three-item model for economic constraints and marginalization, a four-factor-12-item model for career adaptability, a two-factor-10-item model for meaning in life, a three-item model for study engagement, a five-item model for life satisfaction, and a four-item model for mental health problems. Figure 5 presents the results for testing the conceptual framework with the standardized estimates for each path in the model, taking self- and social recognition as mediators in explaining well-being (i.e. life satisfaction and mental health problems) and career development (i.e. career adaptability, meaning in life and study engagement) among young adults, considering the impact of economic constraints and marginalization. The results of the conceptual model were deemed satisfactory (i.e. $\chi^2=3272.81$, $df=1624$, $\chi^2/df=2.02$, $p<.001$, CFI=0.92, TLI=0.92, RMSEA=0.045).

Upon careful examination of Fig. 5, one can observe that the roles played by both self-recognition and social recognition in the link between economic constraints and marginalization with outcome variables were distinct. The results

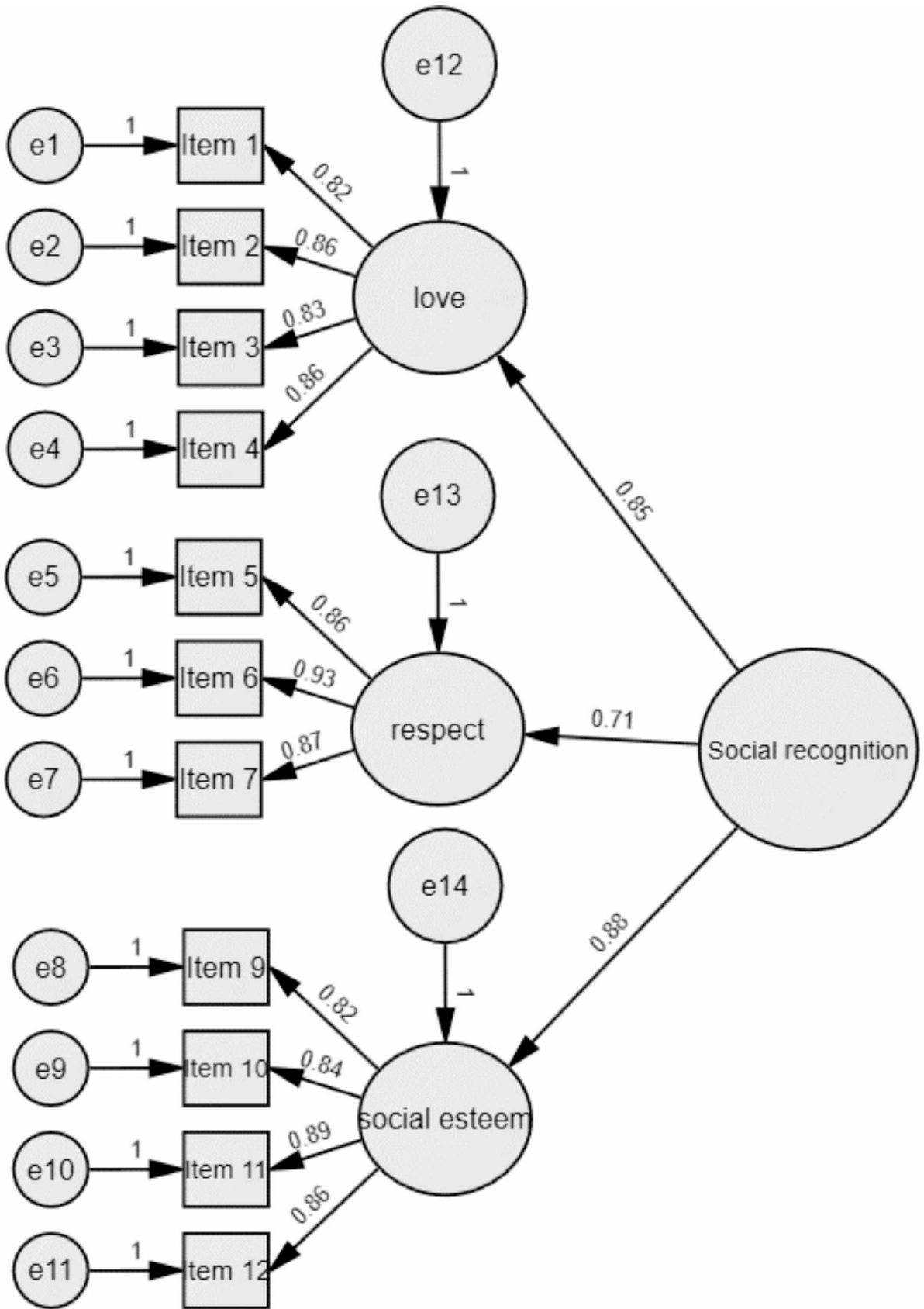


Fig. 3 Second-Order Model of Social Recognition Scale (N = 510)

