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A STUDY OF MENTOR-PROTEGE PERSONALITY FIT

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A Thesis Submitted in Partial Fulfillment of the Requirements

for the Degree of Master of Arts Program in Industrial and Organizational Psychology

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เมนทอร์เป็นขบวนการที่ผู้ให้การเมนทอร์ ซึ่งปกติจะเป็นบุคคลผู้มีอาวุโสสูงกว่า ให้การช่วยเหลือสนับสนุนผู้รับการเมนทอร์ ซึ่งปกติจะเป็นบุคคลผู้มีอาวุโสน้อยกว่า โดยให้ความสนับสนุน 11 ชนิดซึ่งแบ่งตามกลุ่มใหญ่ได้สามประเภทคือ (1) การสนับสนุนที่เกี่ยวกับเนื้องาน (2) การเป็นแบบตัวอย่างที่ดี และ (3) การเกื้อหนุนทางจิตใจ เมนทอร์แบ่งได้เป็นสองประเภทตามลักษณะการเริ่มต้นความสัมพันธ์คือ การเมนทอร์อย่างไม่เป็นทางการซึ่งจะเกิดขึ้นเองโดยธรรมชาติ และการเมนทอร์อย่างเป็นทางการซึ่งเกิดขึ้นด้วยการที่มีผู้ชักจูงจัดคู่ผู้ให้และผู้รับการเมนทอร์ อีกทั้งยังฝึกอบรมสนับสนุนให้ความสัมพันธ์ดำเนินไป

วิทยานิพนธ์ฉบับนี้ศึกษาผลความสอดคล้องทางบุคลิกภาพของคู่เมนทอร์กับประสิทธิผลของการเมนทอร์โดยใช้แบบวัดบุคลิกภาพมายเออร์บริกส์ วัดและเปรียบเทียบความสอดคล้องทางบุคลิกภาพ อีกทั้งยังให้คู่เมนทอร์ระบุถึงระดับความมากน้อยของการให้และการรับความช่วยเหลือสนับสนุนกับคู่เมนทอร์ของตน และให้แต่ละคนบ่งบอกถึงระดับความสำเร็จของการเมนทอร์ที่ตนเองคิดว่าเป็นอยู่ การวิจัยครั้งนี้ใช้สถิติวิเคราะห์ลิสเรล ได้ผลว่าความสอดคล้องทางบุคลิกภาพมีผลต่อความสำเร็จการเมนทอร์ในทางบวก ด้วยสัมประสิทธิ์การถดถอยรวม .31 ความสัมพันธ์นี้เกิดขึ้นได้ด้วยการผ่านทางตัวแปรส่งผ่านอย่างเต็มรูปแบบ คือผ่านองค์ประกอบของความช่วยเหลือสนับสนุนทั้งหมด จากนั้นระดับการช่วยเหลือสนับสนุนที่เป็นอยู่ส่งผ่านอิทธิพลต่อด้วยความสัมพันธ์เชิงเส้นตรงกับความสำเร็จของการเมนทอร์

วิทยานิพนธ์นี้ได้นำเสนอโมเดลแข่งขันเพื่อเปรียบเทียบกับโมเดลหลักของการวิจัย โดยให้ผู้ตอบแบบสอบถามประเมินบุคลิกภาพของคู่เมนทอร์ในอุดมคติและเปรียบเทียบกับคู่เมนทอร์ปัจจุบันแทนที่จะใช้แบบวัดบุคลิกภาพมายเออร์บริกส์ของโมเดลหลัก ส่วนประกอบอื่นๆที่เหลือคล้ายคลึงกับโมเดลหลัก จากการวิเคราะห์พบว่าผลลัพธ์ที่ได้โมเดลแข่งขันมีกลไกไม่แตกต่างจากโมเดลหลักที่แปลงมาเพื่อปรียบเทียบโดยมีสัมประสิทธิ์การถดถอยรวมที่ .33 ซึ่งต่ำกว่าโมเดลหลักที่แปลงมาเปรียบเทียบ (.43)

สาขาวิชาจิตวิทยาอุตสาหกรรมและองค์การ ลายมือชื่อนิสิต.....
ปีการศึกษา 2550 ลายมือชื่ออาจารย์ที่ปรึกษา.....
ลายมือชื่ออาจารย์ที่ปรึกษาร่วม.....

4878299138 : MAJOR INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY

KEY WORD : MENTORING / MENTOR / PROTEGE / PERSONALITY FIT/ MYERS-BRIGGS TYPE INDICATOR

PITAK SRISAKOLKIT : A STUDY OF MENTOR-PROTEGE PERSONALITY FIT

THESIS ADVISOR : ASSOC. PROF. SOREE POKAEO Ed.D.,

THESIS CO-ADVISOR : EMERITUS PROF. NONGLAK WIRATCHAI Ph.D., 203 pp.

Mentoring was a process by which a mentor, who usually was a more senior person, provided supports to a protégé, who usually was a less senior person. Mentor provided protégé with eleven mentoring tasks, which could be categorized into three kinds of mentoring functions - (1) career related, (2) role model, and (3) psychosocial supports. Mentoring could be described, by the nature of relationship initiation, as informal and formal mentoring. While informal mentoring occurred spontaneously, formal mentoring needed a facilitator to match mentor-protégé pair and to encourage the relationship.

The thesis studied the effect of personality fit on subjective success of mentoring. This study employed Myers-Briggs type indicator (MBTI) as an instrument to measure, and to compare the similarity of personality. The study asked respondents to report the level of mentoring functions that both counterparts of pairings provided and received as well as individual's evaluation of success of mentorship. By using Lisrel program, the study found that personality fit had a positive relationship with success of mentorship at a total regression coefficience of .31. This relationship was fully mediated by mentoring functions. The more similar personality was, the higher level of mentoring functions was exchanged. Then, level of mentoring function translated to success of mentorship. A competing model was proposed by using self-assessment of personality instead of MBTI. The competing model compared perceived similarity of ideal and actual counterpart's personalities. Competing model derived at a similar mechanism as comparable altered main model, but it had less total regression coefficience (b = -.33) comparing to altered main model. (b = -.43)

Field of Study - Industrial and Organizational Psychology Student's signature .....

Academic Year 2007 Advisor's signature .....

Co-advisor's signature .....

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TABLE OF CONTENTS

Chapter Page

Chapter Page

Chapter Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

A mentor, usually a senior and more experiences employee than a protégé, committed to provide a protégé with work related support and psychosocial support in order for a protégé to progress in work status. Mentoring had been practicing naturally in all kinds of organization when two persons were interested in each other's works. One party initiated the relationship. For example, a protégé-to-be asking for advices, a mentor-to-be reciprocally accepted the mentoring relationship. Bond between a mentor and a protégé grows. This natural formation of mentoring relationship was referred as *informal mentoring*. Since 1978, mentoring had been receiving public attentions. Scholars and researchers continually published the studies, mainly on informal mentoring. Large numbers of organization across the United States had set up *formal mentoring* program by matching and facilitating mentor-protégé relationship in order to mimic the informal mentoring. (Allen, Eby, & Lentz, 2006)

Problem Statement

While originated and studied in the context of informal mentoring, mentoring had been used extensively by business organizations as a career development tool but in the form of formal mentoring, whose initiation of mentoring relationship was induced by the third party, mainly by a human resource department. Formal mentoring continued to gain popularity among organizations despite of limited numbers of empirical research to support formal form of mentoring. (Allen et al., 2006) It had been proved that, informal mentoring was more effective than formal mentoring, but formal mentoring was still better than no mentoring at all. (Allen et al., 2006; Allen, Eby, Poteet, Lentz, & Lima, 2004; Ragins & Cotton, 1999) In most cases, matching for formal mentoring was made on the convenience and availability basis. The best effort, which had been found in one study, was that the matching decision was made by the executive committee considering the common interests between mentor and protégé. (Hirschfeld, Thomas, & Lankau, 2006)

The problem aroused when, on one hand, scholars and researchers were studying informal mentoring. On the other hand, practitioners were conducting formal mentoring program. Because of relatively little understanding in the nature and underlying functions associated with formal mentorship, formal mentoring was often facing with ineffectiveness, dysfunctional, or even destructive results. (Feldman, 1999; Scandura, 1998) A mentor-protégé mismatching was one of the most commonly problems, which had been founded in formal mentoring. Mismatching came from, but not limited to difference in values, backgrounds, experiences, age, interests, and personality. (Eby & Lockwood, 2005) To help formal mentoring practitioners gaining better understand mentor-protégé matching problem, this study classified causes of mismatching into two categories, problem of *personality fit*, and problem of *logical fit*.

Problem with Personality Fit

"Personality was an individual's unique constellation of psychological traits and states, including aspects of values, interests, attitudes, worldview, acculturation, sense of personal identity, sense of humor, cognitive and behavioral styles, and related characteristics." (Cohen & Swerdlik, 2005, p. I_18) The variation in personality traits, in some case as much as three quarters of total variance for differences between individuals, was due to hereditary factors. (Eysenck & Eysenck, 1969) Personality could be assessed by using psychometric instruments, mostly in the form of self-report to the personality inventories, to measure the states of emotion, motivational, interpersonal, and attitudinal characteristics, as distinguished from abilities. (Anastasi & Urbina, 1997) Problem with interpersonal incompatibility of personalities started with a dislike of each other. Sequentially, it brought uncomfortable interaction, which disrupted effective communication. Result was a poor cooperation in workplace.

