Relationship between mentoring program characteristics and mentees' career: a study in a government owned University

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ABSTRACT

In the studied organization, mentoring activities are implemented to increase the capability of mentees to support the university's vision, namely to become an exemplary university of internationally acknowledged stature and a scholarly institution of choice through human capital development programs, especially engineering and technology education. This study was primarily conducted to assess the relationship between mentoring programs and mentees' career using 153 usable questionnaires from employees who worked in a government owned university in Sarawak, Malaysia. The measurement scales used in this study satisfactorily met the standards of validity and reliability analyses. Next, the main

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outcomes of stepwise regression analysis showed that the ability of mentors to properly implement mentoring activities have enhanced mentees' career in the organizational sample. Further, this result has supported and extended mentoring research literature mostly published in Western organizational settings.

INTRODUCTION

In modern organizations, mentoring is often viewed as an important training and development method that can be used to increase group and/or individuals' potentials to carry out particular duties and responsibilities, familiarize with new techniques, and care all aspects of mentees (Hanford & Ehrich, 2006; Johnson et al., 1991; Long, 2002). Mentoring models are vary and there is no one best model for all organizations. They have been designed and administered based on differences and uniqueness of an organization in terms of believes, orientations, stresses, strengths and weaknesses (Hawkey,1997; Irving et al., 2003; Ritchie & Conolly, 1993; Ritchie & Genoni, 1999). These factors have affected the implementation of mentoring type whether formal and/or informal mentoring activities in organizations (Chao et al., 1992; Murray, 1991; Ragins & Cotton, 1993, 1999). Formal mentoring program is often viewed as the structured and coordinated relationship between mentor and mentee, using standard norms, continuously action plans, time frame, and particular objectives (Bahniuk & Hill, 1998; Hansford et al., 2003; Noe et al., 2002). Conversely, informal mentoring is often seen as the process and systems of relationship between mentors and mentees to achieve specific demands, spontaneous and adhoc. This mentoring program is widely implemented to complement and strengthen formal mentoring programs (Goldstein & Ford, 2002; Ragins, 1997, 1999). If both mentoring programs are properly managed they may lead employees to achieve organizational strategies and goals (Friday & Friday, 2002; Ismail et al., 2007; Lindenberger & Zachary, 1999; Irving et al., 2003).

Interestingly, extant research in this area shows that the ability of mentors to properly manage mentoring programs may have a significant impact on mentees' career (Allen et al., 2005; Hegstad & Wentling, 2005; Niehoff, 2006; Okurame & Bologun, 2005). Many scholars, such as Kram and Bragar (1991), Baugh and Scandura (1999), Ragins and Cotton (1999), Allen, Eby, Poteet and Ismail and Khian Jui (2010) highlight that career is often viewed as helping individuals to acquire the skills and experiences needed to perform current and future jobs, give advice, increase the ability of individuals to positively influence others, and protect individuals' dignities from affected by negative environments. In a mentoring program model, many scholars think that formal mentoring, informal mentoring and mentees' career are distinct constructs, but highly interrelated. For example, the ability of mentors and mentees to use comfortable interactional styles, such as communication openness, respect, accountable, honest, respect and active participation may lead to increased mentees' career (Scandura, 1992; Chao et al., 1992; Ragins & Cotton, 1993, 1999).

Even though numerous studies have been done, little is known about the predicting role of formal and informal mentoring programs in mentoring program literature (Allen & Eby, 2004; Okurame & Balogon, 2005; Niehoff, 2006). Many scholars reveal that the role of such mentoring characteristics as a predicting variable is given less emphasized in previous studies because they have much described the mentoring program characteristics and given little attention on how and why formal and informal mentoring programs influencing mentees' career in mentoring program models. As a result, findings of such studies have not provided sufficient evidence to be used as guidelines by practitioners to design appropriate strategies for improving the effectiveness of mentoring programs in dynamic organizations (Hegstad & Wentling, 2005; Niehoff, 2006; Okurame & Bologun, 2005).

