Factors Predicting Doctoral Students' Future Career Perspectives: An Initial Look into the Role of Academic Identities

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Abstract
Increased competition of universities in Taiwan has promoted the adaptation of neo-liberal management practices within institutions. These changes have altered the career outlook of faculty from a more *single focus* into a *multi-role* perspective. This continuing role conflicts have created the misalignment of academic identity and blurring of work ideologies. Within the aspects of doctoral education, currently a decreasing trend in number of enrollments and graduation rates are seen. This is in part caused by the outgoing mobility of graduate students and the perceived difficulties in securing a job for post-graduate degree holders. As doctoral students are crucial to the future of Taiwan academia, understanding how their career perspectives are shaped is of the utmost importance. To analyzed the doctoral students' career inclination, a survey containing their perceived importance with regards to interactions with their mentor, classmates, course design, and together with their perceived self-efficacies are collected. A total of 94 doctoral students from the two comprehensive universities in Taiwan are surveyed. Regression results show that academic identity inclined towards *research only* career is highly dependent on doctoral students' coping facilitations, while *teaching only* career is best determined by their mentors' provision of career opportunities, and the teaching and management oriented courses. More important, results show that a *dual perspective* academic identity is highly significant with the doctoral students' mentor provision of career opportunities. These findings suggest that doctoral students' future career are highly shaped by their experiences with their course undertaking and quality of interactions with their mentors.

Keywords: higher education, academic identity, changing academic profession, neoliberal management practices, research teaching nexus

Introduction

Competition among universities around the world is not new (Marginson, 2004; Portnoi et al., 2010). Many have attributed the rise in higher education competitions due to the importance placed on global university rankings (Grewal et al., 2008; Hazelkorn, 2011; Lynch, 2014). These competitions within higher education institutions have all contributed to the changes within university governance (Giroux, 2002, 2010; Olssen & Peters, 2005), which has also impacted the Taiwan academia (Chang et al., 2009; Chou, 2014; Chou & Ching, 2012; Mok, 2014).

Currently, higher education institutions in Taiwan are faced with challenges brought about by the many facets of globalization and internationalization (Mok, 2000, 2003) and together with the drive for institutional quality (Hou et al., 2018). These challenges have ultimately pushed for the adaptation of the neo-liberal management policies (Chou, 2008). Besides the changes within the financial management of higher education institutions (Jacob et al., 2018), numerous policy measures are in-placed to reflect the need for cross-strait exchanges (Chou & Ching, 2020), internationalization (Chang, 2015), and the pursuit for academic excellence (Hou, 2012; Hou et al., 2020). Ultimately, these changes within university governance all over the world have altogether altered the career outlook of faculty from a more *single* focus into a *multi-role* perspective (Vera et al., 2010), which is quite similar to what is happening in Taiwan (Hu et al., 2018).

Within the aspects of graduate education, a report from the Taiwan Ministry of Education shows that the current and projected number of graduate students (including both from the masteral and doctoral programs) is decreasing (Ministry of Education, 2017). Records have shown that there is a gradual drop of around 33% enrolments for the past decade (Chou et al., 2016). While a projected decreased of more than 3,000 doctoral and 38,000 masteral students will be seen for the next ten years. This is in part caused by the outgoing mobility of graduate students; an urged to get a degree outside Taiwan (Hsu & Lin, 2019) and also the perceived difficulties in securing a job for post-graduate degree holders (Chang & Shaw, 2016; Yang & White, 2016).

In reality, doctoral education world-wide has been undergoing various difficulties and challenges (Andres et al., 2015; Nerad, 2004). The previous notion of the purpose of a doctoral education, which is to have a *career in academics* is already changing (Nerad, 2009). A report published with regards to doctoral graduates in Europe mentioned that there are many possible careers in the industries, government, consultancy, and many other related organizations (Hasgall et al., 2019). Altogether, these circumstances have affected the essence and purpose of doctoral education not only in Taiwan, but also elsewhere around the world.