Since personality could be measured by using Myers Briggs type indicator (MBTI), personality could be statistically compared the fitness between mentor-protégé pairing. Therefore, this study aimed at measuring the personality fit against the result of mentoring process, which could be measured, indirectly with subjective success of mentoring.

Problem with Logical Fit

Personality fit was not the only problem contributing to mentor-protégé mismatching. There were other personal attributes, which made pairing incompatible, such as difference in underlying attitudes, values, beliefs, backgrounds, experiences, interests, career goal, and work-family status. (Allen, 2003; Turban, Dougherty, & Lee, 2002) These factors were conglomerated as logical fits. (Cholvanich, 2007) These logical fits were complex issues which some of them could not be measured with self-report questionnaire. Therefore, this thesis did not cover the logical fit and hoped that future study would look into these subject matters.

Significance of the Study

Personality fit was the extent to which mentor's and protégé's personalities were in high congruency. This definition was conferred with *person-environment fit* theory. (P-E) Holland (1985, cited in Kidd, 2003) had theorized that people and occupational environment could be classified into six interest types: realistic, artistic, investigate, social, enterprising, and conventional. (RAISEC) Holland's theory indicated that congruency with these factors resulted in job satisfaction and stability. By the same virtue, personality congruence was a complementary fit part of occupational environment. Personality fit "made whole" and added the missing part to P-E fit. (Smith, 2003)

Personality fit in general benefited organization in many ways. At interpersonal level, personality fit helped increase affective reactions that were cohesion, satisfaction, and commitment. At team level, personality fit helped in better communicating, reducing conflict, and increasing cooperation. (Jackson, Joshi, & Erhardt, 2003)

In mentoring context, personality fit was the basis by which mentor and protégé would captivate each other according to *similarity attraction paradigm*. (Allen & Eby, 2003) This would increase the level of comfort and enhance communication

between mentor and protégé. Thus, personality fit increased effectiveness of mentorship. (Ragins, 1997) Godshalk and Sosik, (2003) had indicated that both *leader member exchange* (LMX) theory and similarity attraction paradigm suggest that the similarity of both parties' attributes such as learning goal orientation promoted interpersonal attraction and enhanced interactions, mentor's mentoring functions, and protégé's career related outcomes. Another support of personality fit on mentoring was that *theory on dyads* indicated upon mutual attainment of dyads interaction goals was enhanced by relevant similarities between the two individual composing a dyad. (Hirschfeld et al., 2006) Without a surprise, Wanberg et al., (2006) had reported that protégés who perceived themselves as similar to their mentors concerning issues such as values, perspectives, and work styles reported receiving higher levels of both career and psychosocial mentoring than otherwise.

As mentioned earlier, personality fit was one of the causes comprising the mentor-protégé mismatch. Allen, Poteet, and Burroughs, (1997) had stated that interpersonal similarity attracted the mentor-protégé relationship but did not empirically prove that. Several years later, Allen and Eby (2003) had explained that the theory of similarity attraction paradigm was the basis by which mentor and protégé would attract and affect each other whose characteristics were similar to themselves based on values, interest, and personality. This time they had proven that the relationship between personality similarity and success of mentorship was significant. A mentor-protégé couple with high similarity on the above aspects reported high mentorship quality and high mentorship learning. However, the perceived similarity measurement employed in the said study was merely one question with a three-point rating scale, which seemed inadequate. Therefore, it deemed appropriate to confirm this finding by using a full-scale personality test (MBTI) and statistically to compare the personality fit with success of mentorship. Prior to the said study, Eby, McManus, Simon, and Russell (2000) had already reasoned that perceived and actual similarity between individuals, or in other word personality fit, enhanced a perception of shared identity and liking. In turn, they affected the quality of work-related dyadic relationship.

As a precaution, personality fit between mentor and protégé was one of the earliest issue organization could address in order to prevent mismatching and to improve the effectiveness of formal mentoring program.

Purpose of the Study

This thesis employed an exploratory research procedure. Since this study approached the personality fit issue differently from previous researches by using MBTI, no specific hypothesis could be properly set. The study had one main objective to explore personality fit as described in aforementioned sections. However, as a good practice to make optimum usage of information gathering from one study, five secondary objectives were generated. Six statistical procedures were planned as followed:

1) This study used Ragins and McFarlin's (1990) 33-items mentor role instrument for measuring mentoring functions. A confirmatory factor analysis indicated as how many mentoring functions this study supported.

2) In order to prevent spurious variance that was caused by difference in personality profiles between mentor and protégé, a multi-group Lisrel was conducted to test whether personality profiles of mentors and protégés were similar.

3) Mentorship period of participants was ranged from one month to over two years. MANOVA statistical procedure could confirm Kram's (1985) mentoring phases whether initiation phase protégé received different mentoring functions from cultivation phase protégé.

4) A main model compared personality fit of each mentor-protégé pair and established cause and effect toward subjective success of mentorship on both sides of dyadic relationship. Mentoring functions act as a mediator in this model for both parties.

5) In order to verify Kram's (1985) notion, MANOVA statistical procedure was conducted to test whether one wanted ideal counterpart's personality to be like oneself.

6) Similarity attraction paradigm suggested that individual's perception of similarity was important. Instead of measuring personality, a competing model was proposed to measure perception of similarity instead of personality test itself. This competing model was then compared with the model using MBTI as indicator of personality fit. The altered main model had been adjusted its structure in order to be able to directly compare with competing model.

Definition of Mentoring

There were many definitions for mentoring used by different researchers. Following was the chosen definition to be used in this thesis:

> A mentoring relationship was a one-to-one relationship between a more experienced member (mentor) and a less experienced member (protégé) of the organization or profession. The relationship was developed to promote the professional and personal growth of the protégé through coaching, support, and guidance. Through individualized attention, the mentor transfers needed information, feedback, and encouragement to the protégé as well as providing emotional support and putting a good word when possible. (Mullen, 1994, p. 259)

Literature Review

There was no historical evidence as to when mentoring had taken place. Many literatures had dated mentorship back to Greek mythology (Allen et al., 2004; Osborn, Waeckerle, Perina, & Keyes, 1999; Russell & Adams, 1997) of Homer's book titled *The Odyssey*. When Odysseus went to fight the Trojan War, he left his son, Telemachus, in the custody of his beloved friend named *Mentor* but he did not returned home. In search for his father, Telemachus had set out for a journey to find Odysseus along with Mentor. Mentor had assisted Odysseus's son by advising and teaching

through many difficult situations for Telemachus to become a stronger leader and a future king. Athena, the goddess of wisdom, had disguised in the form of Mentor, also had given many critical advises to Telemachus as well. By demonstrating this loving and caring dyad through personal relationship, mentoring was referred to "gift of god."

Looking at mentoring with a more realistic view, it made a logical sense to confer mentoring with apprenticeship. (Glazera & Hannafin, 2006) In medieval period when merchants had to travel a years-long journey, it was very common that they were accompanied by grooms. During long and lonely years, merchants taught their companions tricks of the trade. As they went through strange and sometimes dangerous places, they had developed mutual trust and rapport. Grooms then became protégés who eventually took place of merchants, the mentors, when they were retired. Empirical evidences had indicated that mentoring had received public attention, both practitioners and scholars, when Levinson (1978) had published his book titled *The seasons of a man's life*. (Feldman, 1999) Researchers had started to investigate the role of mentorship in a career development of young adults. Among those researchers, Kram had published a very popular mentoring book in 1985 titled *Mentoring at work: Developmental relationships in organizational life*. (Pollock, 1995) This book was still cited among mentoring journals. In Kram's book, an individual being mentored was called a protégé. The term was of Latin origin (protegere) which implied a protected person or a favorite. (Luecke, 2004)

Literature reviews consisted of three main topics: (1) theoretical framework of mentoring, (2) Myers-Briggs type indicator, and (3) structural equation modeling.

Theoretical Framework of Mentoring

Theoretical framework of mentoring was organized into eight parts that were: (1) mentoring function, (2) phases of mentoring, (3) relationship at successive career stage, (4) types of mentorship, (5) antecedents, (6) consequences, (7) dysfunctional mentoring, and (8) contemporary issues on mentoring.

In Kram's (1985) seminal work, she had conducted an in-depth interview study of relationships between older manager (mentor) and younger manager (protégé) in a corporate setting. These relationships were engaged voluntarily whereby the older adults commit to providing supports to the younger adults. This became the classic informal mentoring model. Initially, mentor provided nine mentoring functions, which could be summarized in two broad categories: career and psychosocial functions. Career functions were the supports and relationships that enhanced protégé's career advancement in an organization. Psychosocial supports were the relationships, which enhanced protégé's senses of competence, identity, and effectiveness in a professional role. Subsequent researches using confirmatory factor analysis indicated that role modeling was the third mentoring function, separating from career function and psychosocial function originally proposed by Kram. (Allen et al., 2004; Godshalk & Sosik, 2003; Herbohn, 2004; Scandura & Viator, 1994) Role modeling was reasoned to be different from other psychosocial functions because it was passive in nature as protégé observed mentor's behaviors while mentor actively provided other psychosocial supporting functions. Ragins and McFarlin (1990) had added two more mentoring functions - social relationship function and parental role function - to Kram's original work. Thus, eleven mentoring functions were grouped into three categories – career related, role modeling, and psychosocial functions. (Figure 1.1)

Career related functions	Role modeling function*	Psychosocial functions
Sponsorship	Role modeling*	Acceptance-and-confirmation
Exposure-and-visibility		Counseling
Coaching		Friendship
Protection		Social relationship†
Challenging assignments		Parental role†

Figure 1.1 Mentoring functions

Note. Original two mentoring categories from Kram (1985). *Mentoring at work: Developmental relationships in organizational life*, p. 23, Glenview, IL: Scott, Foresman and Company.