The location of this study was a government owned university in Sarawak, Malaysia. This university has formally and informally implemented mentoring programs since 1993. In the organizational mentoring model, formal mentoring is often done through group discussion in office hours at the workplace. While, informal mentoring is frequently implemented through individual discussion after office hours and/or outside the workplace. In these mentoring relationships, mentors often interact with mentees through communication openness and participation styles as major instruments to deliver message, share knowledge and experience, encourage teamwork and promote collective decisions in mentoring programs. In practice, implementation of such mentoring styles have increased comfortable interaction between mentors and mentees, and this may motivate mentees (e.g., academic staff and non-academic staff) to improve the planning and management of critical university programs, especially engineering and technology education. Although the nature of this relationship is significant, little is known about the effect of such mentoring programs on mentees' career in the field of engineering and technology education (Khian Jui, 2008). Hence, a further exploration about the nature of this relationship is imperative.

PURPOSE OF THE STUDY

This study was primarily conducted to examine two major objectives: first, is to measure the relationship between formal mentoring and mentees' career. Finally, is to measure the relationship between informal mentoring and mentees' career.

LITERATURE REVIEW

This section provides theoretical and empirical evidence supporting the relationship between mentoring program and mentees' career.

Relationship between Mentoring Program and Mentees' Career

Most previous studies used a direct effects model to investigate general mentoring programs in Western organizations using different samples, such as 600 members

of a professional women's business association in US (Allen & Eby, 2004), 560 employees in Southeastern healthcare organization (Allen et al., 2005), employees in fortune 500 companies in US (Hegstad & Wentling, 2005), 510 first-line bank managers (Okurame & Balogun, 2005), and 194 practicing veterinarians (Niehoff, 2006). These studies found that properly implemented formal and informal mentoring activities (e.g., friendship, social support, role modelling, acceptance and participation) had been a determinant of individuals' career (Allen & Eby, 2004; Allen et al., 2005; Hegstad & Wentling, 2005; Niehoff, 2006; Okurame & Bologun, 2005).

These findings are consistent with the notion of organizational behaviour theory, namely Byrne and Griffitt (1973) similarity-attraction paradigm, and Bowlby (1969) attachment theory. In general, these theories state that comfortable interactional styles in planning and administering activities may affect individuals' advancement, especially career (Bowlby, 1969; Byrne & Griffitt, 1973; Turban et al., 2002; Young et al., 2006). Specifically, similarity-attraction paradigm (Byrne & Griffitt (1973) explicitly highlights that the integration of similarity, attractiveness, and liking are important determinants of effective human relationships in the workplace (Berscheid, 1994; Sprecher, 1998). Application of this theory in a mentoring program model shows that mentors who can do work cooperatively, communicate openly and clearly, and interact on social issues positively will positively motivate mentees' perceptions that they have similar values to mentors, high satisfaction with mentors and close contact with mentors. As a result, it may lead to an increased mentees' career (Turban et al., 2002).

Attachment Theory (Bowlby, 1969) states that our ability to develop and maintain relationships begins at a very early age based on our attachment to a parent or primary caretaker. In relation to a mentoring program, this theory may be used to explain how and why some mentors and mentees feel more comfortable to keep a professional relationship and/or develop a personal bond (Ainsworth et al., 1978; Young et al., 2006). Application of this theory in a mentoring program framework shows that comfortable interaction between mentors and mentees will positively motivate mentees' perceptions that they feel high security, trust and belongingness in mentoring activities. Consequently, it may lead to enhanced mentees' career (Allen et al., 2005; Scandura &Williams, 2001; Young et al., 2006).

Conceptual Framework and Research Hypothesis

The literature has been used as foundation to develop a conceptual framework for this study as shown in Figure 1.

Based on the framework, it seems reasonable to assume that the ability of mentors to properly implement formal and informal mentoring activities will influence UNIVSARAWAK mentees' career as this practice influences Western mentees' career. Therefore, it was hypothesized that:

H1:   There is a positive relationship between formal mentoring and mentees' career.

