

Assessing the Impact of Work Internships on Career Development among University Students in Hong Kong

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Abstract: Existing studies on internship effectiveness in enhancing career development are scarce and yielded inconclusive results. Employing a pretest-posttest design, this study examines systematically the impact of internship experience on various aspects of career development. The longitudinal sample consisted of 94 second year and third year university students who participated in overseas internships lasted for 1-2 months in a university in Hong Kong. Pretest was conducted prior to internships and posttest upon completion. Results showed that participation in an internship significantly increased students' career exploration, career decidedness, vocational identity and self-perceived employability. Moreover, science and engineering majors showed significantly higher increase in self-perceived employability as compared to social science students. Limitations of the study, as well as its implications for research and practice are also discussed.

In higher education, administrators, teachers, and counselors generally have high expectations of work internships on students' career development and employability. While universities are putting strong emphasis on and allocating resources into developing internship programs, related research on the career impact of such programs is limited (e.g., Narayanan, Olk, & Fukami, 2010). Research evidence on internship effects is inconclusive (Gamboa, Paixão, & de Jesus, 2013), showing positive (e.g., Loughlin & Barling, 1998), negative (e.g., Barling, Rogers, & Kelloway, 1995) or no association (e.g., Niles & Herr, 1989) between students' work experience and career development. The effect of internships on career development may depend on internship design and quality (e.g., Arnold, Auburn, & Ley, 1995; Gamboa, Paixão, & de Jesus, 2013) and on the aspects of career development examined (Brooks, Cornelius, Greenfield, & Joseph, 1995). Results are also affected by the research

design adopted, such as cross-sectional ones (Gamboa, Paixão, & de Jesus, 2013). In this study, we aimed to evaluate the impact of work internships among university students in Hong Kong with a pretest-posttest design, examining different dimensions of career development.

Relationship between Work Internships and Career Development

Internship experience acquired in real work sites are valued by both employers and universities (e.g., Kaser; Brooks, & Brooks, 2007). During their undergraduate education, students often enrol in work internships to prepare themselves for entering the workforce. From the perspective of career exploration, an internship is seen as an intervention that fosters career exploration (Cheung, 2015). Career exploration is defined as a process to understand oneself and the world of work, as well as the interaction between the two to yield desirable career outcomes (Porfeli & Skorikov, 2010).

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Previous studies have shown that career exploration is associated with future career exploration (Gamboa, Paixão, & de Jesus, 2013), career decidedness (Blustein, Pauling, DeMania, & Faye, 1994) and vocational identity (Blustein et al, 1994; Praskova, Creed, & Hood, 2015). Gamboa, Paixão and de Jesus (2013) found that the quality of internships were predictive of career exploration among Portuguese high school students who participated in the internships. In this study, we expect internships to enhance career exploration significantly among university students in Hong Kong.

According to Spokane (1991), career interventions are developed to foster participants' career development. As an intervention mode providing actual work experience, do internships enhance career outcomes beyond career exploration? Though evidence regarding this is scarce, there are some initial suggestions that internships might be valuable beyond exploration. Internship experience was consistently found to be related to higher levels of self-concept crystallization (Brooks, Cornelius, Greenfield, & Joseph, 1995; Taylor, 1988) and to better employment opportunities and job offers (Knouse, Tanner, & Harris, 1999; Taylor, 1988), but not related to amount of occupational information, self-efficacy, decidedness, vocational commitment, or tendency to foreclose among senior college students (Brooks et.al, 1995). The insignificant findings may be due to the low quality of design of the internship (Gamboa, et.al, 2013) or of the cross-sectional study design; or insignificant findings may reflect a real nonsignificant effect of internship.

Thus, in the current study, we are interested in examining the impact of one relatively well-organized internship program on multiple dimensions of career development in the same study, beyond career exploration. In this regard, we include important aspects of career development, namely decidedness, vocational identity, and perceived employability. The first aspect, career decidedness, refers to students'

degree of decision certainty towards specific career choices (Jones, 1989). The second related aspect is vocational identity, which denotes a clear and stable sense of one's career goals, interests, and talents (Holland, Daiger & Power, 1980). As indicated earlier, internship experience was associated with higher levels of vocational self-concept crystallization (Brooks, Cornelius, Greenfield, & Joseph, 1995). We went further to test internship effects in enhancing vocational identity directly. Finally, we examined the impact of internships on students' perceived employability. Perceived employability is defined here as the perceived ability to obtain sustainable employment appropriate to one's qualifications (Rothwell, Herbert & Rothwell, 2008). While previous studies have attempted to associate internship participation with actual employment (e.g., Knouse, & Fontenot, 2008), there is no known research that assesses internship effectiveness on perceived employability using a longitudinal design.

Present Study

We adopted a pretest-posttest design to evaluate the impact of the work internship on career development for university students. Participants of internship programs were assessed using various career measures at the start of and at the completion of the internship. We hypothesized that participants' career exploration, career decidedness, vocational identity, and employability would be significantly enhanced after completing their internships. As gender and major may also impact career development, we were also interested in the question whether gender and major of study affects the career impact of internships.