* Role model as the third function from Allen et al. (2004); Godshalk and Sosik (2003); Herbohn (2004); Russell and Adams, (1997); Scandura and Viator; (1994) Scandura and Williams. (2001)

†Two additional mentoring functions from Ragins and Cotton (1999). Mentor functions and outcomes: A comparison of men and women in formal and informal mentoring relationships. *Journal of Applied Psychology, 84(4)*, p. 550.

1. Mentoring Function

Mentoring was a dyadic relationship between two persons, typically one with more experiences (mentor) and one with fewer experiences (protégé). The mentoring relationship had special characteristics over other work relationships. The mentoring relationship aimed at providing both sides of mentoring counterparts with individuals' growth and advancement. While a mentor provided mentoring functions, a protégé reciprocally provided supports to mentor as well. Mutual benefit was one of many characteristics that made mentoring different from other work relationship. In this thesis, eleven mentoring functions were classified into three categories.

1.1. Career Functions

Career functions were those functions the mentor provided protégé for the purpose of protégé's own career advancement in the organization and the organization itself. (Wanberg, Kammeyer-Mueller, & Marchese, 2006) Especially when a protégé was new to the organization, career functions help protégé to learn appropriate working behaviors effectively. These functions include sponsorship, exposure-and-visibility, coaching, protection, and challenging assignments. Five career functions had three common characteristics. First, mentor who usually was a senior manager held a relatively high rank position with more experiences and organizational influences. The extent to which protégé would succeed in the career advancement depended on mentor's organization influence. Once known to other employees, protégé often carried mentor's halo to some extent. Secondly, career functions gave more chances for protégé to carry out important assignment under protection of mentor. With mentor's support and guidance, protégé was more-likely to succeed than fail since mentor held a common stake with protégé and therefore providing protection to ensure protégé's success. Thus, protégé could travel a faster tract, gained exposure, and obtained promotion. Thirdly, protégé carried out assignments for mentor beyond and over basic responsibilities on one's own merit. Mentor gained respects from peers and organization by developing young talent for the society while protégé received

recognition as being high potential. The five career functions were sponsorship, exposure-and-visibility, coaching, protection, and challenging assignments. The details of which were as followed:

1.1.1. Sponsorship. The most frequently observable dyadic relationship in the organization atmosphere was the sponsorship. Without anyone supporting career advancement, an employee eventually ended up being a dead wood. Sponsorship involved actively nominating a protégé for a desirable lateral movement or hierarchical promotion. Sponsorship could be formal such as direct appraisal or recommendation in the committee. It could also be informal such as one-on-one conversation, pushing through the political network, or within "big boy club." (informal network and communication among high rank officers) "By virtue of his or her gatekeeper status, a mentor had access to resources that a protégé desires, including access to challenging job assignments, organizational information," (Eby, McManus, Simon, & Russell, 2000) reciprocal network relationship, cooperation from other departments, immunity, or a simple direct promotion. If a protégé relied upon single sponsor, one's career would be fluctuated depending on the sponsor. If one's mentor left the company, or was transferred to the position out of reach, protégé career might doom. It was always a safe strategy for one to build a network of sponsorship. Sponsorship benefits mentor as well. If a protégé succeeded, corporate viewed a mentor as having a good judgment and contributing to the growth of corporate personnel. Having a numbers of successful protégé climbing up a corporate ladder, a respectful mentor built a network of loyal protégés and accumulated one's own political power.

1.1.2. Exposure-and-visibility. As its name implies, this career function was twofold - to see (be exposed to environment) and be seen (be visible by others.) The exposure-and-visibility occurred when a mentor gave chances to a protégé by overtaking interdepartmental tasks - written communication or direct contact - involving high rank officers of departments outside their own. A protégé would learn the other parts of organization one inspired to be with and learned the way to be in that desiring position. A protégé had a chance to demonstrate one's capabilities and be visible to

key persons so that one became a viable candidate when the next promotion was available.

1.1.3. Coaching. A mentor guided a protégé to perform a task effectively. Equipped with experiences, a mentor provided specific strategies for a protégé to accomplish work objectives. At an early stage of protégé's career, a mentor provided a how-to tool so that a protégé gained one's own capability and experiences. At mid stage, a mentor provided strategies for a protégé to maneuver through corporate life. At late stage even though a protégé needed no more advise of how to did things, a protégé still needed information available only through connections with more senior managers.

1.1.4. Protection. There was time, especially when a protégé was new to an organization, a person needed a shield against one's deficiency. When a mentor perceived a potential threat or a harmful situation to a protégé, be it a delay of work or about-to-be a mistake, a mentor could choose to intervene the situation. Because of a higher rank position and a better record of accomplishment, a mentor could afford to be in a tough situation, taking blame or credit. Especially in a controversial issue, good reputation of a mentor could rescue a protégé from difficulty and camouflaged shortcoming of protégé's ability.

1.1.5. Challenging assignments. This career function was a task-related relationship, which was a unique characteristic of this direct report situation. The mentor, who was also a direct supervisor of a protégé, assigns a difficult departmental work to a protégé together with appropriate technical trainings and ongoing performance feedbacks. It was important for every employee to increase one's capability to perform more complicate duties if one wants to advance in the organization. It was vital that the mentor continually provided critical feedbacks on specific tasks and encouraged protégé to perform complicate duty beyond normal employees would have been responsible for without feeling overwhelmed by the burden or getting angry at the assignments. Challenging assignments not only prepared a

protégé to be ready for the promotion but also relieved a mentor from technical responsibility. It was a chain reaction. The more free time a mentor had the better quality coaching and feedback a protégé received.

1.2. Role Modeling Function

In Kram's (1985) original work, role modeling was grouped with psychosocial function. When statistical technique advanced and the power of computer increased, subsequence researches had confirmed by using confirmatory factor analysis that role modeling belonged to its own class, the third function. (Allen et al., 2004; Godshalk & Sosik, 2003; Herbohn, 2004; Russell & Adams, 1997; Scandura & Viator, 1994; Scandura & Williams, 2001) The major characteristic that distinguished role modeling from other psychosocial function was that role modeling was passive in its nature.

Role modeling. Role model was defined as "a cognitive construction based on the attributes of people in social roles an individual perceived to be similar to him or herself to some extent and desired to increase perceived similarity by emulating those attributes." (Gibson, 2004, p. 136) Role modeling was the intentional behaviors performed by a person who was well liked, respected, and admired by other persons. (Godshalk & Sosik, 2003) Role model could have influence over others by setting an example of proper and desirable behaviors for those to imitate. (Yukl, 2002) *Social learning theory* proposed that one mechanism by which individual learned was the observation of others in ones social environment. (Bandura, 1977) From this theory, it could be conferred that modeling process took place as protégé learns organization roles from mentor. A mentor exhibited appropriate manners and provided a protégé with roles that governed effective behaviors and norms, also known as "the rope," in the organization. (Allen et al., 2004) According to an old saying, "actions spoke louder than words," a mentor could influence a protégé by setting examples of desirable behaviors in day-to-day interactions with mentor. Role modeling was sometimes called "leading by example," which played an important role of an *idealized influence* in *transformational leadership*. (Scandura & Williams, 2004) Idealized influenced

represents exhibition of role modeling behaviors through exemplary personal achievement. (Godshalk & Sosik, 2003) Therefore, transformational leadership was performance-oriented side of mentoring while mentoring was development-oriented equivalence. (Sosik & Godshalk, 2000; Sosik, Godshalk, & Yammarino, 2004)

For a mentor to ensure that a protégé was developing proper attitudinal behaviors, a mentor needed to exhibit consistent behavior that role models the type of beliefs and values one wanted to create in the organization. (Locke, 2004) A mentor's attitude, value, and behavior provided a model for a protégé to emulate without any active effort or conversation from a mentor. The disadvantage of role modeling was that it could not be controlled. It also depended on what a protégé translated roles to emulate. For that reason, the hard part was that to become a role model was a life-long duty. A good role model must be conscious at all times, better yet genuinely good from conscience. Role model continually sent messages form a mentor to a protégé by mentor's actions, conversations, and gestures. Protégé selectively learned from exposing messages. Subjected to protégé's interpretations, perceiving roles became norms for protégé. Role modeling benefited both mentor and protégé. A protégé discovered valuable parts of self by identifying with a mentor; and mentor rediscovered valuable parts of self in protégé's developing identity.