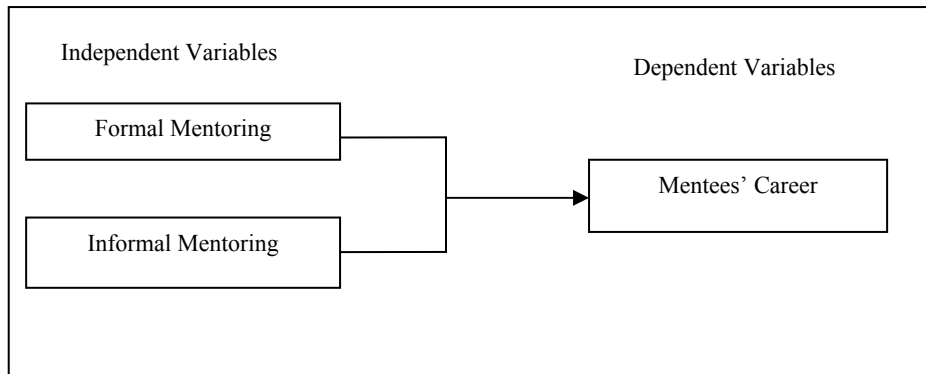H2:   There is a positive relationship between informal mentoring and mentees' career.

Independent Variables

Formal Mentoring

Informal Mentoring

Dependent Variables

Mentees' Career

Figure 1: Relationship between Mentoring Program Characteristics and Mentees' Career

METHODOLOGY

Research Design

This study used a cross-sectional research design that allowed the researchers to integrate literature review, in-depth interviews, pilot study and survey questionnaires as a main procedure to gather data for this study. As supported by many researchers, the use of such methods may gather accurate and less bias data (Cresswell, 1998; Sekaran, 2000). This study was conducted in one public university in Sarawak, Malaysia (UNIVSARAWAK). For confidential reasons, the name of the organization is kept anonymous. At the initial stage of data collection, the in-depth interviews were first conducted involving four experienced employees, namely two experienced human resource staffs, and two experienced academic staffs who work in the studied organization. They were selected based on a purposive sampling where the selected employees have working experiences more than seven years in the organization. Information gathered from the interview method shows that this organization has consistently and continuously implemented formal and informal mentoring programs since 1993. This mentoring program has been implemented to support the organization's vision, namely to become an exemplary university of internationally acknowledged stature and a scholarly institution of choice through human capital development programs, such as formal and informal mentoring programs.

These mentoring programs are concurrently implemented at non-academic division and academic division in the studied organization. In these mentoring models, mentors are management employees and senior employees whereas mentees are supporting staff and junior staff. Formal mentoring is often done through group discussion (i.e., department and teamwork meetings, counseling session, and performance appraisal session) in office hours at the workplace. Informal mentoring is frequently implemented through individual discussion (i.e., seek advice, personal meeting and gathering) after office hours and/or outside the workplace. In these relationships, mentors often interact with mentees through communication openness and participation styles as major instruments to deliver message, share knowledge and experience, encourage teamwork and promote collective decisions in mentoring programs. Majority employees perceive that properly implemented formal and informal mentoring activities will strongly increase comfortable interaction between mentors and mentees. As a result, it may lead to an increased mentees' career. Although the nature of this relationship is interesting, little is known about the role of such mentoring program characteristics as a predictor of mentees' career in the organization (Khian Jui, 2008).

The interviewed information helped the researchers to understand the nature of mentoring program, mentee career characteristics, and the relationship between such variables in the studied organizations. After refining, categorizing and comparing the information with the related literature review, the triangulated information was used as a guideline to develop the content of survey questionnaires for a pilot study. Next, a pilot study was conducted by discussing pilot questionnaires with four employees who work in the organization. Their feedbacks were used to verify the content and format of questionnaires for an actual survey. Back translation technique was used to translate the content of questionnaires in Malay and English in order to increase the validity and reliability of the instrument (Hulland, 1999; Van Maanen, 1983).