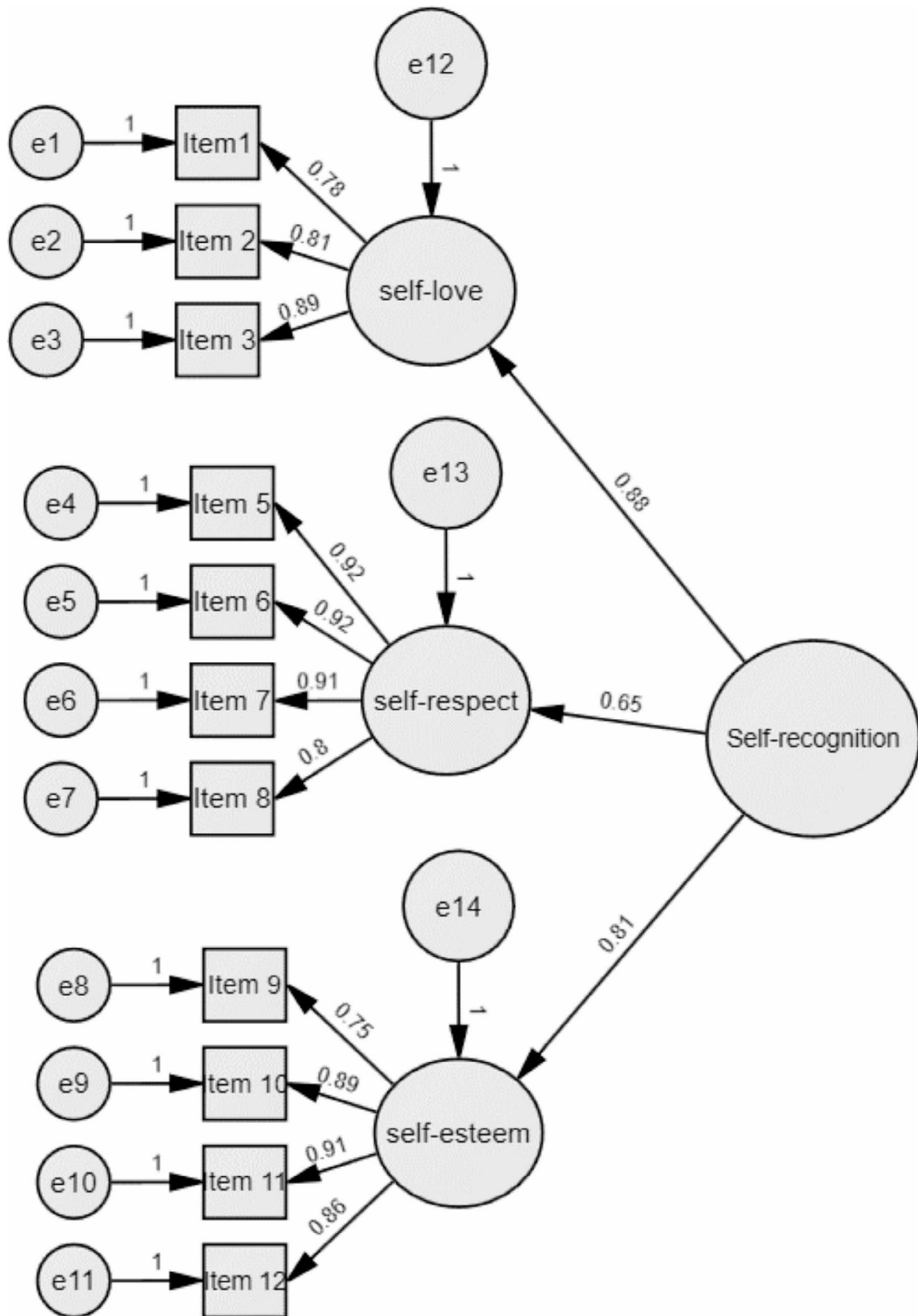


Fig. 4 Second-Order Model of Self-Recognition Scale (N = 510)

Table 4 Associations among the Study Variables (*N* = 510)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.love	1														
2.respect	0.55	1													
3.social esteem	0.64	0.55	1												
4. social recognition	0.89	0.78	0.88	1											
5.self-love	0.52	0.42	0.56	0.59	1										
6.self-respect	0.42	0.63	0.52	0.59	0.51	1									
7.self-esteem	0.48	0.38	0.63	0.59	0.64	0.50	1								
8. self-recognition	0.56	0.57	0.68	0.71	0.83	0.81	0.86	1							
9.eco. con. & marg.	-0.26	-0.35	-0.19	-0.30	-0.15	-0.22	-0.23	-0.24	1						
10.career adaptability	0.32	0.40	0.46	0.46	0.45	0.52	0.55	0.61	-0.17	1					
11.meaning in life	0.37	0.40	0.46	0.48	0.47	0.50	0.53	0.61	-0.16	0.66	1				
12.life satisfaction	0.52	0.44	0.51	0.58	0.49	0.40	0.47	0.54	-0.35	0.37	0.42	1			
13.engagement	0.28	0.32	0.40	0.39	0.40	0.39	0.48	0.51	-0.20	0.52	0.53	0.37	1		
14.mental health	-0.34	-0.34	-0.35	-0.40	-0.48	-0.35	-0.39	-0.48	0.30	-0.25	-0.28	-0.46	-0.27	1	
15. self-judgement	-0.26	-0.19	-0.27	-0.29	-0.44	-0.20	-0.34	-0.38	0.23	-0.09 ^a	-0.12 ^b	-0.36	-0.12 ^b	0.50	1

The sum of observed items was utilized as a representation of their corresponding latent variables; Eco. con. & marg. refers to economic constraints and marginalization; all significant at *p*<.001 level except (a) nonsignificant, and (b) significant at *p*<.01 level

of the analysis revealed several significant paths within the model. Firstly, the path between economic constraints and marginalization with social recognition exhibited a moderate negative relationship ($\beta = -0.39^{***}$), indicating that higher levels of economic constraints and marginalization were associated with lower levels of social recognition. Secondly, the path between social recognition and self-recognition demonstrated a strong positive relationship ($\beta=0.94^{***}$), indicating that higher levels of social recognition were linked to higher levels of self-recognition. However, the path between economic constraints and marginalization with self-recognition was not found to be significant. Furthermore, economic constraints and marginalization displayed direct negative effects on life satisfaction ($\beta = -0.26^{***}$) and direct positive effects on mental health problems ($\beta=0.23^{***}$). This suggests that higher levels of economic constraints and marginalization were associated with lower life satisfaction and increased mental health problems.