As doctoral students are crucial to the future of Taiwan academia, understanding how their career perspectives are shaped is of the utmost importance. Hence, the current study shall present the findings of an analysis of the doctoral students' career inclination in Taiwan. In addition, the study also seeks to determine the role played by the perceived importance of doctoral students' interactions with their mentor, classmates, and overall course (graduate program) design and their contribution to the development of academic identities. In essence, as *academic identities* are assumed to be instrumental to the doctoral students' future career. Clear understanding on how identities are formed is paramount for further graduate program enhancement.

The Inner Workings of Academic Identity

Academic identity is a complex and constantly shifting issue, to an extent that it might be different for each individual scholar (Quigley, 2011). Identity is said to encompass a set of characteristics that define individuals (Bailey, 2003). Within psychology, identity is comparable to self-image, self-esteem, and individuality (Vasile, 2011, p. 1826). Besides being *unique*, identity also pertains to *self*, more specifically within the aspects of self-development (Beaumont, 2009). This process of self-development is closely relate to what Maslow (1954) noted as the actualization of one's potential. This self-actualization is said to be correlated with an individual's sense of *fulfillment* (Ivtzan et al., 2013) and *security* (Otway & Carnelley, 2013). Furthermore, various psychological processes such as the individual's sense of appreciation, connectedness, competence, commitment, and future career path are proven to contribute to one's identity formation (van Lankveld et al., 2017). In addition, the construction of such identity is also highly anchored in the perceived *moral value* of the profession (Fitzmaurice, 2013). Hence, identity can generally be noted as to an individual's unique characteristic that strives towards fulfillment and self-actualization.

To obtain a sense of fulfillment and self-actualization, faculty should not be force but rather motivated (Han et al., 2016). Since the early 19th century, the traditional higher education follows the Humboldtian model, wherein faculty are mostly free to involved in more or less with either discipline-focused research, teaching-related activities, and/or university or community service (Pritchard, 2004). This freedom has enabled faculty to do what they want and are quite satisfied with what they do (Johnsrud & Rosser, 2002). During those days, academic identity is quite simple; faculty will just have to choose from the three academic missions. However, as global higher education evolves, academic identities based on these three academic missions have now become in constant tension (Altbach et al., 2010; Billot & King, 2015). Currently, faculty has to conform to the needs of the university, more specifically; academic identity is now being shift to a particular direction that the university emphasizes (Flecknoe et al., 2017), which inevitably causes stress.

This shift in academic identity is due to the change in university priorities brought upon by the need to perform whether for quality audits and/or university rankings (Altbach et al., 2010). For instance, university performance indicators have now placed greater emphasis on research outputs, hence, the research teaching nexus is more inclined towards a research focus academic identity (Bexley et al., 2013). Although having a research inclined faculty is not bad, since, students can also benefit from the exposure and participation with the research process, while also benefiting from the research findings (Prince et al., 2007; Seymour et al., 2004). However, this phenomenon has created a bias for the recruitment of research-intensive academics (Hajdarpasic et al., 2015), which is again stressful and abnormal for the norm of the academe.

In the other end of the spectrum, the global massification of higher education has also change the learning environment, which poses further demands on the academic workforce (Flecknoe et al., 2017). This phenomenon has opened up the opportunity for the *identity struggles* between the competing demands for academic teaching and research (Skelton, 2012). For instance, in order for institutions in the United Kingdom to cope with the demand of the expanding academic workforce, introduction of new academic positions are being structured (Fanghanel, 2012). Parallel with universities in Australia, in order to address similar issues, an education focused academic category was introduced (Probert, 2013).

However, this type of career position is often characterized by heavy and repetitive teaching loads, which is actually seen by some as a sort of *punishment* (Leisyte et al., 2009). Similarly in Taiwan, a teaching only contractual position is used to supplement the needed academic hours (Ministry of Labor, 2014). In reality, such transition from a scholarly discipline and academic freedom to a stressful constraint is potentially harmful for an individual's *self-esteem* and *sense of identity* (Simmons et al., 2013), hence, the struggling of one's academic identity occurs.