Measures

The survey questionnaires had four sections. First, formal mentoring had 5 items that were modified from mentoring management literature (Bisk, 2002; Hansford & Ehrich, 2006; Hansford et al., 2003). Second, informal mentoring had 9 items that were modified from mentoring management literature (Bisk, 2002; Chao et al., 1992; Kram, 1985 and Ragins and Cotton (1993, 1999). Finally, career had 6 items that were modified from career development literature (Allen & Eby, 2004; Hegstad & Wentling, 2005; Levesque et al., 2005). These items were measured using a 7-item Likert scale ranging from "very strongly disagreed/dissatisfied" (1) to "very strongly agreed/satisfied" (7). Demographic variables were used as controlling variables (i.e., gender, age, education, length of service, position and division) because this study focused on employee attitudes.

Unit of Analysis and Sampling

The unit of analysis for this study was 1456 employees who work in one public university in Sarawak, Malaysia (UNIVSARAWAK). In a data collection, HR manager did not provide the list of registered employees and did not allow the researchers to directly distribute survey questionnaires to employees who work in the organization. After considering this situation, a quota sampling was used to determine the number of sample based on the duration of study and budget constraints, which is 200 employees. Besides that, a convenient sampling technique was chosen to distribute survey questionnaires to employees because the researchers could not choose respondents randomly. Therefore, 200 survey questionnaires were distributed to employees who willing to answer survey questionnaires through contact persons (i.e., assistant HR manager, supervisors and/or heads of department/unit) in the organization. Of the number, 153 usable questionnaires were returned to the researchers, yielding a 76.5 percent response rate. The survey questionnaires were answered by participants based on their consent and a voluntary basis. Statistically, the number of this sample met the requirements of inferential statistics (Sekaran, 2003), this could be properly analysed to produce valid and reliable research findings.

Data Analysis

The Statistical Package for Social Science (SPSS) version 16.0 was used to analyse the data from the questionnaire. Firstly, Exploratory Factor Analysis (EFA) was used to assess the validity and reliability of measurement scales (Hair et al, 1998; Nunally & Bernstein, 1994). Relying on the guidelines set up by these statisticians, a factor analysis with direct oblimin rotation was first done for all the items that represented each research variable, and this was followed by other tests, that is, Kaiser-Mayer-Olkin Test (KMO), Bartlett's Test of Sphericity, Eigenvalue, variance explained and Cronbach Alpha (α). Secondly, Pearson Correlation (r) analysis and descriptive statistics were conducted to analyze the constructs and the usefulness of the data set (Tabachnick & Fidell, 2001; Yaacob, 2008). Finally, stepwise regression analysis was recommended to assess the magnitude and direction of each independent variable, and vary the mediating variable in the relationship between many independent variables and one dependent variable (Foster, Stine & Waterman, 1998). Baron and Kenny (1986) suggest that a mediating variable can be considered when it meets three conditions: first, the predictor variables should be significantly correlated with the hypothesized mediator. Second, all the predictor and mediator variables should also be significantly correlated with the dependent variable. Third, a previously significant effect of predictor variables should be reduced to non-significance or reduced in terms of effect size after the inclusion of mediator variables into the analysis (Wong, Hui & Law, 1995). In this regression analysis, standardized coefficients (standardized beta) were used for all analyses (Jaccard, Turrisi & Wan, 1990).

FINDINGS

Respondent Characteristics

Table 1 shows that most respondents were female (57.5 percent), male supervisor (56.9 percent), aged between 21 to 30 years (46.4 percent), STPM/Diploma holders (33.3 percent), staff who served less than 5 years (54.9 percent), non-academic staff (58.2 percent), and employees who worked in academic department (53.6 percent).

