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The impacts of community-service learning on career adaptability and on ethics and social responsibility of university students: an experimental study

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ABSTRACT

The aim of this study was to determine the impacts of community servicelearning (CSL) on the career adaptability, ethics, and social responsibility of Chinese undergraduate students studying business in Hong Kong. The CSL program was a credit-bearing program lasting two to three months (not less than 80 service hours). In a pre-test-post-test experimental design, students who enrolled in the class were the experimental group (n = 147; 67 male, 80 female) and students who did not enrol in the class were the control group (n = 104; 47 male, 57 female). The students completed the Career Adapt-Abilities Scale (CAAS) China Form and the Perceived Role of Ethics and Social Responsibility Scale (PRESOR) before and after the CSL program. At pre-test there were no significant differences between the two groups in CAAS or PRESOR scores. However, at post-test, mixed Group x Time ANOVAs showed that students in the experimental group had greater increases in career adaptability (including concern, control, curiosity, and confidence) and perceived role of ethics and social responsibility (including stockholder and stakeholder view), than those in the control group. The results show that CSL has positive impacts on students' career adaptability, ethics, and social responsibility.

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KEYWORDS

Community service learning; career adaptability; ethics; social responsibility; business students

University graduates with business degrees face fierce job market competition, especially in international business centres such as Hong Kong (Finch et al. 2016). Once hired, these graduates have to be more adaptable, versatile, and talented than ever before (Hou et al. 2012) to adapt to the challenges and changes in career development (Wendlandt and Rochlen 2008). They are also expected to be ethical and socially responsible in their work (Setó-Pamies and Papaoikonomou 2016). The talents and virtues of these new employees are demanded by the organisation and by society. Standards for professional and ethical behaviour are especially salient after scandals, like the corporate fraud at Enron that cost its stakeholders billions of U.S. dollars.

Although the topics of career adaptability, ethics, and social responsibility are common components of university business courses, these topics are usually discussed in terms of theory rather than application (Simmons et al., 2009). When the application is included in the course content, the coverage may be limited in scope (Wang, Zhang, and Yao 2019), and learning materials such as hypothetical scenarios may not be realistic or practical (Ma and Chan 2013). In sum, business students may not have enough opportunities to experience and apply what they have learned in

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class (Wang, Zhang, and Yao 2019), making it difficult for students to transfer the knowledge learned in school to real-life situations (Bransford, Brophy, and Williams 2000).

Experiential learning has recently been recommended to strengthen the practical application of knowledge and skills learned in business degree programs (Salam et al. 2019). Service-Learning (SL) or Community Service-Learning (CSL), which is a type of experiential learning, has become a popular way for universities and colleges to enhance students' ability to apply what they learn in class (Conner and Erickson 2017). CSL complements the traditional pedagogical models in business programs (Taylor and Kahlke 2017). It provides a rich, active, and contextualised learning experience (McMillan 2011), which helps students participate in learning and further develop their intelligence (Ngai 2006), self-confidence, social skills (Howard 2003), and self-sufficiency (Ngai 2006). Community-service learning has also been shown to be correlated with the cultivation of morals (Howard 2003) and civil responsibility (Singer et al. 2002).

There are some studies on the impact of CSL on students' ethics (O'brien, Wittmer, and Ebrahimi 2017) and social responsibility (Gerholz and Losch 2015) in western countries. However, in the Asia-Pacific region, there are rare research on its impact on university students' ethics (Xing and Ma 2010) and social responsibility (Shek, Ma, and Yang 2020), also there have been no published studies to date on its impact on university students' career adaptability. Accordingly, this study addressed the research questions in a sample of undergraduate business students in Hong Kong. There were two hypotheses in this study:

Hypothesis 1: Business students in the Community Service-Learning intervention (CSL class) will show greater enhancements in career adaptability than students who did not enrol in the intervention.

Hypothesis 2: Business students in the Community Service-Learning intervention will show greater increases in their perceived role of ethics and social responsibility (PRESR) than students who did not join the intervention.

Career adaptability

Career adaptability refers to a person's readiness, based on their talents and abilities, to adapt to expected and unexpected change in work responsibilities, work environments, and work stress (Savickas 1997). It is also regarded as the ability to change, which allows individuals to adapt to a new environment related to their careers (Koen et al. 2010). 'Career adaptability' is a sociopsychological concept that represents personal preparedness and internal resources to deal with current career development and career transitions (Savickas 2005).

McArdle et al. (2007) highlighted career adaptability as a positive personality associated with a tendency to have an impact on their workplace and to make changes in their career trajectories. Based on a model of interaction between humans and the environment, they asserted that individuals have the possibility of creating and changing the working environment, so they can intentionally select, reconstruct, and manipulate their work and their career (McArdle et al. 2007). Stringer, Kerpelman, and Skorikov (2011) stipulated that the similar construct of preparation is composed of career decision-making, career planning, and career confidence; confidence in a career choice is gained by engaging in career exploration. In this sense, learning career preparation is part of learning career adaptability. These skills could lead to personal career success, satisfaction, and stability (Stringer, Kerpelman, and Skorikov 2011).

In university business programs, students learn about career adaptability as part of the transition from school to employment (Savickas 2002). Graduates' career adaptability is a key performance indicator for universities (Pan et al. 2018), and a critical objective for the industries (Rasheed et al.

2020). Thus, university programs have to find ways to help students develop their competencies so that they can adapt to changing and challenging working environments (Pan et al. 2018).

Career adaptability is the set of internal resources and coping strategies that the individual uses when facing career tasks, career transitions or other major career developments. Career adaptability as an overall skill supports the following four internal capacities (Savickas 1997). First, career concern is the person's concern about their career and their proactive awareness of their career development. Career control is the individual's positive sense of responsibility for and control of their own career. Career curiosity is the individual's curiosity about and interest in exploring their future career development. Career confidence is the person's confidence and faith that they can overcome difficulties and challenges in their career.

Ethics and social responsibility

Although there is no universally accepted definition of corporate social responsibility (CSR) (O'riordan and Fairbrass 2008), it is generally defined as a company's commitment to contribute to sustainable economic development and to work with employees, their families, local communities, and society to improve their quality of life (Singhapakdi et al. 1996).