Methodology

To understand how doctoral students' career perspectives are shaped, the current study utilized a quantitative survey to collect the perceived importance on the various interactions with mentor (adviser), classmates, and overall course design. The proposed Doctoral Students' Experience Survey (**DSES**) is composed of the three dimensions of doctoral students' experiences with their mentor (12 items), experiences within their intellectual community (classmates) (10 items), and the doctoral students' curricular engagement (26 items) (Anderson et al., 2013; Shin et al., 2018), and together with a doctoral student self-efficacy inventory (18 items) (Chen et al., 2001; Laurencelle & Scanlan, 2018; Scherbaum et al., 2006; Vera et al., 2011). In addition, key questions regarding their perceived career inclinations were also collected together with some background information (Weisberg et al., 1996). Data collection used a five-point Likert (1932) type scale weighted from 5 to 1 respectively (very high importance, important, neither important or not, low importance, very low importance).

Data was collected from 94 doctoral students within the social science field, studying at two comprehensive universities in Taiwan. Among the 94 participants, 52 (55%) are male students, while 42 (45%) are female. Average age of participants is 41 years old. Data collected where analyzed using exploratory factor analysis for the latent concepts within the dimensions, computation for the mean and standard deviation (SD) of the factors, and multiple regression for the perceived predictors of the different academic identities. Overall Cronbach (1951) Alpha (α) reliability of the survey is computed at .96 exhibiting high reliable results (Cohen et al., 2007).

Results and Discussions

For the doctoral students' experiences with their mentor (**DEM**), two items were deleted due to low factor loadings (Costello & Osborne, 2005). DEM consists of three factors, namely: *quality advising* (5 items with α=.82; *M*=4.55, *SD*=0.53), *career opportunities* (3 items with α=.81; *M*=3.59, *SD*=0.99), and *genuine concern* (2 items with α=.82; *M*=4.18, *SD*=0.67). Overall α of the DEM is computed at .85 with a mean of 4.11 and *SD* equal to 0.56.

While for the doctoral students' experiences with their intellectual community (**DEC**) or classmates, two factors were extracted, namely: *mutual professional growth* (5 items with α=.82; *M*=4.14, *SD*=0.68) and *support building* (5 items with α=.85; *M*=4.23, *SD*=0.62). Overall α of the DEC is computed at .88 with a mean of 4.19 and *SD* equal to 0.58.

Lastly, for the doctoral students' experiences with their studies (**DES**) or curricular engagement, 3 items were removed due to low factor loadings (Costello & Osborne, 2005), then after four factors were extracted, namely: *management oriented* (9 items with α=.91; *M*=3.90, *SD*=0.70), *teaching oriented* (5 items with α=.85; *M*=3.70, *SD*=0.84), *research*

oriented (4 items with α=.84; *M*=4.49, *SD*=0.53), and *business oriented* (5 items with α=.82; *M*=4.01, *SD*=0.73). Overall α of the DES is computed at .95 with a mean of 4.02. In general, all of the α values (.81 to .91) are within the acceptable limits (Cohen et al., 2007).

As for the doctoral students' self-efficacy (**EFF**), 1 item was removed and three factors were extracted, namely: *research inclined* (7 items with α=.93; *M*=4.35, *SD*=0.68), *coping facilitation* (6 items with α=.86; *M*=3.99, *SD*=0.76), and *teaching inclined* (4 items with α=.85; *M*=4.14, *SD*=0.75). Overall α of the EFF is computed at .95 with a mean of 4.16 and *SD* of equal to 0.65. Similarly, all of the α values (.85 to .93) of the EFF factors are within the acceptable limits (Cohen et al., 2007). Tables 1 to 4 show the various items, means, and *SD*s of the DSES.