The findings regarding Hypotheses 4 to 6 yielded more complex results than were initially anticipated. Firstly, social recognition was identified as a significant mediator between economic constraints and marginalization and various outcomes, including career adaptability (indirect effect=0.53), meaning in life (indirect effect=0.61), study engagement (indirect effect=0.38), and mental health problems (indirect effect=0.14). However, it is worth noting that in the SEM model, a negative path was observed from economic constraints to social recognition. Additionally, the paths from social recognition to career adaptability, meaning in life, and study engagement were also negative. These findings suggest that economic constraints and marginalization may have an unexpected effect of enhancing, rather than reducing career adaptability, meaning in life, and study engagement and such enhancement may occur through the mechanism of reducing the level of social recognition experienced by young adults. The negative associations between social recognition and career adaptability, meaning in life, and study engagement in the SEM model were found to be contrary to the results observed in Pearson correlations. Therefore, Hypothesis 4 was partially supported.

Second, social recognition and self-recognition were identified as two layers of sequential indirect mechanisms through which economic constraints and marginalization influenced various outcomes (see supplementary Table 6). The indirect effects of economic constraints and marginalization on career adaptability (indirect effect=-0.74), meaning in life (indirect effect=-0.89), study engagement (indirect effect=-0.54), and life satisfaction (indirect effect=-0.13) were observed through the influence of social recognition and self-recognition as sequential indirect mechanisms. The analysis of the paths from economic constraints to social