CSR has been conceptualised as having four major foundations: economics, the social power of the firm, social integration, and ethics (Garriga and Melé 2004). First, it emphasises economics, which means that organisations are seen as a mechanism for creating wealth. The first responsibility is to make money, and further, there is the responsibility to do more good deeds. Second, it focuses on the social power of companies and their obligations in the administrative spaces related to their power. Third, it focuses on social integration and social needs must be integrated into business operations. Last, it emphasises ethics and the relationship between society and enterprises in terms of ethical values.

The items of the Perceived Role of Ethics and Social Responsibility (PRESOR) developed by Singhapakdi et al. (1996) were crucial conditions for ethical behaviour in business. There is a set of generally accepted relationships between companies and people (Singhapakdi et al. 1996). These relationships were derived from moral philosophy and influence the way people behave. When a person thinks that morality and social responsibility are more important, they will be implicitly and explicitly integrated into their individual's decision-making model (Singhapakdi et al. 1996).

There are two major perspectives about the measure of firm performance (Singhapakdi et al. 1996; Angelopoulos, Parnell, and Scott 2013). They are the shareholder and the stakeholder viewpoints. The shareholder perspective contends that the interests of the organisation should be put first while ignoring the consideration of ethics and social responsibility. The shareholder view reflects a rather limited and narrow view of the organisational obligations, emphasising the importance of profitability and obligation to shareholders. Conversely, the stakeholder's perspective suggests that the company's activities directly influence other stakeholders, including the government, community, employees, consumers, and suppliers. Hence, profit maximisation should not only be a measure of organisational achievement.

Dutse and Hilman (2012) asserted that it was a responsibility of business schools to produce mature students with a knowledge of ethics and CSR. Others have concurred, saying that universities play an important role in CSR (González-Rodríguez et al. 2013) and can facilitate CSR training (Singhapakdi et al. 1996). This can happen in part in a number of courses in the current curriculum (Hilario 2014). Also, Lämsä et al. (2008) study indicated that students valued the stakeholder model more than the shareholder approach of the firm. Ethics and corporate social responsibility are an inherent part of work in financial institutions.

They are also relevant for work related to the balance of interests between shareholders and stakeholders, such as financial reporting (Elias 2002), sales transactions, purchasing (Park and Stoel 2005) and taxation (Shafer and Simmons 2008). Pettijohn, Pettijohn, and Taylor (2008) and Vitell and Paolillo (2004) found that these views are closely related to responses, flexibility, and

adaptability in individuals' careers. For example, the study of Pettijohn, Pettijohn, and Taylor (2008) found a positive relationship between profitability and good relations with the stakeholders, including employees, investors, customers, and the public. Since employees' job satisfaction, reduced turnover intentions and good public images make it more profitable than others.

Community service-learning

Even though there are many different definitions of service-learning (SL) (Shek and Chak 2019), in the education field it is defined as a form of experiential learning, which consists of two basic structures: service and learning (Jacoby 1996). SL is regarded as one of the most influential educational practices in higher education (Kuh 2008). As one of the experiential learning pedagogies, SL could provide opportunities for students to apply what they have learned from the classroom to serve the community in real-life contexts (Cantor 1995; Ma and Chan 2013).

Community service-learning is an innovative teaching method that combines community service with clear educational goals through structured opportunities and tailored learning experiences (Shek and Chak 2019). These experiences are intentionally designed to meet specific educational goals. First, CSL nurtures students' engagement in the community, for example by serving disadvantaged groups (Cantor 1995), developing a sense of civic responsibility (Andrews 2007; Chisholm 2002) and strengthening environmental protections (Kiely 2005). Second, CSL enriches students' learning, for example by teaching professional skills (Andrews 2007), facilitating academic development (Chisholm 2002), and promoting lifelong learning and participation (McCarthy 2002). Eventually students can engage in self-reflection and critical thinking (Jacoby 1996) and they develop a sense of reciprocity (Jacoby 1996; Leeman, Rabin, and Roman-Mendoza 2011).

On the other hand, Eby (1998) pointed out that service-learning weakens the deep understanding of community needs, leading to inappropriate responses to needs because these service-learning activities tend to bias the curriculum towards the needs of the students rather than the needs of the community. Opponents argue that this 'student-centred learning method' used impoverished communities as a free source of student education" (Stoecker, Tryon, and Hilgendorf 2009). It treats the symptoms but not the deep-rooted cause and might make students' understanding of the service insufficient (Eby 1998). After each task or task is completed, going farewell and ending the relationship could cause trauma, especially in poor communities (Eby 1998). Opponents argue that CSL activities may lead to a strong mood of difference and prejudice among service-learning students, especially in the charity model that reinforces and reproduces hierarchy and privilege (Stoecker, Tryon, and Hilgendorf 2009).

In recent decades community service-learning has become more popular throughout the world (Ngai 2006), including Mainland China (Wang et al. 2013), Hong Kong (Ngai 2006), Canada (Hayes 2006), South Africa (Butcher et al. 2003), and the United States (Lawson, Cruz, and Knollman 2017). CSL has so far been incorporated into training in a variety of university disciplines, including engineering (Chan 2012), nursing (Reising, Allen, and Hall 2006) and business (Andrews 2007). In Hong Kong, SL has established a foothold in higher education institution courses and has witnessed research training (Shek and Chak 2019).

In the past decades, many studies have documented positive impacts of SL on students. In terms of learning outcomes, these benefits have included intellectual development (Ngai 2006), academic achievement (Astin et al. 2000; Kielsmeier 2003), and cognitive moral development (Howard 2003). There also appear to be social benefits, such as positive changes in the sense of civic responsibility (Dharamsi et al. 2010; Singer et al. 2002) and personal development in civil commitment (Gray et al. 1996). Finally, these studies have documented personal development in the areas of self-efficacy and moral development (Eyler et al. 2001), self-worth and social skills (Howard 2003), and personal autonomy (Ngai 2006).

Present study

The objective of the current study was to test whether a community service-learning course at a university in Hong Kong would be beneficial in terms of increasing business students' career adaptability and their ethics and social responsibility. The service experiences were working with disadvantaged community members, such as those who were in physical rehabilitation, who had a hearing disability, or who had an intellectual disability. We used an experimental design to compare business students who had enrolled in the CSL course to business students who had not enrolled. The measure of career adaptability and the measure of ethics and responsibility were administered at pre-test and post-test.