1.3. Psychosocial Functions

Psychosocial functions were those nurturing relationships (Godshalk & Sosik, 2003) that a mentor actively provided to a protégé in order to enhance protégé's senses of competence, identity, and effectiveness in a professional role. Psychosocial functions were more personally, relying on emotional bond between mentor and protégé. (Wanberg et al., 2006) These benefits directly related to protégé's intrinsic job satisfaction. These functions included acceptance-and-confirmation, counseling, friendship, social, and parent. Psychosocial functions affected both mentor and protégé on a more personal level than career functions. Their benefits extended beyond career advancement in the organization and generally carried over the other

sphere of life such as a sense of self-worth, identity, dignity, and even to family-work life congruency. Allen (2003) had indicated that mentors who were motivated by different factors might provide different mentoring functions. A mentor who was high on helpfulness was better at providing career functions mentoring whereas the person with high on empathy was more comfortable in providing psychosocial ones. While career functions rely upon mentor's experiences, psychosocial functions depend more on the quality of interpersonal relationship. A special characteristic of psychosocial function was that the emotional bond underlying the relationship was a vital element to the effectiveness of the roles. That is, both parties reciprocally respect and trust each other. This was why similarities in values, interests, and personality, which influenced the liking of each other, played important roles in psychosocial relationship. The five psychosocial functions were acceptance-and-confirmation, counseling, friendship, social relationship, and parental role. The details of which were as followed:

1.3.1. Acceptance-and-confirmation. This function provided both mentor and protégé a sense of self from the positive regard, respect, and well wishing by each other. When a protégé developed competency in the profession, the mentor showed an acceptance of such accomplishment and confirmed the protégé to continue with encouragement. Usually at the mid-career stage, a mentor received slower advancement and less frequent recognition. When receiving acceptance-and-confirmation, a protégé appreciated the usefulness of the mentor who was passing the wisdom and experiences. In return, a mentor felt the sense of self-esteem, generativity, nurturance, and intrinsic satisfaction of parent watching children grew. (McManus & Russell, 1997) Acceptance-and-confirmation also enabled a protégé to experiment with new behaviors and taking risks to venture into unfamiliar way of approaching the world of work. Knowing that a mentor was watching and providing feedback in a nurturance nature, a protégé became more willing to disagree and started conflict in the relationship by whose tolerance of differences allowed a protégé to discover self-differentiation.

1.3.2. Counseling. As a protégé was facing personal concerns that might interfere with positive sense of self in the organization, protégé could discuss with a mentor openly about anxiety, fear, and ambivalence that detracted a protégé from productive work. A mentor who had more experiences provided a sounding board for this self-exploration, offering advises, helping resolving problems through feedback and active listening. At early career stage, a protégé concerned about developing competency and potential. A protégé was also developing relationship with peers and supervisors together with incorporating the organization responsibility with other sphere of life. The extent to which how well a protégé navigated through one's adulthood depended upon a proper counseling besides a good role modeling. At each successive career stage, a protégé would have personal concerns about self, career, and family that shift with age and experiences. An experience mentor could provide ample resources for counseling since a mentor had been through the same career passage a protégé about to travel. In providing counseling, a mentor became a confidant for a protégé, which enabled a protégé to feel helpful, valuable, and productive.

1.3.3. Friendship. This psychosocial support occurred through social interaction, which resulted in mutual liking, understanding, and enjoyable exchange of experiences about work and extra activity. A friendship made relationship pleasurable since it narrowed the gap between dyadic relationships. Friendship made protégé to feel like a peer with a mentor and thus reducing an authoritative distance of hierarchical structure. A mentor received benefits from friendship by maintaining connection with the youthful part of self, reducing fear of growing older, and avoiding becoming obsolete through staying in touch with younger generation.

1.3.4. Social relationship. This psychosocial functions came from 33 items mentor role instrument (Ragins & McFarlin, 1990) which allowed for a separate analysis of original Kram's (1985) nine mentoring functions plus two additional functions, social relationship and parental role. (Ragins & Cotton, 1999) These two functions were the extension of Kram's study of cross gender mentoring when a protégé might seek to

avoid sexual issues by viewing one's mentor as a parent figure or by avoiding informal, after work social interaction. Social function referred to an informal interaction outside organization setting, for example, engaged in activities at leisure time, or socialized one-on-one outside workplace. Ragins and Cotton had reported that female protégés with female mentors were significantly more likely than female protégés with male mentors to engage in after work social activities.

1.3.5. Parental role. One of the reasons for being a mentor was that a mentor saw a younger version of self in a protégé. (Anderson, 2005; Ragins, 1997) At mid career stage, a sense of generativity, as opposing to stagnation, (Erickson, 1963, 1968; cited in Kram, 1985) stimulated a mentor to provide mentorship functions. As a mentor grew older and children began to leave home, one's parenthood became a significant reason to mentor a protégé. There were situations, which encouraged parental role of mentoring functions such as age difference, gender difference, (Eby & McManus, 2004) nurturing inclination, or substitution of either side's family deficit.

2. Phases of Mentoring

Mentoring relationship went through a predictable pattern, which could be described as four phases - initial, cultivation, separation, and redefinition phase. The details of which were as followed:

2.1. Initiation phase. An initial phase was a period of six month to one year after a relationship begins. A protégé possessed a high expectation from the relationship at which Kram had called "fantasies became concrete expectations." A mentor was anxious about how the relationship would work out. Mentor mostly provided coaching, challenging work, and visibility. In turn, protégé provided technical assistance and respect. (Kram, 1985)

2.2. Cultivation phase. This period was the most fruitful among all phases and lasted between two to five years. It was the most intense relationship period when mentor provided the maximum capacity of career function as well as psychosocial

function. Protégé made advancement at one's fullest potential. Both individuals continue the cultivation phase as long as both felt the advantages. Emotional bond deepened and intimacy heightens. The relationship gradually became more like peer. (Kram, 1985)

2.3. Separation phase. When there was a substantial change either physically (e.g., promotion or job transfer) or emotionally (i.e., protégé needed independency and no longer need guidance; or a mentor was facing a midlife crisis), relationship decreased or even turned dysfunctional. Conflicts might happen such as jealousy or blocked opportunity on both ends, which caused resentment or sabotage toward each other. This period needed to be resolved into a new relationship phase or ended the mentoring relationship altogether which usually took six months to two years. (Kram, 1985)

2.4. Redefinition phase. If critical conflict was resolved in a satisfactory fashion, mentoring might resume but in a new form and started a new cycle. If relationship ended with good wills, relationship became a life-long friendship. (Kram, 1985)

3. Relationship at Successive Career Stage

Employee was a human being who inevitably brought previous and current life experiences into one's work relationship. Previous life experiences include relationship with parents, siblings, authoritative persons, peers, and friends. Current experiences, depending on which career stage an employee was at, include concerns about self, career, and family. (Figure 1.2)

	Early Career	Middle Career	Late Career
Concerns About Self	Competence: could I be effective in the managerial/ professional role? Could I be effective in the role of spouse and/or parent?	Competence: How did I compare with my peers, with my subordinates, and with my own standards and expectations?	Competence: could I be effective in more consultative and less central role, still having influence, as the time to leave the organization getting closer?
	Identity: Who was I as a manager/professional? What were my skills and aspirations?	Identity: Who was I now that I was no longer a novice? What did it mean to be a "senior" adult?	Identity: What would I leave behind of value that would symbolize my contributions during my career? Who was I apart from a manager/ professional and how would it feel to be without that role?
Concerns About Career	Commitment: How involved and committed to the organization did I want to become? Alternatively, did I seriously want to explore other options?	Commitment: Did I still want to invest as heavily in my career as I did in previous years? What could I commit myself to if the goal of advancement no longer exists?	Commitment: What could I commit myself to outside of my career that would provide meaning and a sense of involvement? How could I let go of my involvement in my work role after so many years?
	Advancement: Did I want to advance? Could I advance without compromising important values?	Advancement: Would I have the opportunity to advance? How could I feel productive if I was going to advance no further?	Advancement: Given that my next move was likely to be out of the organization, how did I feel about my final level of advancement? Was I satisfied with what I had achieved?
	Relationships. How could I establish effective relationships with peers and supervisors? As I advanced, how could I prove my competence and worth to others?	Relationships: How could I work effectively with peers whom I am in direct competition with? How could I work effectively with subordinates who might surpass me?	Relationships: How, could I maintain positive relationships with my boss, peers, and subordinates, as I got ready to disengage from this setting? Could I continue to mentor and sponsor as career ended? What would happen to significant work relationships when I left?
Concerns About Family	Family Role Definition: How could I establish a satisfying personal life? What kind of lifestyle did I want to establish?	Family Role Definition: What was my role in the family now that my children had grown?	Family Role Definition: What would my role in the family be when I was no longer involved in a career? How would my significant relationships with spouse and/or children change?
	Work/Family Conflict: How could I effectively balance work and family commitments? How could I spend time with my family without jeopardizing my career advancement?	Work/Family Conflict: How could I make up for the time away from my family when I had been launching my career as a novice?	Work/Family Conflict: Would family and leisure activities suffice, or would I want to begin a new career?

Figure 1.2 Characteristic developmental task at successive career stages

Note: From Kram, K. E. (1985). *Mentoring at work: Developmental relationships in organizational life*, pp. 72-73, Glenview, IL: Scott, Foresman and Company.