Table 1
Descriptive of the DEM factors and items (N=94)

Factors/Items	Mean	SD
Quality advising (α = .82)	4.55	0.53
Provides guidance toward degree completion	4.57	0.71
Provides constructive feedback on my dissertation	4.63	0.66
Gives feedback on my dissertation in a timely manner	4.29	0.83
Provides advice on my research	4.65	0.54
Helped me clarify my research topic	4.62	0.71
Career opportunity (α = .81)	3.59	0.99
Promotes my development as a researcher	3.88	0.93
Promotes my development as a teacher	3.45	1.14
Promotes my development as a scholar	3.84	1.11
Genuine concern (α = .81)	4.18	0.67
Shows enthusiasm for my research topic	4.27	0.82
Considers my personal circumstances	4.10	0.83
DEM mean	4.11	0.56

Table 2
Descriptive of the DEC factors and items (N=94)

Factors/Items	Mean	SD
Mutual professional growth (α = .82)	4.14	0.68
Shares intellectual resources	4.33	0.80
Shares opportunities for professional advancement	4.28	0.80
Helps develop professional relationships with others	4.21	0.83
Shares opportunities for scholarship development	4.18	0.87
Shares information regarding scholarship	3.72	1.13
Support building (α = .85)	4.23	0.62
Engages in the lively exchange of ideas	4.32	0.74
Values intellectual contribution from new members	4.38	0.71
Nurtures its members' intellectual curiosity	4.19	0.79
Is large enough for members to learn from each other	4.17	0.86
Provide guidance and support for new classmates	4.11	0.82
DEC mean	4.19	0.58

Table 3
Descriptive of the DES factors and items (N=94)

Factors/Items	Mean	SD
Management oriented (α = .91)	3.90	0.70
Collaborate and work with others	4.01	0.94
Expand my professional network	4.09	0.89
Enhance my career planning skills	3.90	0.95
Enhance my communication skills	4.11	0.85
Develop my research grant writing skills	4.28	0.79
Enhance my leadership potential	3.69	0.96
Better understand the purpose of higher education	3.78	0.99
Participate in policy making process	3.66	0.96
Develop my negotiation skills	3.58	0.98
Teaching oriented (α = .85)	3.70	0.84
Practice my teaching skills	3.70	1.04
Understand the ethical norms in doing research	4.06	0.87
Better understand my school's mission	3.31	1.22
Develop my institutional citizenship	3.47	1.14
Develop ethics and integrity	3.97	0.96
Research oriented (α = .84)	4.49	0.53
Learn adequate research methodology techniques	4.51	0.65
Understand theoretical knowledge	4.48	0.67
Build my publication skills	4.51	0.62
Build my presentation skills	4.44	0.65
Business oriented (α = .82)	4.01	0.73
Develop my problem solving skills	4.29	0.90
Balance my priorities	4.10	0.98
Motivate for lifelong learning	4.16	0.86
Become creative	4.28	0.80
Understand how to become an entrepreneur	3.22	1.21
DES mean	4.02	0.59

Within the doctoral education, experiences whether academic with their studies or mentorship with their advisers are all considered important factors of the process (Areesophonpichet, 2013; Chung et al., 2018; Syed, 2020). Hence, for the relationship between the doctoral students' experiences and self-efficacies with their preferred future career academic identity, several multiple regressions were accomplished.

Teaching only career academic identity - Regression results revealed significant prediction for the doctoral students' academic identity inclined towards *teaching only* career with $F(4, 88)=10.01$, $p=.000$. R^2 for the model was .31, and adjusted R^2 was .28. Table 5 shows the unstandardized regression coefficients (B), intercept, standardized regression coefficients (Beta), t values, and confidence intervals. With regards to the individual relationships between the independent variables, **career opportunity** ($t=3.68$, $p=.000$), **teaching oriented** ($t=3.41$, $p=.001$), **management oriented** ($t=-2.85$, $p=.005$), and **coping facilitation** ($t=2.25$, $p=.027$) each significantly predicted *teaching only* career. Denoting that doctoral students' tendency to pursue faculty only career are much related to their mentors provision of career opportunities, teaching oriented curricular engagements, and coping facilitation efficacies.

While management oriented courses tends to diminish the students' perceived teaching only career intentions.