Method

Participants

A total of 272 university students participated in the pre-test, and 251 of those university students also participated in the post-test. Of these 251 students who participated in both the pre-test and post-test, 147 students took the Service-Learning course. These students served as the experimental group. The remaining 104 students who had never taken any courses related to service-learning served as the comparison group. Therefore, we used a sample of 147 students, who understood the importance of CSL and want to experience the changes in their life through CSL, would join as participants in the experimental group. While students, who did not join CSL, but are interested in the study, such as CSL, career adaptability or ethics and social responsibility, would join as participants in the control group. Convenience and snowball sampling were utilised in the study. This is because they are more willing and conscientious to participate in the study, (both experimental and control groups), so the questions they answer reflect their reality more accurately than random sampling.

Measures

Under the bilingual cultural context of Hong Kong, both a Chinese version and an English version of the questionnaire were distributed separately, and students could freely choose one of them to complete. Finally, all questionnaires were completed by participants in Chinese.

Demographics

Participants provided demographic information about their gender, age, years of study, length of part-time working experience, and monthly part-time job salary.

Career Adapt-Abilities Scale (CAAS) – Chinese version

The Career Adapt-Ability Scale-International Form 2.0 (CAAS-International) is a well- established selfreport measure of career adaptability (Savickas 1997). The Chinese translated version by Hou et al. (2012) was used in the current study. This 24-item scale constitutes four subscales: concern (6 items; e.g. 'Preparing for the future'), control (6 items; e.g. 'Taking responsibility for my actions'), curiosity (6 items; e.g. 'Exploring my surroundings'), and confidence (6 items; e.g. 'Performing tasks efficiently'). Each item is rated to indicate how strong their emphasis on this behaviour is at work on a 5-point Likert scale (1 = not at all strong to 5 = strongest). The CAAS – International has been shown to have excellent reliability and validity (Hou et al. 2012; Zacher 2014). In the current study at pre-test, the internal consistency values (a) were .963, .973, .976, .986 for the concern, control, curiosity, and confidence subscales, respectively, and .824 for the full scale. Principal Components Analysis (PCA) showed that the four-domain version was appropriate for use in our sample (Kaiser-Meyer-Olkin value = 0.779; Bartlett's test of sphericity significant at p < .001). 256 🛞 H.-K. PONG AND C. H. LEUNG

The Perceived Role of Ethics and Social Responsibility (PRESOR) scale

The Perceived Role of Ethics and Social Responsibility (PRESOR) Scale (Singhapakdi et al. 1996) was used to measure attitudes about ethics and corporate social responsibility. It consists of 13 statements that are rated on a 9-point Likert scale (1 = *strongly disagree* to 9 = *strongly agree*). The scale has two subscales: Stockholder view (five items, e.g. 'The most important concern for a firm is making a profit, even if it means bending or breaking the rules') and Stakeholder view (eight items, e.g. 'The ethics and social responsibility of a firm is essential to its long-term profitability'). Since all the five items included in stockholder dimension are reverse-scored, higher scores indicate agreement with the proposition that organisational success depends on more profitability and stockholder satisfaction. Conversely, the last eight items under the 'stakeholder perspective' heading recognise the importance of ethics and social responsibility with profitability, and the general obligations of businesses beyond more profitability.

This measure has been shown to have good reliability (Singhapakdi et al. 1996) and has been validated in many areas of the world (Vitell and Paolillo 2004), including Hong Kong (Etheredge 1999). At pre-test, the internal consistency reliabilities (α) were .799, .894, and .825 for the stock-holder, stakeholder, and overall PRESOR scale, respectively. Principal Components Analysis (PCA) showed that the two-domain version was appropriate for use in our sample (Kaiser-Meyer-Olkin value =.859; Bartlett's test of sphericity significant at p < .001).

Procedure

Approval to conduct this study was obtained from the Research Ethics Committee of the institution with which the first author was affiliated. Convenience and snowball sampling were employed. The CSL course was advertised with the help of business lecturers, educational administrators, and program leaders from the university's business school.

For the pre-testing, questionnaires were self-administered from March to May, 2019. The participants were given paper-and-pencil questionnaires in the classroom, which they returned to the course instructor. The questionnaires took about 10 minutes to complete. Students who chose not to participate in the study were excused, as were those who had enrolled in a CSL course in the past. At that time, students who had enrolled in 'community-service learning' were classified as the experimental group. Other students who had volunteered to participate but who were not enrolled in the CSL were classified as the control group. A total of 272 out of 400 invited students finished the questionnaires, a response rate of about 68%.

For the post-testing, a follow-up and second measurement (after the intervention program) of the 272 participants were carried out between September 5th and 20th, 2019. The two questionnaires were again self-administered. They were distributed to the same 272 participants in the same classes. Finally, a total of 251 participants' data were successfully traced and matched across the two waves (pre-test and post-test), indicating an acceptable attrition rate of 7.72%. This attrition rate compares satisfactorily with those of other longitudinal studies (e.g. Dion et al. 2016). The results did not show significant differences in gender, age, CAAS, and PRESOR scores between the matched sample (n = 251) and those students who dropped out of the research (n = 21). Among the 21 students, 12 students (6 male, 6 female) were from the experimental group and 9 (5 male, 4 female) students were from the control group.

The students provided written informed consent to participate. They were told the purpose of the study and were informed that participation was voluntary, that they could withdraw at any time without penalty or prejudice, and that no compensation was offered. At the top of the questionnaire, respondents were informed that all replies would be kept for statistical purposes only and the responses would be kept strictly confidential.

The participants were also informed that they would not need to identify themselves personally. They were, however, asked to write down the last three digits of their student ID and the same code number (the birth date of their mother or other close family members that they would remember, or their lucky number) on each of their responses so that responses from the same individual collected at the beginning and end of the CSL could be matched. Instructions to participants were provided at the beginning of each section of the questionnaire.