Table 1: Respondent Characteristics (N=153)

Gender (%)	Age (%)	Length of Service (%)
Male=42.5	21 to 30 years old=46.4	0 to 5 years=54.9
Female=57.5	31 to 40 years old=39.2	6 to 10 years=22.2
Supervisor's Gender (%)	41 to 50 years old=9.8	11 to 15 years=13.7
Male=56.9	More than 51 years old=4.6	More than 16 years=9.2
Female=29.4	Academic Qualification (%)	Position (%)
Male and Female=13.7	PMR=0.7	Academic Staff=41.8
(More than one	SPM=22.9	Non-Academic Staff=58.2
Supervisor)	STPM/Diploma=33.3	Division (%)
	Degree/Bachelor=15.0	Academic Dept=53.6
	Master Degree=18.3	Non-Academic Dept=46.4
	PhD =9.8	

Note:

PMR   : Lower Certificate of Education
SPM/MCE   : Sijil Pelajaran Malaysia/ Malaysia Certificate of Education
STPM   : Sijil Tinggi Pelajaran Malaysia/ Higher School Certificate

Exploratory Factor Analysis

Table 2 shows the results of validity and reliability analyses for measurement scales. A factor analysis with direct oblimin rotation was first done for four variables with 16 items. After that, Kaiser-Mayer-Olkin Test (KMO) that is a measure of sampling adequacy was conducted for each variable and the results indicated that it was acceptable. Relying on Hair et al. (1998), and Nunally and Bernstein's (1994) guideline, these statistical analyses showed that (1) the value of factor analysis for all items that represent each research variable was 0.5 and more, indicating the items met the acceptable standard of validity analysis, (2) all research variables exceeded the acceptable standard of Kaiser-Meyer-Olkin's value of 0.6, were significant in Bartlett's test of sphericity, (3) all research variables had eigenvalues larger than 1, (4) the items for each research variable exceeded factor loadings of 0.50 (Hair et al., 1998), and (5) all research variables exceeded the acceptable standard of reliability analysis of 0.70 (Nunally &

Bernstein, 1994). These statistical analyses confirmed that the measurement scales met the acceptable standard of validity and reliability analyses.

Table 2: The Results of Validity and Reliability Analyses for the Measurement Scales

Measure	Items	Factor Loadings	KMO	Bartlett's Test of Sphericity	Eigen value	Var	Cron bach Alpha
Formal Mentoring	5	.56 to .88	.75	4326.92	3.24	64.83	.86
Informal Mentoring	7	.65 to .87	.85	739.90	4.57	65.30	.91
Mentees' Career	5	-.66 to -.81	.85	405.86	3.42	68.40	.88

Analysis of the Constructs

Table 3 shows the results of Pearson correlation analysis and descriptive statistics. Means for all variables are between 5.0 and 5.5, signifying the levels of formal mentoring, informal mentoring, and mentees' career ranging from high (4.0) to highest level (7.0). The correlation coefficients for the relationship between the independent variable (i.e., formal mentoring and informal mentoring) and the dependent variable (i.e., mentees' career) were less than 0.90, indicating the data were not affected by any serious collinearity problem (Hair et al., 1998).

Table 3: Pearson Correlation Analysis and Descriptive Statistics

Variable	Mean	Std Var	Pearson Correlation Analysis		
			1	2	3
1. Formal Mentoring	5.5	.88	1		
2. Informal Mentoring	5.2	1.0	.45**	1	
3. Mentees' Career	5.0	1.1	.54**	.55**	1

Note: Significant at *0.05;**0.01
Reliability estimation is shown in a diagonal (1)

Outcomes of Testing Hypotheses 1 and 2

An examination of multicollinearity in the coefficients table in Table 4 shows that the tolerance value for the relationships (1) between the independent variable (i.e., formal mentoring) and the dependent variable (i.e., mentees' career) was 0.89, and

(2) between the independent variable (i.e., informal mentoring) and the dependent variable (i.e., mentees' career) was 0.96. These tolerance values were more than tolerance value of .20 (as a rule of thumb), indicating the variables were not affected by multicollinearity problem (Fox, 1991; Tabachnick et al., 2001).

Table 4:   Result for Stepwise Regression Analysis.