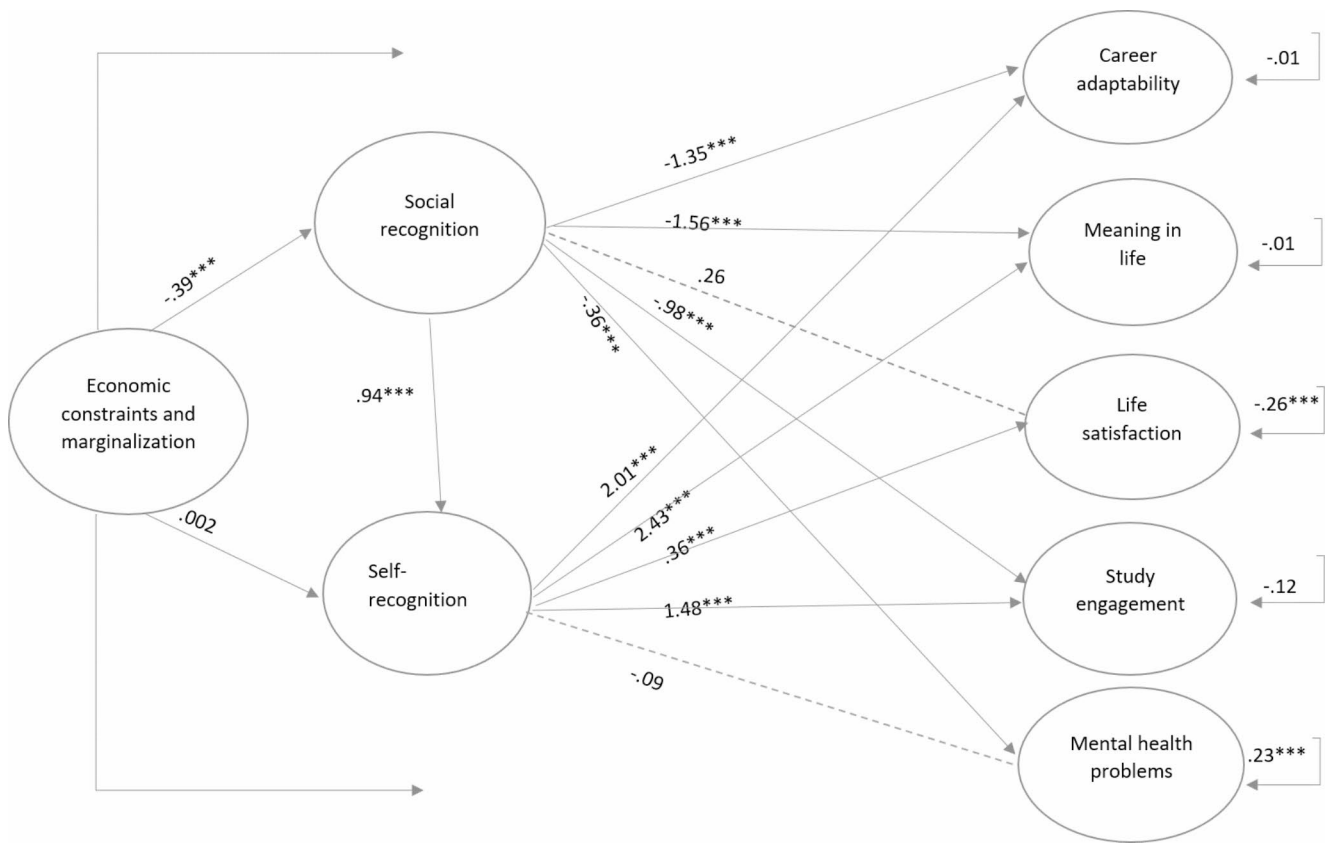


Fig. 5 Self- and Social Recognition as Mediators Explaining the Influence of Economic Constraints and Marginalization on Well-Being and Career Development among Chinese Young Adults ($N=510$). Note. The regression weights presented in the SEM model are all standard-

ized; the arrows behind career adaptability, meaning in life, life satisfaction, study engagement and mental health problems refer to the direct effects of economic constraints and marginalization on these variables

recognition, followed by self-recognition, and subsequently to the outcome variables indicates that economic constraints and marginalization have an anticipated negative impact on career adaptability, meaning in life, study engagement, and life satisfaction. This negative effect is mediated by a reduction in both social and self-recognition. Hypothesis 6 was supported. Third, the path from economic constraints and marginalization to self-recognition was found to be non-significant. As a result, self-recognition did not serve as a mediator between economic constraints and marginalization and the outcome variables. Therefore, Hypothesis 5 was not supported. The results regarding the mediating effects of self- and social recognition suggest that economic constraints and marginalization may result in positive rather than negative outcomes for young people’s career adaptability, meaning in life, and study engagement solely through the reduction of social recognition. It is also observed that when self-recognition is diminished due to the loss of social recognition resulting from economic constraints and marginalization, negative outcomes in these areas are more likely to occur.

Moreover, it is important to highlight that within the conceptual framework, the paths between social recognition and life satisfaction, as well as between self-recognition and mental health problems, were not found to be statistically significant. These findings seem to imply that economic constraints and marginalization may not have indirect effects on life satisfaction solely through the mechanism of social recognition. However, they can still have an indirect influence on life satisfaction through the combined effects of self- and social recognition. Similarly, economic constraints and marginalization may not exert an indirect influence on mental health problems solely through the mechanism of self-recognition. Instead, their indirect impact on mental health problems may occur through the pathway of social recognition.

Finally, it is important to note that some of the standardized coefficients in the SEM model fell outside the range of -1 to $+1$. Specifically, the paths from social recognition to career adaptability ($\beta = -1.35^{***}$) and meaning in life ($\beta = -1.56^{***}$), as well as the paths from self-recognition to career adaptability ($\beta = 2.01^{***}$), meaning in life ($\beta = 2.43^{***}$), and study engagement (1.48^{***}), exhibited

coefficients outside this interval. These findings suggest the presence of suppressor effects within the model, whereby the inclusion of a suppressor enhances the predictive ability of social or self-recognition on the outcome variables (Conger, 1974; Tzelgov & Henik, 1991). It is noteworthy that in the SEM model, only the predictor “economic constraints and marginalization” may act as a suppressor, as it did not exhibit significant direct effects on career adaptability, meaning in life, and study engagement.