Intervention: community service-learning

The 'Service-Learning' module is offered as a general education credit-bearing elective for Year 2 and Year 3 students at the university in Hong Kong where the study was conducted. The people in the community for whom the business students did service were from disadvantaged groups, such as patients in rehabilitation from a serious illness and their families, students with hearing disabilities, and students with intellectual disabilities. For example, home visits: participants expressed care and concern for the rehabilitated patients and their families, but also taught basic business skills for earning a living. For high school students with hearing disabilities or intellectual disabilities, CSL participants would be assigned to one-on-one tutoring and conduct organising group games to increase their motivation and interest in learning. The recipients would be also happy to know that someone cares about and love them, especially their peers.

Participants could not only get acquainted with the local community and get close to socially disadvantaged groups but also apply the knowledge and skills learned in class and explore their own potentials through a series of CSL activities. The purpose of this program was to build up a sense of community service among students and increase civic responsibility and job adaptability.

The community services were conducted during the semester break (summer term) for a two to three month period from June to August, up to 80 hours total. The module included pre-service preparation and workshop (4 lessons: 2 hours and 45 minutes each lesson) from March to May. Participating students would be assigned in a group (four students). During the service stage, the course teachers and organisation workers provide supervision and advice to students (1: 4). Each service group was required to meet six times (3 hours each) with the course teachers. The supervision and support, including psychological counselling and resource provision, were provided for the SL activities. In the post-service period, an oral presentation and reflective essay were due in September, after the community service hours were completed. The supervisors facilitated the students to reflect on the SL activities, such as what went well in the activities and what changes they see in their lives.

Results

SPSS Version 26 was adopted for data analysis. Data cleaning was performed to correct any coding errors and illogical data values. There were no missing data.

Descriptive statistics

The demographic characteristics of the experimental and control groups are shown in Table 1. We used a sample of 147 students in the experimental group (M age = 20.42, SD = 0.75) and 104 students in the comparison group (M age = 20.49, SD = 0.65). There were 54.6% female (N = 137). Between the two groups, the age and gender differences were not significant (p > .05). The gender ratios (χ 2 (1) = 0.004, p > .05), yeas of studies (χ 2 (1) = 0.049, p > .05), part-time working experience (χ 2 (3) = 0.054, p > .05) and part-time job salaries (monthly) (χ 2 (3) = 3.643, p > .05) were also not significantly different between the two groups. These findings indicated that the two groups of students had roughly the same background in career adaptability, ethics, and social responsibility. Also, T-tests and one-way ANOVA were conducted to analyse the difference of the characteristics of participants in the samples. No significant difference is found in the characteristics of participants in the sample. Except for Part-time job Salaries (monthly), it found that students with higher part-time salary scored significantly lower than other groups in the stakeholder domain.

Table 1. The demographic characteristics of the experimental and control groups.

Factors	N (Total)	CSL (%)	Non-CSL (%)
Gender			
Male	114 (45.4%)	67 (45.5%)	47 (45.2%)
Female	137 (54.6%)	80 (54.5%)	57 (54.8%)
Total	251 (100%)	147 (100%)	104 (100%)
Age			
19	11 (4.4%)	10 (6.8%)	1 (1%)
20	137 (54.6)	78 (53.1%)	59 (56.7%)
21	82 (32.7%)	46 (31.3%)	36 (34.6%)
22	21 (8.4%)	13 (8.8%)	8 (7.7%)
Total	251 (100%)	147 (100%)	104 (100%)
Years of studies			
Year 2	121 (48.2%)	70 (47.6%)	51 (49%)
Year 3	130 (51.8%)	77 (52.4%)	53 (51%)
Total	251 (100%)	147 (100%)	104 (100%)
Part-time working experience			
Less than 1 year	62 (24.7%)	37 (25.2%)	25 (24%)
1 <y 2<="" <="" td=""><td>64 (25.5%)</td><td>37 (25.2%)</td><td>27 (26%)</td></y>	64 (25.5%)	37 (25.2%)	27 (26%)
2 <y 3<="" <="" td=""><td>63 (25.1%)</td><td>37 (25.2%)</td><td>26 (25%)</td></y>	63 (25.1%)	37 (25.2%)	26 (25%)
>3	62 (24.7%)	36 (24.4%)	26 (25%)
Total	251 (100%)	147 (100%)	104 (100%)
Part-time job salaries (Monthly)			
Less than \$3,000	59 (23.5%)	32 (21.8%)	27 (26%)
\$3,000 <\$ <\$6,000	72 (28.7%)	46 (31.3%)	26 (25%)
\$6,000 <\$ <\$9,000	117 (46.6%)	66 (44.9%)	51 (49%)
>\$9,000	3 (1.2%)	3 (2%)	0
Total	251 (100%)	147 (100%)	104 (100%)

Development of Chinese university students' CAAS and PRESOR

The first set of analyses were conducted to verify the impact of the course 'Community Service Learning' on students' CAAS and PRESOR. At the pre-test, six independent t-tests revealed that no statistically significant differences were found on the scores of CAAS and PRESOR between the experimental and control groups before the intervention program (community service-learning). However, statistically significant differences were found in the scores of both CAAS (including concern, control, curiosity, confidence, and overall score) and PRESOR (including stockholder, stakeholder, and overall score) between the two groups after the intervention program as shown in Table 2.

Six repeated measure ANOVA analyses were next performed. The results also indicated that the experimental group students reported significant changes in their degree of career adaptability and perceptions of corporate social responsibility after receiving the intervention program.

Moreover, as shown in Table 3, the interaction effects of group and pre-test-post-test change were significant on both CAAS (including concern, control, curiosity, confidence, and overall score) and PRESOR (including stockholder, stakeholder, and overall score) which indicated that students who took the course 'Community Service Learning' had greater improvement in concern, control, curiosity, confidence of CAAS as well as stockholder and stakeholder of PRESOR during the course period, compared with those who had not never taken the course.

A series of mixed between-within ANOVAs were performed to compare the two groups on the pre-test and post-test measures of students' CAAS and PRESOR scores. In each analysis, the withinsubject factor was set as Time (pre-test and post-test), the between-subject factor was set as Group (experimental and control); the dependent variables were the four domains of CAAS and the two dimensions of PRESOR. As shown in Table 3, significant Time × Group interaction effects were found for all dimensions of CAAS and PRESOR, indicating that the two groups held different perceptions of these variables over time. Whereas there were no group differences at pre-test, the experimental group had higher scores on all measures at post-test.