Table 4
Descriptive of the EFF factors and items (N=94)

Factors/Items	Mean	SD
Research inclined (α = .93)	4.35	0.68
Carry out a research study	4.48	0.70
Write manuscript for peer-reviewed publication	4.35	0.76
Apply expertise in addressing practical problems	4.39	0.82
Work collaboratively with other scholars	4.15	0.88
Realize that there are things that I don't know	4.29	0.89
Have the intelligence to complete the degree	4.38	0.81
Finish what I started	4.38	0.87
Coping facilitation (α = .86)	3.99	0.76
Cope with the competing demands from work, study, and home	3.97	1.01
Surpass difficult moments in life	3.76	1.17
Cope with the hours needed in studying	4.01	0.93
Develop a passion and desire for learning	4.24	0.92
Get good grades	3.79	0.98
Have the support of my family and friends	4.20	0.91
Teaching inclined (α = .85)	4.14	0.75
Apply expertise in addressing practical problems	4.39	0.82
Transmit knowledge to a group of students	4.23	0.84
Communicate with students of different competencies and characteristics	4.28	0.85
Carry out administrative management tasks	3.79	1.05
EFF mean	4.16	0.65

Research only career academic identity - Regression results also showed that there is a significant prediction for the doctoral students' academic identity inclined towards *research only* career with $F(1, 91)=5.81$, $p=.018$. R^2 for the model was .60, and adjusted R^2 was .50. Table 6 shows the unstandardized regression coefficients (B), intercept, standardized regression coefficients (Beta), t values, and confidence intervals. With regards to the individual relationships between the independent variables, only **coping facilitation** ($t=2.41$, $p=.018$) significantly predicted *research only* career. Signifying that *research only* career is highly dependent on doctoral students' coping facilitations. This finding is quite interesting, wherein it signify that a research intensive career is quite challenging. Similar to a recent study within Hong Kong doctoral students, Taiwan graduate students also experiences various contextual challenges that exists within a highly competitive environment (Tan, 2017; Teng, 2020).

Dual track academic identity - Lastly, regression results showed that there is also a significant prediction for the doctoral students' academic identity inclined towards a **dual** (combination of teaching and research) track career with $F(1, 91)=13.68$, $p=.000$. R^2 for the model was .13, and adjusted R^2 was .12. Table 7 shows the unstandardized regression coefficients (B), intercept, standardized regression coefficients (Beta), t values, and confidence intervals. With regards to the individual relationships between the independent variables, only **career opportunity** ($t=3.70$, $p=.000$) significantly predicted *dual perspective* academic identity career. Hence, results show that a *dual perspective* academic identity is

highly significant with the doctoral students' mentor provisions of career opportunities. This finding is similar in some ways with the teaching career only academic identity, wherein mentor's provision of career opportunities tends to shape whether the doctoral student would develop a future career in research, teaching, or both.

Table 5
Multiple regressions analysis for teaching only career identity (N=94)

Factors	B	SE	Beta	t	p	95% CI	
						LB	UB
Constant	0.65	0.78				-0.90	2.19
Career opportunity	0.46	0.12	.352	3.68	.000	0.21	0.70
Teaching oriented	0.75	0.22	.495	3.41	.001	0.32	1.19
Management oriented	-0.76	0.27	-.416	-2.85	.005	-1.28	-0.23
Coping facilitation	0.36	0.16	.215	2.25	.027	0.04	0.68

Table 6
Multiple regressions analysis for research only career identity (N=94)

Factors	B	SE	Beta	t	p	95% CI	
						LB	UB
Constant	1.96	0.65		3.01	.003	0.67	3.25
Coping facilitation	0.39	0.16	.245	2.41	.018	0.07	0.70

Table 7
Multiple regressions analysis for dual career identity (N=94)

Factors	B	SE	Beta	t	p	95% CI	
						LB	UB
Constant	2.09	0.41		5.16	.000	1.29	2.90
Career opportunity	0.40	0.11	.361	3.70	.000	0.19	0.62

Conclusion

In sum, the current findings suggest that doctoral students' future career are highly shaped by their experiences with their course undertaking and quality of interactions with their mentors. As such, proper career counseling should also be accomplished in order to clarify future occupational goals. It is hoped that by understanding how career identities are formed, appropriate training can be provided to help the Taiwan future academics.

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