Methods

Participants

Participants were from the social sciences discipline (SS), as well as from science and engineering (SE). Participants had joined an

overseas internship program in a public university in Hong Kong. The internships were organized by the respective academic departments to which the students belonged. In order to obtain an internship position, students applied for the internship program in their department and went through the selection process successfully, thus demonstrating the commitment and motivation required. The internships were organized to enable students to work in an actual work setting with opportunities to apply knowledge of their disciplines. They were all overseas and lasted for 1 to 2 months in duration. Academic departments organized orientation and reviewed sessions for the participants before and after the internships. Teachers from the academic departments visited their students at internship sites to help students settle in and commence their work. Academic departments also assessed the overall performance of their students in the internships.

We liaised with departments to collect pre-and-post assessment data on internship impacts. To facilitate data collection, one of the authors was present in orientation and reviewed workshops; he also helped deliver and facilitate these sessions with the teachers. The students voluntarily completed the study questionnaires at the end of the sessions. A total of 97 SE students and 72 SS students were recruited at the start of internships (Time 1). These students were in their second or third year of study. Due to different setup of the internship programs of the two departments, the SS sample were significantly larger in the third year of study compared with the SE sample (74.3% vs. 46.7%). No other significant differences were found. In the posttest, 65 SE students and 29 SS responded, representing an overall response rate of 55.6%. The longitudinal sample consisted of 94 students whose mean age was 21.4 (SD=1.17). 45.9% of respondents were female. No significant differences in demographics and career variables (Time 1) were seen between

those responded to the posttest and those who did not.

Measures

Adopting the Career Exploration Survey (Stumpf, Colarelli, & Hartman, 1983), we assessed self exploration and environment exploration of respondents. The self-exploration subscale measured the extent respondents engaged in related activities in the past two months on a 5-point Likert scale. It has 5 items and a sample item was: "Reflected on how your past integrates with your future career." The environment exploration subscale assessed how far respondents participated in activities to understand opportunities in the workplace in the past two months on a 5-point Likert scale. There were 6 items, and one of them was: "Investigated career possibilities." Using Cronbach's Alpha, internal consistency for self exploration and environment exploration were found to be .71 and .75 in the present study.

Career decidedness was evaluated by the Decidedness subscale of the Career Decision Profile (Jones, 1989). One of the two items of Decidedness was: "I have an occupational field in mind that I want to work in." Participants responded to items on a 5-point Likert scale (1=Strongly Disagree, 5=Strongly Agree). The internal consistency for the Decidedness was .71 as indicated by its Cronbach's Alpha in the present study.

Vocational identity was evaluated using the Vocational Identity scale (Holland, Daiger & Power, 1980). This scale indicates how far respondents have a clear and stable sense of their career goals, interests, and talents. The scale consists of 18 true-false items, and lower scores represents a clearer sense of identity. A sample item was: "I need assurance that I have made the right choice of occupation." The internal consistency for the Vocational Identity scale was .83 as indicated by its Cronbach's Alpha in the present study.

Employability was measured by the Self Perceived Employability Scale (Rothwell, Herbert & Rothwell, 2008), which assesses how

far respondents perceive themselves employable. It is a 5-point Likert scale (1=Strongly Disagree, 5=Strongly Agree) with 16 items. One sample item was: "I can easily find out about opportunities in my chosen field." The internal consistency for the self perceived employability scale was .78 as indicated by its Cronbach's Alpha in the present study.

Results

Because of the missing data, 89 out of 94 respondents were analyzed as the longitudinal sample. Correlations among the study variables

were summarized in table 1. Age of the participants did not show any significant relationships with career variables. Career development variables in general were significantly correlated with each other in the expected direction, except that vocational identity was not significantly correlated with self exploration. Moreover, the diagonal of Table 1 showed some stability of the career development variables across time, as the pretest posttest correlations of the same variables ranged from .25 (self-exploration) to .55 (vocational identity).

Table 1

*Bivariate Correlations for variables at Pretest (reported above the diagonal), Posttest (reported below the diagonal). Intercorrelation for Pretest and Posttest (reported on the diagonal). Means and Standard Deviation and paired sample *t* test for career development variables (N=89)*

	1 Age	2 Self exploration	3 Environment Exploration	4 Career Decidedness	5 Self-Perceived Employability	6 Vocational Identity
1.age	1	-.02	.08	.13	.11	-.16
2.self exploration	-.14	.25*	.53**	.19	.05	.03
3.environment exploration	.17	.62**	.37**	.11	.07	.01
4.career decidedness	.17	.34**	.47**	.27**	.22*	-.36**
5.self perceived employability	.17	.44**	.47**	.24*	.45**	-.14
6.vocational identity	-.20	-.13	-.30**	-.38**	-.34**	.55**
Pretest: M		3.25	2.87	3.34	3.03	0.62
(SD)		(.52)	(.73)	(.81)	(.37)	(.23)
Posttest: M		3.68	3.57	3.62	3.34	0.52
(SD)		(.50)	(.63)	(.65)	(.42)	(.27)
<i>t</i> test		-6.53**	-8.54**	-2.97**	-6.86**	4.02**

* $p < .05$; ** $p < .01$

Paired sample *t* test was performed to examine the pretest and posttest differences in all the career development variables. Table 1 showed the means and standard deviations for career development variables at both time points. As predicted, all the career development variables showed significant increase at Time 2.