Factors		-	-	Pre-test	-	-			Post-test	-	
CSL	N (%)	Concern	Control	Curiosity	Confidence	Overall	Concern	Control	Curiosity	Confidence	Overall
- All		3.16 (.43)	2.99 (.39)	2.20 (.63)	3.19 (.69)	2.89 (.26)	3.71 (.53)	3.52 (.55)	2.75 (.74)	3.72 (.82)	3.42 (.50)
Experiment Group Group Group	147 (58.6%) 104 (41.4%)	3.12 (.39) 3.22 (.48) t = -1.84	3.00 (.38) 2.97 (.40) t = .54	2.23 (.64) 2.15 (.61) t = .94	3.17 (69) 3.22 (68) t =58	2.88 (.25) 2.89 (.27) t =38	$\begin{array}{l} 4.04 \\ (.30) \\ 3.24 \\ (.41) \\ t = 17.90^{***} \end{array}$	3.89 (.27) 2.99 (.39) t = t =	3.13 (.60) 2.21 (.57) t = 12.27***	4.07 (.74) 3.23 (.64) t = 9.32***	3.78 (.26) 2.92 (.26) t = 25.93***
Gender Male	114	3.18	2.94	2.17	3.24	2.88	3.71	3.48	2.74	3.75	3.42
Female	(45.4%) 137 (54.6%)	(.40) 3.15 (.46) t = 50	(.57) 3.03 (.40) t = -1.92	(.70) 2.23 (.56) f =- 76	(.72) 3.15 (.65) t = 1.05	(.28) 2.89 (.24) f = - 27	(.52) 3.70 (.53) f = 17	(%C.) 3.55 (.52) f =- 95	(./0) 2.76 (.73) f=-19	(.82) 3.70 (.81) f= 51	(uc.) 3.43 (.50) <i>t</i> = - <i>0</i> 8
Age 19	11	2.96	2.95	2.05	3.39	2.84	3.86	3.88	2.77	4.05	3.64
20	(4.4%) 137 (14.000)	(.21) 3.17	(.11) 2.96 2.00	(.82) 2.19	(.68) 3.19 2.13	(.28) 2.88	(0.36) 3.70	(.26) 3.45	(.75) 2.74	(.79) 3.73	(.28) 3.41
21	(32.7%) 82 (32.7%)	(.43) 3.14 (.44)	(.40) 3.07 (.41)	(8C.) 2.21 (07.)	(.71) 3.21 (.62)	(.24) 2.91 (.27)	(0.55) 3.68 (0.55)	(/c.) 3.59 (.52)	(27.) 17.2 (77.)	(.84) 3.70 (.73)	(1 C.) 3.42 (49)
22	21 (8.4%)	3.31 (.46) F(3,247) = 1.75	2.90 (.30) <i>F</i> (3,247) = 1.69	2.30 (.50) <i>F</i> (3,247) = .42	2.98 (.78) <i>F</i> (3,247) = 1.04	2.87 (.31) F(3,247) = .37	3.81 (0.36) <i>F</i> (3,247) = .69	3.48 (.59) <i>F</i> (3,247) = 2.69	2.94 (.81) <i>F</i> (3,247) = .51	3.55 (.95) F(3,247) = .94	3.44 (0.58) <i>F</i> (3,247) = .75
Years of studies Year 2	121	3.20	2.96	2.15	3.20	2.88	3.69	3.49	2.69	3.73	3.40
Year 3	(48.2%) 130 (51.8%)	(.46) 3.13 (.40) t = 1.24	(.33) 3.02 (.44) t =-1.34	$\begin{array}{c} (.60) \\ 2.24 \\ (.65) \\ t = -1.20 \end{array}$	(./0) 3.18 (.68) f = 16	(.25) 2.89 (.27) f =61	(.50) 3.72 (.55) f =38	(.54) 3.54 (.56) t =67	(./4) 2.81 (.75) t =-1.28	(.85) 3.71 (.78) f = .22	(15.) 3.44 (.50) t =67
Part-time working Less than 1 year	experience 62	3.23	3.05	2.19	3.26	2.93	3.77	3.58	2.77	3.78	3.48
1 <y 2<="" <="" td=""><td>(24.7%) 64 (25.5%)</td><td>(.47) 3.18 (.45)</td><td>(.41) 2.97 (.42)</td><td>(.64) 2.14 (.52)</td><td>(.63) 3.16 (.67)</td><td>(.25) 2.86 (.26)</td><td>(.55) 3.71 (.55)</td><td>(.48) 3.50 (.61)</td><td>(.83) 2.68 (.70)</td><td>(.83) 3.68 (.84)</td><td>(.52) 3.39 (.54)</td></y>	(24.7%) 64 (25.5%)	(.47) 3.18 (.45)	(.41) 2.97 (.42)	(.64) 2.14 (.52)	(.63) 3.16 (.67)	(.25) 2.86 (.26)	(.55) 3.71 (.55)	(.48) 3.50 (.61)	(.83) 2.68 (.70)	(.83) 3.68 (.84)	(.52) 3.39 (.54)
											(Continued)