Discussion

The study conducted a cross-sectional questionnaire survey in Hong Kong during October - November 2022. The data was collected from a sample of 1,016 university students aged 18 to 29 who were pursuing an associate degree, degree, or postgraduate degree qualification. The study found support for the factorial validity, scale reliability, and discriminant validity of the Chinese version of the Self- and Social Recognition Scales. The results of this study will provide support for future application of Renger’s self- and social recognition scales in Chinese contexts. Furthermore, the conceptual framework revealing the mediating roles played by self- and social recognition in explaining well-being and career development will guide future practice and research in applying Honneth’s recognition theory to better understand the well-being, and career and life development of young adults while considering the effects of economic constraints and marginalization.

First and foremost, this study represents the first validation of the Chinese version of the self- and social recognition scales, marking the beginning of a new era for quantitative research on self- and social recognition in Chinese and Asian contexts. Pursuing self- and social recognition is deemed an essential need among young people. There has existed a group of pioneering studies which suggested an urgent need to acknowledge the impact of recognition experiences of young people and to develop rigorous research studies in relation to antecedents and outcomes of self- and social recognition on young people’s well-being and sustainable development (Barry, 2016; Rossiter, 2014; Dotolo et al., 2018; Kauhanen & Kaukko, 2020; Marshall et al., 2020; Mitchell, 2021; Munford and Sanders, 2020; Su & Wong, 2022a, b). A lack of psychometrically sound instruments for measuring these two concepts is compromising the development of relevant knowledge in the field. This study provides evidence for the three-factor hierarchical structure of self-recognition and social recognition scales, which aligns with Honneth’s recognition theory. The evidence is supported by multiple aspects, including strong internal consistency as demonstrated by both Cronbach’s

alpha and McDonald’s Omega coefficients. Additionally, factorial validity is supported by confirmatory factor analysis, and discriminant validity is established when comparing the scales to self-judgment.

Second, this study provides empirical evidence supporting the positive association between self-recognition and social recognition, which justifies Honneth’s “I-in-We” argument (Honneth, 2012). Honneth argues that love, respect, and esteem are psychosocial, rather than purely psychological or social, and that a person’s self-concept is developed in a given society where their self-recognition is based on their perceived recognition from others. This “I-in-We” notion distinguishes self- and social recognition from self-judgment, which emphasizes how a person judges themselves based on personal standards or criteria, such as their weaknesses and strengths, performance in difficult situations, and characters (Chen et al., 2011; Neff, 2016). The study’s findings also support the discriminant validity of self-recognition and social recognition by distinguishing these two concepts from self-judgment. As people who are judgmental towards themselves enjoy lower satisfaction in life and suffer from more psychological distress as they may tend to draw harsh comments on their own weakness, personalities, and failures (Loew et al., 2020), these findings will inform future research studies related to youth, informed by recognition theory with an “I-in-We” lens. This may reduce the risks of blaming young people for their setbacks and suffering and contribute to the advocacy of constructing an enabling and empowering context to support young people’s sustainable development.

Third, this study offers evidence that links economic constraints and marginalization to young people’s lack of self- and social recognition. This finding will inform future empirical studies on how various types of contextual constraints influence young people’s pursuit of recognition. Previous studies conducted by Renger and her colleagues in Western societies (Renger et al., 2017, 2020; Sirlopú & Renger, 2020) did not take into consideration the impact of contextual constraints in their conceptual models for explaining young people’s recognition pursuits. As there is an increasing awareness that contextual constraints are an inevitable part of one’s life, and economic constraints and marginalization are two typical constraints suffered by young people in a rapidly changing world, they significantly influence people’s career and life development (Su & Chen, 2023; Blustein et al., 2019; Kenny et al., 2019). Therefore, it is important for research on young people’s pursuit of recognition to account for the impact of these factors.