Fortunately, adult development and career development had long been studied and well established. The patterns of these developments could be predictable. By understanding these psychological forces, helped explain why a particular mentorship function was important at a certain stage. Research in career development had delineated particular career stages as individual moved through adult life. Taken life experiences into the account of work situation, career development could be classified as three broad stages in whose period certain dilemmas could be described in a specific pattern. (Erikson, 1963, cited in Kram, 1985) Coinciding with theory in life stages of adulthood, career maturity could be organized into three major eras: (1) early career stage (age 22 - 40), (2) middle career (age 41 - 60), and (3) late career (age over 60).

3.1. The Early Career Years

As an individual was entering a career life, an employee explored an initial course and made professional decision to shape career life imitating an identification of who one wants to become. At this stage, a younger manager concerned about one's competence, and progression in the corporate world. During this period, individual was likely to either adapting the role of spouse, parent, or both. Some entered the single adult role in the work world. These two roles reflected the continuum of polarity "intimacy versus isolation" and "role identity versus role confusion." (Erikson, 1963, 1968, cited in Kram, 1985) Thus, this stage set on individual's ambition in one's career goal. Career support functions helped a protégé to develop competency in one's initial jobs as well as each time one moved to a higher organizational level. Choices about behaviors and values were critical steps in clarifying one's identity as a manager. At this point, psychosocial functions confirmed and supported protégé's choices of behaviors and values evolving sense of self, which ultimately became professional identity.

About the same process in establishing professional identity, a protégé decided to commit to career an individual would become and which organization to stayed with. The *social exchange theory* governed how much commitment one was willing to sacrifice for the organization at the benefit of advancement possibility. Commitment and ambivalence whether to stay or to find another chance with another organization reflected a developmental task, which produced tension for a protégé. A mentor could insert one's influential function by being a role model demonstrating a consequence of decision being made. For those who choose to start a family, it was unavoidable that they face ambivalence pressure to conform organizational commitment in order to progress in career and sacrifice owns family life, or vice versa. Initially, opportunity for advancement was ample but organizational pyramid began to narrow as one was climbing up the corporate ladder. By the same virtue, a younger manager had a friendly relationship with peers and supervisors since one had started a career. As one was approaching mid-career, the opportunity for advancement was scarce. An individual was more conscious of both competition with peers for a fewer positions and the impact of political process in winning the race to the top.

An individual's relationship with spouse also affected the development of career identity. A supporting spouse could also provide psychosocial function such as acceptance-and confirmation, counseling, and friendship. In an adverse relationship, an individual might feel guilty for spending too much time and energy at work. At the same time, respective partner felt angry or rejected. These work-family stresses could discourage work competency or even result in a break up of marriage. Some young protégé discussed work-family dilemmas with a mentor - or to look at senior managers for a model of how to manage the tensions. Both of the previously mentioned were also parts of counseling and role modeling aspects of psychosocial functions available to a protégé.

3.2. The Middle Career Years

While young colleagues were launching their careers, mid career managers were often career-plateaued (Allen, 2003) and were reappraising the past so that they could modify the present in order to reconcile past aspirations with current circumstances. If one could not realign the realm, tension or depression might have arisen by which was colloquially called "midlife crisis." Mid career managers faced a unique situation of a shift in identity to senior manager level whereby they departed from being novices that they had established during younger years. A mid career manager who achieved what one was working for was equipped with generative attitude and energy. One who experienced the being passed over for a promotion after a history of rapid movement was likely to face a stagnation period. Many mid career managers aware of being older for further promotion and might respond by either distorting the conscience or welcoming the status. A critical duty of mid career was therefore the acceptance of oneself as a senior adult. Mid career manager who still saw an opportunity for advancement would put one's energy forward and be climbing a career ladder through the top of the corporate pyramid. This kind of managers concerned only for self-interest of advancement and was not likely to accept the role of mentor despite of one's abilities. A stagnant mid career manager who did not accept the change of role would probably blame any possible causes except for oneself and withdraw the commitment from the company psychologically, physically, or both. This might be the time to direct the attention to one's family and made up what had been missing in the marital life. This person was not a potential mentor either.

The majority of mid career manager survived this midlife crisis. These managers reappraised and adjusted their own stances toward their commitments. The potential mentors came from these mid career managers who found the opportunity to pass on the wisdom and experiences to younger colleagues. These mentors found ways to redirect energy and commitment toward developing protégés. On one hand, development of successful protégé symbolized the manager effectiveness. Thus, it

regained a sense of self-worth. This mentor experienced a feeling of pride and satisfaction in the progress demonstrating by one's protégé. (Scandura & Williams, 2001) On the other hand, as one's children began to leave home, a mentor likened one's interest to parental role. A mentor felt pride, satisfaction, and responsibility. Psychologically, a mentor guided a protégé through a career by emulate one's past choice and avoid (or undone one's) mistakes.

3.3. The Late Career Years

An individual in late career year confronted the same reappraising and reassessment as with mid career colleagues. The difference was that late career manager was facing retirement so there was no need to adjust stances toward organization commitment. Instead, a late career manager must prepare for a shift of authoritative role to consultative role because very few organizations would entrust company's fortunes in the hand of retiring employees. A manger at late career stage was striving to remain useful to the rest of society. One qualification that made late career manager particularly useful was the years of experiences in organization. Despite of an authority, one's wisdom in a consultative role could have an influence on company's policy through one's loyal ex-protégés. Psychologically, an individual's sense of what legacy one would leave behind was a good reason for one to continue consultative role and mentoring if the condition of age difference was of no concern. For those who did not accept the changing role, they might feel anger, resentment, betrayal, ingratitude, and finally physically and psychologically withdrawn from work and were waiting for the retirement.

4. Types of Mentorship

Mentoring had been practicing long before the concept had been realized in the 1980's. The mentoring relationship, which was developed naturally and spontaneously, referred to informal mentoring. Most of empirical researches that had been conducted between the 1980's and the 1990's used the informal mentoring as

studying model. (Eby & Lockwood, 2005) Soon after the mentoring concept had emerged from the publication of Levinson's (1978) book and Kram's (1985) research, many organizations in the U.S. had initiated the mentoring program as in-house developing program by facilitating and matching a mentor with a protégé on basis of similar interests. This kind of relationship referred to formal mentoring. Both informal and formal mentoring was the relationship of hierarchical status in its nature. Kram had described an alternative type of mentoring as *peer mentoring* which referred to a mentoring relationship between equal status members of the organization. This alternative relationship was so-called *lateral mentoring*. Based on Kram's lateral (peer) mentoring, Eby, (1997) had developed an interesting theory of *alternative forms of mentoring* which was worthy to mention in this thesis.

4.1. Informal Mentoring

Informal mentoring occurred when both parties, a mentor-to-be and a protégé-to-be, interested in each other works and developed mutual respects. (Scandura & Williams, 2001) Either party could initiate the relationship by approaching the counterpart without the facilitation of the third party. The counterpart accepted the relationship and started the initiation phase of mentoring, according to Kram's (1985) theory. The extent as who initiated the relationship influences the degree of success in mentorship. Scandura and Williams had founded that male protégé initiation of relationship received more support than female protégé initiation. They had reasoned that male role was supposed to be aggressive, and was expected to start the initiation. A mentor viewed male protégé initiation as a sign of enthusiasm and thus welcomed the relationship. While at the same time, female role was supposed to be non-assertive. Female protégé initiation was viewed as too aggressive so that it offended a mentor. Therefore, female protégé initiation received less support in mentoring. Nevertheless, the best relationship came from both mentor-protégé mutually initiation of the relationship. Additionally, the characteristics associated with informal mentoring was of a long lasting relationship (Waters, 2004) and progressed at its own pace. Scandura and Williams had conducted a study and found that informal protégé

significantly received better mentoring functions and perform better than formal protégé. One possible explanation to this relationship was that mentor in an informal mentoring had a choice to select a protégé of high ability and willingness to learn while formal mentor had no choice to choose. (Allen, 2004)

4.2. Formal Mentoring

Formal mentoring referred to organizationally initiating effort to match mentors and protégés on basis of their interests and experiences. (Scandura & Williams, 2001) Its purpose was to mimic an informal mentoring at a larger scale. (Allen et al., 2006) Formal mentoring program had various goals such as talent development, new employee introduction, improvement of employee knowledge, skill and abilities, employee retention, and diversity enhancement. (Eby & Lockwood, 2005) Furthermore, formal mentoring often had a specific goal, a specific time line, as well as guideline for interaction frequency, and interaction content. Both mentor and protégé strived to know one another within timed frame and had rule governing. (Wanberg et al., 2006) Most of the time, formal mentoring program offered preparatory activities such as orientation and training to help a mentor-to-be and a protégé-to-be to understand their role obligation and to become comfortable with the mentoring relationship. (Allen et al., 2006) Roughly, it had been estimated that formal mentoring accounted for about twenty percent of all workplace-mentoring relationships. (Morzinski & Fisher, 1996)

Because formal mentoring was initiated by the third party rather than mutual attraction, formal mentoring was less comfortable and less identifiable between mentor-protégé pair, (Ragins & Cotton, 1999) and served much narrower mentoring functions than an informal mentoring. (Eby & Lockwood, 2005) Formal mentors might feel reluctant to recruit or to feel coerced entering the mentoring relationship for the sake of "just doing the job." (Allen & Eby, 2003) Seibert (1999) had reported that: (1) formal protégé received less career mentoring than informal protégé, (2) formal protégé received less career mentoring than psychosocial mentoring, and (3) formal mentor supports very little career mentoring but only gave some pad-on-the-back to formal

protégé. On the contrary, Allen and Eby had expressed an interesting point of view that mentorship type (formal vs. informal) was not directly related to mentorship effectiveness only but the matter of time. They encouraged the continuing of formal mentoring despite its discomfort since it would dissipate over a period of time. In the end, formal mentoring became informal-like which was so-called "hybrid" relationship.