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Table 2. (Continued).											
Factors	1			Pre-test					Post-test		
CSL	N (%)	Concern	Control	Curiosity	Confidence	Overall	Concern	Control	Curiosity	Confidence	Overall
2 <y 3<="" <="" td=""><td>63</td><td>3.08</td><td>2.97</td><td>2.17</td><td>3.21</td><td>2.86</td><td>3.65</td><td>3.48</td><td>2.74</td><td>3.71</td><td>3.39</td></y>	63	3.08	2.97	2.17	3.21	2.86	3.65	3.48	2.74	3.71	3.39
	(25.1%)	(.42)	(.41)	(.67)	(.75)	(.28)	(49)	(.55)	(.78)	(.78)	(.47)
>3	62	3.16	2.98	2.29	3.31	2.89	3.70	3.51	2.81	3.71	3.43
	(24.7%)	(.38)	(.32)	(99)	(12)	(.23)	(.52)	(.56)	(.65)	(.83)	(.48)
		F(3,247) = 1.21	F(3,247) = 56	F(3,247) = .65	F(3,247) = .43	<i>F</i> (3,247) = 1.10	F(3,247) = .63	F(3,247) = 39	F(3,247) = .35	F(3,247) = .15	F(3,247) = .36
Part-time job Salarie	is (monthly)	-	2					2			
Less than \$3,000	59	3.23	3.08	2.19	3.29	2.95	3.71	3.55	2.73	3.74	3.43
	(23.5%)	(.51)	(.41)	(69)	(.68)	(.32)	(.55)	(.50)	(98)	(.84)	(.54)
\$3,000 <\$ <\$6,000	72	3.21	2.95	2.13	3.14	2.86	3.79	3.55	2.73	3.74	3.45
	(28.7%)	(.44)	(.41)	(.46)	(69)	(.21)	(.51)	(.57)	(.61)	(.88)	(.49)
\$6,000 <\$ <\$9,000	117	3.10	2.98	2.24	3.17	2.87	3.64	3.48	2.77	3.68	3.39
	(46.6%)	(.38)	(36)	(.67)	(69)	(.25)	(.52)	(.57)	(.75)	(.77)	(.49)
>\$9,000	3 (1.2%)	3.17	2.67	2.33	3.33	2.88	4.17	3.67	3.06	4.28	3.79
		(.29)	(.58)	(1.15)	(.58)	(.13)	(.29)	(.58)	(.92)	(.63)	(.21)
	Ψ.	(3,247) = 1.50	F(3, 247) = 1.93	F(3, 247) = .49	<i>F</i> (3, 247) = .56	<i>F</i> (3, 247) = 1.46	<i>F</i> (3, 247) = 1.93	F(3, 247)	<i>F</i> (3, 247) = .23	<i>F</i> (3, 247) = .58	F(3, 247) = .77
						::		= .43			
CSL		Stockholc	der	Stakı	eholder	Overall	Stoc	kholder	Stake	eholder	Overall
AII		7.00		2	.43	7.27		6.76	7	.67	7.32
		(.34)			.38)	(.27)		(.51)		51)	(.28)
Experiment	147	7.03		2	.45	7.29		6.62	7	.55	7.19
Group	(58.6%)	(.32)		Ċ	(39)	(.28)		(.59)	U.	37)	(.32)
Control	104	6.96		1	.41	7.24		6.95	2	.85	7.51
Group	(41.4%)	(.36)		ن ا	.37)	(.27)		(30)	Ū.	61)	(39)
		t = 1.61	-	t =	=.94	t = 1.57	t =	5.30***	t = -	4.91*** t =	= -7.00***
Gender											
Male	114	6.97		2	.41	7.24		6.78	7	.64	7.30
	(45.4%)	(.36)			.37)	(.27)		(.56)		51)	(.27)
Female	137	7.03		2	.45	7.29		6.79	7	.70	7.35
	(24.6%)	(.31)		·	.39)	(.27)		.48)	·)	51)	(.28)
		t = -1.4	9	t =	:92	t =-1.46	t=	= —.26	t = t	-1.06	t =-1.40
Age 19	11	7 04		Ĺ	. 60	7 38		6 93	7	60	7 34
2	1707 17	(66)			101					100	
	(4:4%)	(cc.)		r	(04-	(NC.)			۲ ن	(4C	(67·)
70	151	70.1		• •	4 1 .	Q7.1		1/10		./3	0٤./ (مد/
	(0%0.4C)	(cc.)			(46.	(07.)		(70)	ن ا	100	(27.)
											(Continued)

Table 2. (Continued).											
Factors				Pre-test					Post-test		
CSL	N (%)	Concern	Control	Curiosity	Confidence	Overall	Concern	Control	Curiosity	Confidence	Overall
21	82 (32 7%)	6.97 (36)			7.44 (38)	7.26	- e	.76 36)		.65 48)	7.31
22	21	7.02			7.30	7.19	ف	87	~	.45	7.23
	(8.4%)	(.31) F(3,247) =	.46	F(3,2,	(.29) 47) = 1.58	(.22) F(3,247) = 1.24	(.* F(3,24;	43) 7) = .52	(. F(3,247	.46) 7) = 2.05 F.	(.25) (3,247) = 1.79
Years of studies											
Year 2	121	6.99			7.43	7.26	.6	82	2	.60	7.30
C	(48.2%)	(.35)			(.38)	(27)	<u></u>	48) 3r	۲ ت	45)	(.27)
Year 3	130 (51 8%)	(22)			/ .44 (38)	/ .28 (78)		(7) (4)	< <u>`</u>	./4 55)	/.30 (28)
		t =48	8	t	22	t =42	t = t	66.	ν. t =-	- 2.28	t = -1.86
Part-time working											
experience											
Less than 1 year	62	6.99			7.44	7.27	6.	72	7	.71	7.33
	(24.7%)	(.32)			(.37)	(.28))	53)	<u> </u>	53)	(.29)
1 <y 2<="" <="" td=""><td>64</td><td>7.03</td><td></td><td></td><td>7.42</td><td>7.27</td><td>9</td><td>86</td><td>7</td><td>.67</td><td>7.36</td></y>	64	7.03			7.42	7.27	9	86	7	.67	7.36
	(25.5%)	(.28)			(.40)	(.29)	7.)	43)	ن	42)	(.26)
2 <y 3<="" <="" td=""><td>63</td><td>7.02</td><td></td><td></td><td>7.43</td><td>7.27</td><td>0.</td><td>77</td><td></td><td>.68</td><td>7.33</td></y>	63	7.02			7.43	7.27	0.	77		.68	7.33
	(25.1%)	(.37)			(.37)	(.27)		58)	÷	56)	(.28)
~3	62	6.98			7.44	7.26	9	78	7	.64	7.31
	(24.7%)	(.36)			(.39)	(.26)		51)		53)	(.28)
		F(3,247) =	38	F(3,2.	47) = .034	F(3,247) = .023	F(3,247	7) = .789	F(3,24;	7) = .188	r(3,247) = .33
Part-time job Salarie	S										
	20	6 08			7 45	דר ד	Y	76	L	60	7 33 (30)
הרכיז ווומוו	(23.5%)	(31)			(37)	(52)	5	51)	ت ،	50)	
\$3,000 <\$ <\$6,000	72	7.04			7.42	7.27	ف غ	88		.64	7.35 (.26)
	(28.7%)	(.29)			(.40)	(.29)	···	39)	ت	42)	
\$6,000 <\$ <\$9,000	117	7.00			7.44	7.27	6.	74	7	.69	7.33 (.27)
	(46.6%)	(.37)			(.38)	(.26)		56)	· ·	56)	
>\$9,000	m	6.93			7.17	7.08	9	87	7	.42	7.21 (.16)
	(1.2%)	(.46)			(.07)	(.13)	<u>;</u>)	23)		26)	
		F(3, 247) =	= .36	F(3, 1	247) = .58	<i>F</i> (3, 247) = .499	F(3, 247	7) = .1.24	F(3, 24	7) = .46* F	⁻ (3, 247) = .29
LSD analysis									(E)	<pre>>(4)</pre>	
									(2)	(4)	
									(3)	>(4) ⊳(4)	
<i>Note</i> . $N = 251$. * $p < 0$.	01.**p < 0.0	101; HK\$7.78 = U	JS\$1.								
<i>Note. N</i> = 251. ČAS = subscales are stock!	= Career Adi	apt-Abilities Scal	le. The CAAS	subscales are	e concern, contro	ا, curiosity, and conf	idence. PRESOR =	the Perceive	d Role of Ethics	and Social Respon	isibility. The PRESOR
*** <i>p</i> < 0.001.											