Fourth, this study provided support for the significant associations of self- and social recognition with the well-being and career development of young individuals in Chinese contexts. Moreover, it established a conceptual model

that elucidated the pathways through which economic constraints and marginalization impact the well-being and career development of young adults, with social recognition and self-recognition acting as mediators. The results of the SEM model provide valuable insights, although they do not align completely with the original conceptual framework. The mediating effects of social recognition and sequential mediating effects of both social and self-recognition in the SEM model expand our understanding regarding how economic constraints and marginalization influence various variables in relation to young people's well-being and career development. Specifically, the results of the SEM model revealed that economic constraints may have an unexpected effect of enhancing, rather than reducing, career adaptability, meaning in life, and study engagement and such enhancement may occur through the mechanism of reducing the level of social recognition experienced by young adults. The negative associations between social recognition and career adaptability, meaning in life, and study engagement in the SEM model were found to be contrary to the results observed in Pearson correlations. Furthermore, the results of the SEM model also indicated social recognition and self-recognition as two layers of sequential indirect mechanisms through which economic constraints and marginalization influenced various outcomes. Specifically, economic constraints and marginalization have an anticipated negative impact on career adaptability, meaning in life, study engagement, and life satisfaction. This negative effect is mediated by a reduction in both social and self-recognition. The results regarding the mediating effects of self- and social recognition in the conceptual framework suggest that economic constraints and marginalization may result in positive rather than negative outcomes for young people's career adaptability, meaning in life, and study engagement solely through the reduction of social recognition. It is also observed that when self-recognition is diminished due to the loss of social recognition resulting from economic constraints and marginalization, negative outcomes in these areas are more likely to occur. These findings carry important implications that in the presence of economic constraints and marginalization, young adults who face low social recognition may not inevitably exhibit negative outcomes in terms of their career adaptability, finding meaning in life, and increasing study engagement. Therefore, it becomes crucial to prioritize the enhancement of self-recognition among young individuals when they experience reduced social recognition due to economic constraints and marginalization. By nurturing self-recognition, it becomes possible to alleviate the potential negative consequences and empower young people to thrive even in challenging circumstances.

Fifth, the SEM model also revealed some nonsignificant relationships that offer valuable insights. For instance, the paths between social recognition and life satisfaction, as well as between self-recognition and mental health problems, were not found to be statistically significant. These findings suggest that economic constraints and marginalization may not have an indirect effect on life satisfaction solely through the mechanism of social recognition. However, they could still indirectly influence life satisfaction through the combined effects of social and self-recognition. Similarly, economic constraints and marginalization may not have a direct influence on mental health problems solely through the mechanism of self-recognition. Instead, their indirect impact on mental health problems may occur through the pathway of social recognition. These findings prompt us to reflect on the dynamic relationship between self- and social recognition in terms of their influence on current well-being and long-term career pursuits. They suggest that it is crucial to consider both self- and social recognition to mitigate the negative effects of economic constraints and marginalization on young adults' life satisfaction. Moreover, they highlight the importance for young people to seek care and support from others, as it can help them cope with stress, strain, and loneliness, minimizing the risk of mental health problems such as depression and anxiety. These findings will inform future research studies on the parallel effects of self- and social recognition on young people's well-being and sustainable career and life development. They also provide insights for intervention practices aimed at enhancing young people's well-being and sustainable career and life development by leveraging their self- and social recognition.

Additionally, it is worth noting that several standardized coefficients in the SEM model deviated from the range of -1 to $+1$. Specifically, the paths from social recognition to career adaptability and meaning in life, as well as the paths from self-recognition to career adaptability, meaning in life, and study engagement, exhibited coefficients outside this interval. These findings suggest the possible presence of suppressor effects within the model, where the inclusion of a suppressor enhances the predictive ability of social or self-recognition on the outcome variables (Conger, 1974; Tzelgov & Henik, 1991). Economic constraints and marginalization may act as a suppressor in this model, as it did not exhibit significant direct effects on career adaptability, meaning in life, and study engagement. This suppressor effect may also help explain the strong predictive effect from social recognition to self-recognition, which approached a coefficient of 1. The inclusion of economic constraints and marginalization as a suppressor in the model may have strengthened the predictive capacity of other variables. These findings suggest that career support services aimed