4.3. Alternative Forms of Mentoring

Eby, (1997) had taken a contemporary view with changes in the bubble economy of 1996. Many corporations had gone bankrupted, also known as "chapter eleven." The organizations who survived that period had undergone major changes both the organization rearrangement and how they conducted their business today. Acquisition and merger became a popular method for business to survive. Traditional career path of climbing up the corporate ladder vanished as organization became flatter with fewer opportunities for upward advancement. Employees were struggled to be marketable both within and outside own organization. Likewise, mentoring process needed to change to accommodate the shift in employment attitude. Intersected with Kram's (1985) hierarchical-lateral mentoring, Eby had developed the job related-career related purposes of mentoring and thus formed four-celled typology of alternative forms of mentoring. (Figure 1.3)

Form of the Mentor-Protégé Relationship	Type of Skill Development: Job-Related	Type of Skill Development: Career-Related
Lateral	Cell I Intra-team Mentoring Inter-team Mentoring Co-worker Mentoring Survivor Mentoring Peer Mentoring for Domestic Relocators Peer Mentoring for International Relocators	Cell II Internal Collegial Peer Mentoring External Collegial Peer Mentoring
Hierarchical	Cell III Internal Sponsor-Protégé Mentoring Manager-Subordinate Mentoring Hierarchical Mentoring for Domestic Relocators Hierarchical Mentoring for International Relocators	Cell IV Group Professional Association Mentoring External Sponsor-Protégé Mentoring

Figure 1.3 A typology of alternative forms of mentoring

Note: From Eby, L. T. (1997). Alternative forms of mentoring in changing organizational environments: A conceptual extension of the mentoring literature. *Journal of Vocational Behavior, 51*, p. 129.

Job-related mentoring focused on developing skills that were relevant to a specific organization for a protégé to advance within the company. Career-related mentoring focused on broad-based skills to help a protégé advance with own career by accumulating repertoire of competencies in order to be marketable in the industry. The details of alternative forms were as followed:

4.3.1. Cell I: Lateral Mentor-Protege Relationship, Job-Related Skill Development

The relationship in this quadrant was of equal status employees. Peer relationship could also provide some parts of career supports and psychosocial supports like those from hierarchical mentoring relationship. (Kram, 1985) The relationships from this cell helped a protégé to develop necessary skills to advance within organization. To support this theory, there was an empirical study confirming

that the formal group peer mentoring was effective as well. However, this study was conduct among graduate students. Therefore, it needed further investigation before generalizing to other populations. (Allen, McManus, & Russell, 1999)

4.3.1.1. Intrateam mentoring.

Members within work team took care of each other to achieve common goal. Team members took on management responsibilities such as planning, organizing, setting goals, providing performance feedback, and training each other. Team set standard for acceptable performance and exercises sanctions to those who did not meet expectations. Team also provided psychosocial functions such as inclusion, affiliation, identification, and affirmation for team members.

4.3.1.2. Interteam mentoring.

It was common that many teams were working together in the same function unit. Especially in highly integrated products or services industry, different teams develop cross-team mentor-protégé relationship in order to enhance total productivity. Examples of this interteam relationship were total quality management (TQM) teams and matrix structure of organization, where one employee belonged to two teams. For instance, one employee from production department also reported to the head of project team. A group whose functions were interdependent with other group's expertise or constructive feedback was likely to seek out mentoring from other groups.

4.3.1.3. Coworker mentoring.

Coworker mentoring was a typical peer mentoring relationship as described in Kram's (1985) alternative type of mentoring. Individuals within intimate environment provide career support mentoring by sharing job related information, strategy, and feedback. With or without solicitation, peers also provided emotional support and confirmation as a member of work society.

4.3.1.4. Survivor mentoring.

During the period of merger, acquisition, and reengineering, a process of reorganization, mostly a unit downsizing, was inevitable. Those employees who managed to survive were facing with increasing role ambiguity, overload, and work stress. Veteran employees helped mentoring each other to learn new job skills necessary to cope with job redesign, job enrichment, job enlargement, or re-deployment.

4.3.1.5. Peer mentoring for domestic relocators.

Job relocation could be stressful, which was caused by both job related issues and non-job related issues, such as spouse and children. Most of the time, organization did not provide any training for domestic relocation. The transferred employee needed to find a mentor in a new location quickly to establish in the new role without appearing to be incompetent. Family matters also needed good assistances and emotional support for settling down in a new neighborhood.

4.3.1.6. Peer mentoring for international relocators.

International relocation was even more complicated than a domestic one. Family members might resist relocating. The whole family would have to adapt to a new culture and try to understand new language. Even though organization provided some training, the relocator needed ongoing technical advises and emotional support from dependable person in the foreign land. A mentor could be peer in the same organization or from a different organization but had experiences and stayed close together in the small foreigners' society.

4.3.2. Cell II: Lateral Mentor-Protege Relationship, Career-Related Skill Development

Like peer mentoring in cell one, cell two was also the relationship among equal status employee. The difference was that the instrumental function mentoring focused on career enhancing and being able to transport to another organization. For

example, career support might include diversifying one's career interests, obtaining information of opportunity in job market, or learning new technical skills. By developing relationship with employees outside own organization, employee could broaden the network of contacts and developed a wide range of career related skills. These experiences enabled a protégé to deal with role transitions by enhancing one's marketability within and outside organization.

4.3.2.1. Internal collegial peer mentoring.

Traditional mentoring encouraged a protégé to build alliances and develop network in order to be successful within an organization. However, extensive network provided chances for a protégé to develop technical skills outside one's own domain. While being desirable by an organization, these broad based experiences were also diversify protégé's portfolio of marketable qualifications and enhancing protégé's career prospect to another organization.

4.3.2.2. External collegial peer mentoring.

Colleagues outside one's organization could also be a good source of mentoring. This type of mentoring relationship kept a protégé updating with market situation. Besides providing diversifying information, outside colleague could be a safe confidante for sensitive personal and job related issue.

4.3.3. Cell III: Hierarchical Mentor-Protege Relationship, Job-Related Skill Development

Mentorship in this quadrant most closely corresponded to Kram's (1985) traditional mentoring relationship whereby a mentor was a senior manager and a protégé was a junior one. The purpose of this type of mentorship was to promote hierarchical growth within an organization.

4.3.3.1. Internal sponsor-protege mentoring.

This kind of relationship involved an influential senior manager; usually several levels above the respective protégé and usually did not had a direct line of authority. This powerful mentor could provide a young protégé with sponsorship, exposure-and-visibility, coaching, protection, and challenging assignment. Over time, however, this kind of sponsorship would expand to career coaching by providing a protégé with strategies for achieving recognition and success in the organization.

4.3.3.2. Manager-subordinate mentoring.

A manager who was also a mentor acts as a role model for a protégé. This type of mentor was in the most natural position to facilitate a protégé to advance in the organization by providing job specific feedback, evaluation, necessary training, and career path. A direct supervisor was in the best position to provide a full range of career function and psychosocial function mentoring.

4.3.3.3. Hierarchical mentoring for domestic relocators.

This type of mentoring was even better than aforementioned peer mentoring of domestic relocator. A senior mentor at new location could provide a solid instrumental support and protection until respective protégé could stand on one's own strength.

4.3.3.4. Hierarchical mentoring for international relocators.

Having a high-ranking mentor at the new foreign location or upon returning from international assignment was a very helpful for international relocator. For an expatriate at new country, a high rank mentor could facilitate a protégé to achieve the career development required for the position. For a repatriate returning to home location, a higher rank mentor could ensure a protégé to integrate back to workplace successfully.

4.3.4. Cell IV: Hierarchical Mentor-Protege Relationship, Career-Related Skill Development

Mentorship in this quadrant was characterizing by the relationship of a senior mentor, most likely outside the organization, and a junior protégé. The unique characteristic was that the emphasis of relationship was on the development of broad banded, career related skills that a protégé could transport to another organization when facing the turbulence of career status with voluntary or involuntary turnover.

4.3.4.1. Group professional association mentoring.

This kind of relation emerged through professional association membership that shared common careers, occupations, or trades. The relationship was unique because it emerged from the dynamics of the group as a whole serving as the mentor rather than an individual.

4.3.4.2. External sponsor-protege mentoring.

This was a relationship with a high rank mentor outside an organization of a protégé. This kind of relationship was invaluable for a protégé who desired mobility outside one's own organization. Besides traditional mentoring functions, this kind of mentor could help promote the visibility of a protégé within the business community.