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		M (1	S.D.)	The main e	ffect of Time	Time X Grou (ef	up Interaction fect)	
Variables	Group	Pre-test	Post-test	Wilk's Lambda	F	Wilk's Lambda	F	Partial η2
CAAS- Concern	Experiment	3.12	4.04	.177	1159.384***	.188	1073.668***	.812
		(0.39)	(0.30)					
	Control	3.22	3.22					
		(0.48)	(0.41)					
CAAS- Control	Experiment	3.00	3.89	220	884.032***	.231	828.541***	.769
		(0.38)	(0.27)					
	Control	2.97	2.99					
		(0.40)	(0.39)					
CAAS- Curiosity	Experiment	2.23	3.13	.197	1013.776***	.239	790.877***	.761
		(0.64)	(0.60)					
	Control	2.15	2.21					
		(0.61)	(0.57)					
CAAS- Confidence	Experiment	3.17	4.07	.195	1027.157***	.200	998.241***	.800
		(0.69)	(0.74)					
	Control	3.22	3.23					
		(0.68)	(0.64)					
PRESOR -	Experiment	7.03	6.97	.876	35.279***	.886	32.126***	.114
Stockholder		(0.32)	(0.31)					
	Control	6.96	6.53					
		(0.36)	(0.63)					
PRESOR -	Experiment	7.45	7.55	.703	105.346***	.847	44.843***	.153
Stakeholder		(0.39)	(0.37)					
	Control	7.41	7.85					
		(0.37)	(0.61)					

Table 3. The Main Effect of Time, and Interaction Effects Between Time and Group, in the Participants' CAAS and PRESOR Scores from the Results of the Repeated Measures Analysis of Variance for CAAS and PRESOR.

As shown in 3, there were a main effect of Group and a main effect of Time. There was also a significant interaction between Group and Time. The interaction effects on concern, F (1,249) = 1073.668, p < 0.001; control, F (1,249) = 828.541, p < 0.001; curiosity, F (1,249) = 790.877, p < 0.001; and confidence, F (1,249) = 998.241, p < 0.001 of CAAS and stockholders, F (1,249) = 32.126, p < 0.001, and stakeholders, F (1,249) = 44.843, p < 0.001, of PRESOR remained significant when age and gender were controlled in the analyses. In addition to gender and age, part-time salary was also examined as a control variable. The correlation was found to be insignificant. Post-hoc comparisons showed that the experimental group had higher scores for concern, control, curiosity, and confidence of CAAS as well as stockholder and stakeholder views of PRESOR at post-tests but not pre-tests.

These effects, as shown in Table 3, are qualified by a significant time \times group interaction for CAAS (including concern, control, curiosity, and confidence) as well as PRESOR (including stocholder and stakeholder views). These interaction effects indicated that participants' variations in the mean scores over the time between the two repeated measurements, on all subscales of both CAAS and PRESOR, varied as a function of whether or not they were in the treatment group (i.e. whether or not they were in CSL).

Discussion

Today's business students need a higher level of career adaptability to adapt to the everchanging environment, and they should have a higher ethical quality and a sense of corporate social responsibility. In this study, we examined whether business students' career adaptability and the perceived role of ethics and corporate social responsibility would be changed because of being nurtured through CSL. The experimental design compared a group of students enrolled in a CSL class (experimental group) and another group who were not enrolled in the class (control condition). These two groups were compared on their career adaptability and views of ethics and responsibility before and after the experiment. The results showed that CSL promoted Chinese university business students' career adaptability and perceived role of ethics and corporate social responsibility. This is the first study to explore the impact of SCL on the career adaptability and ethics and social responsibility of business undergraduate students in the Asia-Pacific region.

The contribution of community service-learning to career adaptability

The findings indicated that community service-learning contributed to the students' career adaptability (concern, control, curiosity and confidence about their career).

Concern

The results of this study are consistent with those of Dharamsi et al. (2010), who showed that CSL cultivates purposeful professionalism and integrity for the community for future practitioners. SL provides students with more opportunities to apply the knowledge they have learned in class to real life (Cantor 1995; Ma and Chan 2013), especially in the process of self-reflection and critical thinking (Astin et al. 2000; Callahan et al. 2005), allowing students to better understand their academic goals and career choices. Although Eby (1998) pointed out that CSL sometimes causes students to have a misunderstanding of the community needs. Empirical studies such as Astin et al. (2000) found that SL improves the understanding of human diversity and cultivates students' social connections, thereby increasing the possibility of thinking about the future and realising employment opportunities. CSL helps students understand themselves and their relationship with the community in advance (Leeman, Rabin, and Roman-Mendoza 2011), thereby helping them plan and prepare for their future careers.