at supporting young individuals by leveraging self- and social recognition need to consider the effects of economic constraints and marginalization, as this factor may amplify the influence of social recognition on self-recognition, as well as the effects of self- and social recognition on career adaptability, meaning in life, and study engagement. Furthermore, recognizing the potential presence of suppressor effects in the model due to economic constraints and marginalization, the relatively high Pearson correlation (0.71) between social and self-recognition—without controlling for other variables—raises concerns about multicollinearity. This strong correlation may challenge the theoretical distinction between these two concepts. However, it can also be interpreted through the “I-in-we” notion, which suggests that love, respect, and esteem are psychosocial rather than merely psychological or social phenomena. This perspective indicates that conceptual overlaps may exist between self-recognition and social recognition.

Lastly, it is important to acknowledge the contrasting findings between the SEM model and the Pearson correlation regarding the associations between social recognition and career adaptability, meaning in life, and study engagement. In the SEM model, these associations were found to be negative, whereas the Pearson correlation indicated a different pattern. One possibility for this discrepancy in results is that the Pearson correlation coefficients capture the linear relationship between the variables, whereas the regression weights in the SEM also considers the shared variance and covariance between the dimensions. Future research studies are suggested to provide a more nuanced understanding about these relationships in the conceptual framework.

Limitations

There are several limitations to the present study that need to be addressed. First, all participants were university students who are relatively well-educated, making them not representative of the general population of young people aged 18 to 29. Second, the sampling method used in this study was non-random, and therefore, caution is needed when generalizing the findings to all university students in Hong Kong. Third, it is important to note that this study specifically assessed the discriminant validity of self-recognition and social recognition scales in relation to the concept of self-judgment. The scale used to measure self-judgement focused solely on individuals’ self-judgment about their own weaknesses and how they treat themselves during challenging circumstances. Future studies should explore the differentiation between self-recognition and social recognition in conjunction with other concepts related to individuals’ self-concepts or self-evaluation within a broader context. Additionally, special attention should be paid to the conceptual

overlaps between social and self-recognition. Finally, since the associations among the study variables were revealed through cross-sectional data, future studies should examine these associations and the SEM model using longitudinal data to establish causality and provide more robust evidence.

Conclusion

The results of exploratory and confirmatory factor analyses both favored the three-factor-11-item structure for the Self- and Social Recognition Scales to be used among Chinese young adults. Self- and social recognition can both discriminate from the concept of self-judgment. The study also evidenced the mediating roles played by self- and social recognition in a structural equation model explaining how economic constraints and marginalization influence young people’s well-being (i.e. life satisfaction and mental health) and career development (i.e. career adaptability, meaning in life and study engagement). The Self- and Social Recognition Scales also showed satisfactory internal consistency. To conclude, the Chinese versions of the Self- and Social Recognition Scales demonstrated their adequate psychometric properties, supporting their future use in Chinese contexts for promoting the well-being and career development of young people. It is recommended that future studies validate the scales using representative samples and test the conceptual framework using longitudinal data.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s12144-025-07336-7>.

Acknowledgements This work was supported by the Start-up Fund of The Hong Kong Polytechnic University [#Reference number: P0040304].

Author contributions Xuebing Su was responsible for designing the study, conducting data collection and data analysis, drafting and revising the article. Victor Wong was responsible for designing the study, conducting data collection, and revising the article. Jérôme Rossier was responsible for designing the study, interpreting the data, and co-drafting the article. Kokou A. Atitsogbe was responsible for designing the study, interpreting the data, and co-drafting the article.

Funding Open access funding provided by The Education University of Hong Kong.

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

Declarations

Ethics approval statement& consent form The study was conducted in accordance with the Declaration of Helsinki and approved by the Research Ethics Committee of the Hong Kong Polytechnic University (project code P0040304, approved on 05 April, 2022) All participants

were well informed about the objectives of the research and signed a consent form before joining the research.

Conflicting interests The authors have no conflicting interests to declare.

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