5. Antecedents

Mentoring was a process, which required tremendous inputs, such as efforts and time from mentors, protégés, and resources of organizations. For a successful mentorship, the length of relationship could last up to six years. (Kram, 1985) The mentoring relationship could result in rewarding experiences or could turn into negative consequences. (Feldman, 1999) There were many factors contributing to the vast differences of results from this laborious and enduring relationship. Antecedents of the effectiveness of mentoring could be examined by three broad

categories: (1) mentoring initiation, (2) mentor-protégé selection process, and (3) factors contributing to successful relationship. The details of which were as followed:

5.1. Mentoring Initiation

For informal mentoring where both mentor and protégé engaged in the relationship spontaneously, there must be substantial incentives for them to invest voluntarily with their efforts in these extra role activities. Factors relating to one's willingness to be a mentor for others included, but not limited to, previous experiences with mentoring, gender, education, age, locus of control, upward mobility, support from immediate supervisor, (Allen, Poteet, Russell, & Dobbins, 1997) and organizational climate. (Kram, 1985) Allen et al. had studied these factors by classifying them into individual variables and situational variables.

5.1.1. Individual variables.

Demographic such as gender was theorized that female was less likely than male to be in the formal position to serve as a mentor because management was still primarily male-dominating field. Additionally, female might experience work-family conflict issues, sex-role stereotypes, and limited access to informal network and communication. ("big boy club" as mentioned earlier in this thesis) This phenomenon was also known as "glass ceiling" effect for female management. (Anderson, 2005; Parker & Kram, 1993; Scandura & Williams, 2001; Schor, 1997; Simonetti, Aris, & Martinez, 1999; Sosik & Godshalk, 2000; Wallace, 2001) However, the empirical data did not support this hypothesis yet. (Allen, Poteet, Russell et al., 1997) The same study empirically confirmed that the higher education level person reported greater intention to serve as a mentor than a lower one. In Kram's (1985) theory, it was proposed that mid career manager exhibited the strongest intention to serve as a mentor from the sense of generativity. A late career manager also inclined to serve as a mentor in order to leave a legacy to organization until retirement. On contrary, however, Allen et al.'s empirical data showed a reverse relationship. Older managers

express lower intention to mentor others relative to younger counterparts. The same study went on indicating that those who had experiences in mentoring, be it a mentor or a protégé, demonstrated higher intention to serve as mentors than those who had none. In addition, a person who possessed a higher degree of internal locus of control, upward striving for advancement, or both, inclined to mentor others higher than a person who was low on these attributes.

Social psychology theorists suggested that *prosocial personality* accounts for the empathetic reaction and helpfulness of person, which in turn caused an inclination of person being mentors and the amount of mentoring they provide. (Allen, 2003) Allen had further suggested that instrumental factors (self-enhancement, intrinsic satisfaction, and benefit others) compliment prosocial personality as incentive for willingness to mentor others. Allen's empirical study showed that career mentoring was not motivated by the same factors as psychosocial mentoring since there was differential relationship between the two. On one hand, helpfulness prosocial disposition was highly related with career related mentoring since it reinforced the feeling of efficacy and competence. On the other hand, other-oriented empathy opted to psychosocial mentoring due to similarity of traits describing as warmth and nurturance. Mentors who were motivated by different factors might provide different mentoring functions. That was why mentoring could never achieve a standard protocol as in other disciplines. (Allen, 2003)

5.1.2. Situational variable.

Like leader-member exchange (LMX) theory, Allen (2003) had empirically confirmed that individual who had a high quality of relationship with immediate supervisor (the in-group according to LMX) reported higher intention to serve as a mentor than the out-group did. (Godshalk & Sosik, 2003) According to LMX approach, the in-group status (in high LMX relation) might be a prerequisite for subordinate to receive mentoring. LMX leadership approach related to mentoring and be accountable for meaningful variance over the other for career outcomes.

(Scandura, 1998; Scandura & Williams, 2004) Other situational variables were job-induced stress and perceivable management support. Even though partially supported, an employee who had less job-induced stress was more willing to mentor others than a person with a higher one. Perceivable management support for mentoring was positively related to both career and psychosocial functions mentoring. (Eby, Lockwood, & Butts, 2006) However, if a mentor was hold accountable for the outcome of mentoring, the intention to mentor decreases.

5.2. Mentor-Protege Selection Process

Ragins (1997) had suggested that mentor-protégé selection process was guided by three primary factors: (1) identification, (2) perceived competence, and (3) level of interpersonal comfort. The details of which were as followed:

5.2.1. Identification.

Identification was a reciprocal process guiding how mentor and protégé selecting each other. Mentors identified with and selected protégés by viewing them as a younger version of themselves and representative of their past. (Ragins & Cotton, 1999) Thus, having protégés to pass on wisdoms provided mentors with generativity, which was a sense of contribution to future generations. (Kram, 1985) Protégés' selections of mentors were often on basis of identification with mentor as a role model. Thus, it developed sense of professional identity with mentor's image. (Ragins & Cotton, 1999) In a reciprocal sense, protégés viewed mentors as representatives of their future. These mutual identifications could be explained by *network theory* and *social identity theory*. Identification with perceived similarity referred in the network literature as *homophily*. This homophily might influence the establishment of interpersonal networks, informal social relationships, and assigning work relationship. Social identity theory suggested that individuals who were members of similar power-related groups were more likely to identify with each other because of sharing experiences and resulting in social identity. (Ragins, 1997) Water (2004) had

indicated that mentors preferred protégés who were "enjoyable to be with" and could "tolerate conflict" during the relationship. Once the relationship starts, both mentor and protégé try to develop co-operative friendship and the willingness to negotiate with each other. Until mutual understanding between both parties was reached, a high quality of psychosocial support begins. Eventually, protégé-mentor agreement was created as a prerequisite of an ongoing mentoring relationship.

5.2.2. Personal competence.

Allen (2004) had empirically established that mentors were more willing to select protégés who were characterized as high in ability (Ragins & Cotton, 1999) and high willingness to learn than those who were low on these attributes. Interestingly, this study had also found that willingness to learn could help compensate for lack of ability. Consistent with social exchange theory, it compared costs of participation with its benefits. Mentors expect protégés to bring in important competencies to the relationship. In the same study, mentors indicate that willingness to learn was more important consideration than ability when they consider the protégés-to-be. *Attribution theory* might help explain that mentors view willingness to learn as an indicator of effort and thus more controllable than other factors such as ability. (Allen, 2004) Sad but true, mentors selected protégés who had greater potential and chance in organizational success rather than individuals who need the most help. (Underhill, 2006) Mentors were more likely to attract to high potential protégés since protégés' successes reflected the achievement of mentors as well. Protégés, in return, were seeking for the responsive and competence mentors of desired expertise (Ragins & Cotton, 1999) who were had powerful organizational influence in order to get advance in their career and opened many doors to opportunity. (Ragins, 1997)

5.2.3. Level of interpersonal comfort.

Interpersonal similarity increased ease of communication in relationships and thus affects interpersonal comfort, which was a key factor for developments of

mentoring relationship. Mentor and protégé who had shared social identities were more comfortable with each other and were well connected. As discussed earlier, individuals who were members of similar power-related group share common experiences that serve to increase their level of interpersonal comfort and their willingness to initiate a mentoring relationship. (Ragins, 1997)

5.3. Factors Contributing to Successful Relationship

5.3.1. Gender.

Gender similarity had been particular of interest in mentoring topic, especially a cross-gender mentoring relationship. Scholars had been arguing that both protégés and mentors might feel less comfortable in cross-gender relationship because of issues associating with sexuality, intimacy, and harassment that might be conspicuous or cause rumors during the relationship. (Allen, 2004; Turban et al., 2002) Another obstacle of cross-gender mentoring was public scrutiny. Concerns about public image of relationship could cause cross-gender mentor-protégé to avoid one-on-one contact behind closed door or after work hours where important mentorship was often accomplished. (Clawson & Kram, 1984) To prevent the sexual issues, some protégés might seek to avoid risks by viewing their mentors as a parent figure (Kram, 1985) or by avoiding informal after work social interaction. (Ragins & Cotton, 1999) This issue had become an additional mentoring function in mentor role instrument as being proposed by Ragins and McFarlin. (1990)

The similarity attraction paradigm supported that same gender mentorship was more effective than cross-gender one. This paradigm increased interpersonal comfortable, and thus increased the ease of communication and affection between both parties. (Ragins, 1997) Researchers had consistently founded that demographic similarity between supervisor and subordinate had a positive effect resulting in supervisor liking of the subordinate. Even though similarity attraction paradigm had not been specifically studied on mentorship, it could apply to work condition in

general. To support this theory, Wanberg, et al., (2006) had empirically established the positive relationship of perceived similarity between mentor and protégé with the level of psychosocial mentoring while some other researcher found positive relationships of this perceived similarity with both career and psychosocial mentoring. Therefore, the evidences were sufficed to infer that the similarity attraction paradigm had a similar effect on mentoring relationship as well. (Ensher & Murphy, 1997)