Control

The findings of the study are consistent with those of Ngai (2006), who found that Hong Kong university students benefitted from CSL by developing a promise, assurance, and assumption of new responsibilities through real-world experiences. Since students become more engaged in school through service-learning, they are able to take responsibility for their own learning (Hébert and Hauf 2015), promoting further success in academics and success in future careers (Scales et al. 2000). Eccles, Midgley, and Adler (1984) also found that students showed greater motivation when participating in service-learning because of the control they had over their educational outcomes. In service-learning, analytical reflection is always used in conjunction with students' decision-making to explore the impact on self and the community (Leeman, Rabin, and Roman-Mendoza 2011). Thus, students are gradually nurtured to make decisions and take responsibility in their learning and in their future careers.

Curiosity

Moreover, our results are in agreement with Kielsmeier (2003) and Ngai (2006), who found that CSL had a positive influence on students' pursuit of knowledge and wisdom, including intellectual development and academic achievement. In addition, the large-scale study conducted by Gray et al. (1996) indicated that service-learning participants had higher academic performance and made more effort than non-participants in pursuing intellectual growth and personal development. These characteristics contributed greatly from the process of SL activities, such as reflection about the relationship between themselves and their community. Ngai (2006) believed that SL promotes an interdisciplinary approach to academic study and breaks down barriers between school and community, thus encouraging students to explore their surroundings (communities), observe different ways of doing things (interdisciplinary fields), and look for opportunities in academic studies and future careers as personal growth.

Confidence

Our findings are consistent with those of Astin et al. (2000), who found significant improvement in writing skills, critical thinking, and overall academic grades and then increases in leadership and self-confidence among students participating in service-learning. SL enhances efficient transfer of learning and problem-solving by integrating knowledge acquisition with real problem-solving (Kuh 2008). The study conducted by (Ngai 2006) indicated that most of the participating students showed individual growth, including maturity, independence, and self-assurance, in CSL (Ngai 2006). Service-learning has been shown to lead to stronger academic engagement and better performance outcomes, thus building up youth's selfconfidence and determination (Callahan et al. 2005).

The contribution of community service-learning to the perceived role of ethics and corporate social responsibility

CSL and Stockholders' View

Other research on SL has shown that through SL students are gradually becoming responsible citizens and devotees of positive social change (Ngai 2006). By learning to care for the disadvantaged in the community, they play a meaningful role and respond to practical problems in a way that has a long-term impact on their own lives (Ngai 2006). For example, students who participate in CSL become more closely connected with the community by establishing connections with others (Howard 2003), and are more able to accept the harmony and balance of the public interest (Howard 2003).

The results of the current study indicated that SCL could bring significant changes in the thinking of those who believed that efficiency and corporate survival take precedence over ethical and socially responsible behaviour, and believed that shareholders' interests take precedence over any other considerations.

CSL and stakeholders' view

Our findings are consistent with evidence that service-learning could have a significant impact on students' social commitment (Astin et al. 2000; Gray et al. 1996). CSL has been found to have an evident influence on students' cognitive moral development, which is related to the complexity of thinking about social issues (Howard 2003). Although opponents believed conflicts and contradictions, such as hierarchy and privilege, could be sometimes generated in CSL activities (Stoecker, Tryon, and Hilgendorf 2009). Service-learning could lead to long-term lifestyle changes, such as higher levels of empathy and compassion (Brown 2013), more community participation (Fenzel and Peyrot 2005), future civic responsibility (Brandes and Randall 2011), and lower criminal behaviour (Kahne, Westheimer, and Rogers 2000).

These impacts on students with SL experience can be evident even beyond graduation (Astin et al. 2000). In one study, two-thirds of participants noted that they would like to continue volunteering as part of their future development (Parker et al. 2009). Participants also scored higher in civic responsibility, which shows that they are committed to helping people in difficulty and understanding community issues (Astin et al. 2000). Even after controlling the student's tendency to engage in service, these group differences were still significant.

Limitations

The study has five major limitations. Firstly, there may be selection bias in the study. Although pre-test outcomes were not significantly different, there may be other differences in the characteristics of the students in the experimental group and those of the students in the control group may have not been clearly observed in the study which correlate with those

outcomes improving during the study period. This may be a bias involving innate motivation or personality, leading to results that overestimate or underestimate the impact of the intervention. Future studies should carefully set sample selection criteria and should cautiously consider differences between participants' characteristics in the sample for further analysis.

Second, the generalisability of the findings may be limited because the sample of 251 students from one major in one university is relatively small compared with the total population of Chinese university students in Hong Kong. Future research should recruit a more representative sample.

Third, the improvements detected between the pre-test and post-test may represent a 'honeymoon effect' that will gradually disappear over time (Rosch and Schwartz 2009). In future research follow-up tests should be adopted a few months after the completion of the program to assess if the effectiveness of the community service-learning program lasts through the transition from university to first employment.

Fourth, all information was based on self-report questionnaires, which creates worries about exaggerated effects due to shared method variance. In addition, participants may not be able to accurately report their own career adaptability or attitudes about ethics and social responsibility, and the measures do not include a validity scale for detecting inconsistent answers or social desirability bias. Behavioural indicators of these constructs, ratings provided by course teachers and classmates, and feedback from the people being helped, may provide important information about the effectiveness of community service-learning.

Finally, the current conclusions are based on students in only one community service-learning course for Chinese business students in Hong Kong. Further research is needed to test the generalisability of these findings to other types of community service-learning, other types of students, and other social and cultural settings.

Conclusion

Despite the above limitations, the present research offers new insights for researchers and practitioners interested in community service-learning programs as a way to promote university students' career adaptability, ethics, and social responsibility. The current findings showed that university students showed improvements in these domains in response to a 2- to 3-month CSL program. These findings are consistent with Wang, Zhang, and Yao (2019) evidence of positive effects of SL on Chinese university students. This is the first study on the impact of SCL on the career adaptability and ethics and social responsibility of business undergraduate students in the Asia-Pacific region. The results have implications for incorporating community service-learning into interventions for students to maximise their chances of success in a changing, competitive job market.

Disclosure statement

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

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