Mean level of self exploration significantly increased from 3.25 to 3.68, $t(88) = -6.53$, $p < .01$. Environment exploration significantly increased from 2.87 to 3.57, $t(88) = -8.54$, $p < .01$. Career decidedness significantly increased from 3.34 to 3.62, $t(88) = -2.97$, $p < .01$. Self-perceived employability significantly increased

from 3.03 to 3.34, $t(88) = -6.86$, $p < .01$. Moreover, vocational identity score (reversely coded) significantly decreased from .62 to .52, $t(88) = 4.02$, $p < .01$.

In terms of differences by discipline of study, significant differences were found at Time 1 across disciplines (Sciences and Engineering as compared to Social Sciences) in career exploration. To test if the internship impacted career development differently for different disciplines, a general linear model was performed to examine discipline and time interaction effects in career development. Results suggest significant discipline and time interaction effect in self-perceived employability, $F(1, 87) = 6.078$, $p < 0.05$. The effect size of the interaction effect measured as the partial Eta-squared was .065. Science and Engineering (SE) students showed significantly higher increase in self-perceived employability after participating in internship.

In terms of gender differences, t -test analysis showed that women had more environment exploration than men at the pretest. Further, to test if the internship impacted career development differently for male students and female students, general linear model was performed to test if there were significant gender and time interaction effects in career development. Results suggested marginally significant gender and time interaction effect in career decidedness, $F(1, 59) = 3.888$, $p = 0.053$. The effect size of the interaction effect measured as the partial Eta-squared was .062. Specifically, women showed higher increase in career decidedness after participating in internship.

Discussion

Internships may use more university resources than other kinds of interventions such as workshops or courses. They are often arranged and planned by academic departments and the resources that requires are many. This study shows that the internship significantly enhanced university students' career development in terms of career exploration,

career decidedness, vocational identity, and perceived employability. This study offers evidence on the impact of internships for policy makers, counselors, and administrators in the higher education sector. While supporting claims about the career impact of internship (e.g., Brooks et.al, 1995; Gamboa et al., 2013; Knouse, & Fontenot, 2008), this study also examined and compared the different career and employability outcomes for further reference. We suggest career practitioners consider—and if possible target—specific career outcomes discussed in this paper (e.g., Cheung, 2015) in designing their internship programs, building in assessment and evaluation accordingly.

In this study, science and engineering students showed significantly higher increase in self-perceived employability after participating in internships as compared to their social sciences counterparts. Social Sciences students were from majors like psychology and sociology, and their internships were designed to facilitate career exploration in different working settings. For science and engineering students in this study, internships were organized to enable them to apply their discipline knowledge in respective fields at work, thus focusing more directly on enhancing a sense of employability in a specific career area. Female students in this study showed higher increase in career decidedness after participating in internships as compared to male students. This result is consistent with a prior study that girls compared to boys were better prepared for career progression and adjustment (Gamboa et al., 2013). We suggest future studies to examine gender and discipline differences in the context of work internships. As for practitioners, they may take notice of the impact gender and discipline as they design internship programs, accommodating the diverse career needs and career development statuses of different groups.

There are limitations in this study. There was no control group in the design. Thus, we cannot attribute changes observed solely to internship intervention. To explore more about possible

intervention effects, we draw from a prior study in Hong Kong that compared effects of a career exploration course (intervention group) with that of another academic course unrelated to careers (comparison group) with a pretest-posttest design (Cheung & Jin, 2016). While career exploration and career decidedness increased significantly upon posttest in the intervention group (career course), no significant change was found in the comparison group. This implies that career exploration and decidedness tend to remain unchanged over a semester in the absence of career interventions. In light of the rigorous nature of the internship application process in the present study and the possibility that students who chose to pursue an international internship are qualitatively different in their career development than those who did not chose to pursue the internship, we suggest future intervention studies include a control or comparison group where feasible to further establish the validity of internships in effecting career changes. Additionally, the sample was drawn from specific departments in a university in Hong Kong, representative more of students in disciplines of social sciences, science, and engineering in the public university. We suggest future studies to include or focus on other disciplines such as business and medicine, and to conduct investigations across institutions and cultures. Finally, we hope this work will stimulate more interest in the career implications of internships and we believe research in this area will further inform theory building and practice regarding the career development of university students.

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