Variables	Dependent Variable (Mentees' career)	
	Step 1	Step 2
Control Variables		
Gender	.08	.04
Supervisor's Gender	.14	.04
Age	-.26*	-.12
Academic Qualification	-.02	.03
Length of Services	.21	.01
Position	-.01	.05
Division	-.07	-.08
Independent Variable		
Formal Mentoring		**.35***
Informal Mentoring		**.38***
R^2	.07	.42
Adjusted R^2	.02	.39
R^2 Change	.07	.35
F	1.52	11.58
F Change R^2	1.52	43.66***

Note: Significant at *0.05; **0.01; ***0.001

Table 4 shows the results of testing research hypothesis in Step 2. Firstly, formal mentoring positively and significantly correlated with mentees' careers (B=0.35, p<0.001), therefore H1 was supported. Secondly, informal mentoring positively and significantly correlated with mentees' careers (B=0.38, p<0.001), therefore H2 was supported. The inclusion of such mentoring program characteristics in Step 2 had explained 42 percent of the variance in dependent variable. Further, this result demonstrates that formal and informal mentoring programs are important predictors of mentees' career in the studied organization.

DISCUSSION AND IMPLICATIONS

This study confirms that mentoring program is an important predictor of mentees' career in the studied organization. In the organizational context, formal and informal mentoring programs are done according to the university's policy and procedures. Majority employees perceive that mentors and mentees comfortably

interact in formal and informal mentoring activities. As a result, it may lead to an enhanced mentees' careers in the studied organization.

The implications of this study can be divided into three categories: theoretical contribution, robustness of research methodology and practical contribution. In terms of theoretical contribution, the findings of this study show that the ability of mentors to properly implement formal and informal mentoring activities will create positive learning climate, which allow communication openness, knowledge sharing and active participation styles in planning and managing organizational functions, such as human resource, finance, academic program, and physical facilities. Consequently, it may lead to increased mentees' career in the organization. This result consistently supports studies by Allen and Eby (2004), Allen et al. (2005), Hegstad and Wentling (2005), Okurame and Bologun (2005), and Niehoff (2006). With respect to the robustness of research methodology, the measurement scales used in this study have exceeded a minimum standard of validity and reliability analysis. This situation may lead to the production of accurate and reliable findings.

In terms of practical contributions, the findings of this study can be used as guidelines by management to improve the design and administration of mentoring programs in organizations. In order to meet these objectives, management can introduce some improvements in the aspects: firstly, update learning content and method. For example, training content should be revised at least every three years in order to impart the up to date knowledge, relevant skills and abilities, as well as good moral values. These training contents may ease mentors and mentees to understand and practice the up to date knowledge, relevant skills and abilities, as well as good moral values in the workplace if they are properly trained through oral, skills and team based training methods. Secondly, encourage comfortable interaction style between mentors and mentees in formal and informal mentoring programs. For example, mentors should allow mentees to provide suggestions, comments and take part in planning and managing mentoring activities. If these practices are properly implemented this will increase mentees' feelings of satisfaction, trust, appreciation and acceptance in the mentoring programs. Third, diversify mentoring activities. For example, mentoring activities should be creatively implemented to satisfy mentees' needs and preferences, such as family day, sport, camping and tournament. These activities may lead to strengthen brotherhood, accountability and job motivation in the workplace. If organizations heavily consider the above suggestions this may strongly motivate mentors and mentees to support the implementation of critical organizational policies, such as engineering and technology education policy.

CONCLUSION

This study proposed a conceptual framework based on the mentoring research literature. The measurement scales used in this study satisfactorily met the standards of validity and reliability analyses. The outcomes of stepwise regression analysis confirmed that mentoring program had been an important predictor of

mentees' career in the studied organization. This result has supported previous studies and extended mentoring research literature mostly published in Western organizational settings. Therefore, current research and practice within mentoring program models needs to consider formal and informal mentoring activities as a crucial element of organizational mentoring program where the ability of mentors to properly implement formal and informal relationships may strongly increase positive subsequent mentee outcomes (e.g., career, psychosocial, satisfaction, commitment, performance, trust, and ethics). Thus, these positive outcomes may lead mentors and mentees to maintain and enhance academic excellence in institutions of higher learning.

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