A meta-analysis showed that male protégé (mean effect size *M ES*=.551, $p<.05$) received better mentoring than female protégé. (*M ES*=.385, $p<.05$) (Underhill, 2006) Scandura and Williams (2001) reported that, under male mentor, male protégé received more mentoring functions than female protégé. Worst among all, male protégé with female mentor reported fewer mentoring functions than any other gender combinations. To put it in a simple term, male protégé benefited most from male mentor. Ragins and Cotton (2001) had reported that, in general, female protégé might have least to gain from mentoring process. These particular instances could be explained by that same-gender protégé reported engaging in more social activities than cross-gender protégé. Female protégé with female mentor reported more role modeling than any other gender combinations. (Ragins & McFarlin, 1990) Additional explanations were that the industry was still male dominating. Female was still facing with glass ceiling, which meant female could hold a position of power up to a certain level. As such, male mentor was in a more favorable position than female to access necessary resources, which in turn obtaining better mentoring supports. (Ragins & Cotton, 1999) Regarding role model, it was difficult, if possible at all, for female mentor to be a good role model for male protégé due to differences in stereotype and personality. *Social role theory* suggested that people were generally expected to behave in accordance with culturally defined gender roles. This expectation put female in management positions at a disadvantage, since the stereotype of managers was more closely associated with the male gender role than with the female gender role. (Baugh, Lankau, & Scandura, 1996)

5.3.2. Personality.

Personality affected mentoring relationship through three primary mechanisms: (1) *selection* - a person with certain personality opted to choose and be comfortable with the one who had similar personality, (2) *evocation* - a person with certain type of personality responded to the stimulus in a certain way, and (3) *manipulation* - the result of relationship depended upon both parties' tendencies to shape up the situation. (Asendorpf, 2002 cited in; Wanberg et al., 2006)

5.3.2.1. Proactivity referred to a tendency of a person to manipulate the environment actively. A person of high proactivity tended to take an action, solicit a response, and respond to opportunities. Protégé's proactivity affected the amount of mentoring activities by initiation and maintenance of scheduled meetings between mentor and protégé (evocation) and through goal oriented behavior during mentor interactions. (manipulation) (Wanberg et al., 2006)

5.3.2.2. Openness to experience, one of the big-five personality characteristics, encompassed imagination, intelligence, curiosity, originality, and opened-mindedness. (McCrae & Costa, 1996; cited in Wanberg et al., 2006) Mentor and protégé, who were high in openness to experience, were more inquisitive and responsive to new ideas and perspectives from each other. It thus evoked a more comfortable atmosphere for self-disclosure.

5.3.2.3. Internal locus of control were the persons who believed that events in their lives were determined more by own actions rather than by chances or uncontrollable forces. (Yukl, 2002) *Self-monitoring* was a characteristic that individuals self-observed and self-controlled guided by situational cues to social appropriateness aiming at expressive behavior and self-presentation. (Mullen, 1994) *Emotional stability and maturity* were characteristics of persons who were well adjusted to changing environments and had a more accurate awareness of their strengths and weaknesses

and less self-centered. (Yukl, 2002) Individuals with high internal locus of control, self-monitoring, self-efficacy, self-confidence, and emotional stability were more proactive and were more likely to pursue mentoring relationship. (Allen, Poteet, Russell et al., 1997; Underhill, 2006)

5.3.2.4. Upward striving was the desire of a person to increase one's job level and standard of living. Since mentoring process benefited both mentor and protégé, the upward strivings then had positive correlations with both mentor's and protégé's efforts in mentoring process. (Allen, Poteet, Russell et al., 1997) In addition, the attitudes of positive affectivity, altruism, and organization based self-esteem positively correlated with motivation to mentor others. (Aryee, Chay, & Chew, 1996; cited in Allen, Poteet, & Burroughs, 1997)

5.3.2.5. Cognitive differentiation and stereotype could affect individual's response, hence mentoring relationship, in three ways: (1) category-based responding, (2) differentiated responding, and (3) personalized responding. According to LMX and social identification theory, an individual who formed a relationship with lesser degree of differentiation (in-group) person would felt more comfortable and ease of communication and thus received better mentoring relationships. On the other hand, the greater degree of individual's cognitive differentiation (out-group), the lesser extent of mentoring relationship occurred. Attitude toward diversity could overcome individual's cognitive differentiation by making conscious decision to confront stereotype and attributions of others who were not similar to them to overcome initial feeling of discomfort and to hold positive attitude toward those who were different. Thus, attitude toward diversity could improve mentoring relationship. (Ragins, 1997)

5.3.3. Organization support.

Organization could encourage mentoring through explicit policies such as setting up a mandatory formal mentoring program for new employees' socialization and orientation (Allen et al., 1999) or tied extrinsic rewards to the participation of

mentoring practices. Eby, Lockwood, and Butts, (2006) empirically indicated that organizational perceived support for mentoring increased the quality and quantity of mentoring. Nevertheless, if the organization set up accountability system that was monitoring and holding a mentor responsible for outcomes of relationship, problems relating to relationship were decreasing drastically. In addition, the intention of employees to mentor others was reduced proportionally.

Organizational implicit policies could be a wide range of cultural supports such as encouraging cross-departmental interactions through programs such as quality circles or task force teams, (Allen et al., 1999) or total quality management (TQM) team. Setting up rewarding system on a basis of team performance might encourage collaboration among peers rather than competition. This kind of corporate culture encouraged the formation of mentor-protégé relationships.

Allen, Poteet, and Burroughs (1997) had conducted qualitative research and find seven organizational facilitating factors and five inhibiting factors for mentoring. The organizational facilitating factors were as followed:

- organizational support for employee learning and development,
- company training program,
- manager and co-worker support,
- team approach to work,
- mentor empowerment and decision making power,
- comfortable work environment, and
- structured environment.

The organizational inhibiting factors were as followed:

- time and work demand,
- organization structure,
- competitive and political environment,
- unclear expectation of company, and
- turbulent job environment where job security was a domain issue.

From the above research, Wanberg et al., (2006) had shared the same view with Eby et al. (2006) that perceptions of organizational support for employee learning and development related positively to senior employees' motivation to mentor others.

Additional organizational supports such as management system and rewarding system could play vital roles to encourage or discourage mentoring practices in organizations. *Mechanistic management* system was characterized by a hierarchic structure in which power was centralizing and communication was limiting to vertical channel within lines of authority. This mechanistic management system preferred status-quo power relationship among groups and therefore discouraged mentoring relationship. (Ragins, 1997) In contrast, *organic management* or "new paradigm" system was characterized by decentralizing power control. It encouraged lateral communications that expand across departmental boundaries. The interdepartmental communications consist of information and advice rather than instruction and decision. Therefore, organic management system was a favorable atmosphere for mentoring relationship. Besides the dyadic structure and relationship within and between departments, the physical proximity of mentor and protégé had an influence on relationship as well. Mentor and protégé who worked closely in distance could meet naturally and more frequently than those couples who worked on the different floors, buildings, or cities.

In most literatures, rewards deriving from being a mentor were of intrinsic nature (*motivator factor*) according to Herzberg's *two-factor theory* (Berry, 1998) such as intrinsic satisfaction, sense of generativity, (Kram, 1985) self effectiveness in work role, and self esteem at work. (Seibert, 1999) By the same process, protégé received both intrinsic motivators such as sense of competence, identity, and self-worth as well as extrinsic (*hygiene factor*) motivator such as higher salary and more frequent promotions. If determined the fact that a mentor was a person who put more efforts and experiences in the relationship, extrinsic rewards for a mentor should not be ignored. Therefore, organizations where managers encouraged mentoring

relationships should put forward the priority and offer tangible rewards to those who engaged in mentoring activities. (Allen, 2004; Eby, Lockwood et al., 2006) This would increase the likelihood that mentoring relationships would receive priority and support among employees.

6. Consequences

6.1. Benefits to Protege

Researchers had consistently demonstrated that mentoring provided protégés with significant benefits, such as higher salary, overall compensations, career advancement, number of promotions, career satisfaction, (Allen, Poteet, Russell et al., 1997; Day & Allen, 2004), self-esteem, organization commitment, organization recognition, (Eby, Durley, Evans, & Ragins, 2006) organization socialization, (Chao, 1997) intent to stay, tenure with organization, self-esteem, lower work stress, and lower work-family conflict. (Underhill, 2006) By having mentors, protégés also increased their power in organizations, partly from the association with influential senior managers. (Scandura, 1998) Day and Allen had theorized that mentoring increased protégé's career motivation by three means of *career motivation*. The term career motivation was sometimes used interchangeably with *career commitment*. (Goulet & Singh, 2002) Referring to London's (1983) work, career motivation comprised with three components: *career resilience*, *career insight*, and *career identity*. Career resilience referred to the ability to adapt to changing circumstances by using one's own belief in self, willingness to take risks, and need for achievement. Career insight was the ability to be realistic about one's strength and weakness so that one could establish a clear and feasible career goal. Career identity was the extent to which one associated with profession, organization, need for advancement, and recognition. Reasoning by scholars, mentoring increased protégé's career motivation (commitment) by: (1) facilitated protégé's self-directness, career involvement, career success, and positive career attitude, (2) mentor demonstrated rewards, which could be obtained through career growth, and (3) mentoring relationship revolved around needs and ambitions of

individuals. In their study, Day and Allen had significantly established a positive relationship between career motivation with career mentoring and psychosocial mentoring, as well as correlation between career motivation and career success. They also had found that career motivation fully mediated the relationship between career mentoring and performance effectiveness but not to salary.

In the same literature, Day and Allen (2004) had theorized that psychosocial mentoring increased self-efficacy by: (1) role modeling provided a protégé with vicarious experiences, (2) a mentor provided verbal persuasion, which enhanced protégé's senses of self-efficacy, (3) a mentor provided guidance and acceptance, and (4) a mentor provided a challenging task, which confirmed protégé's competency. Unfortunately, the study had found only moderate relationship ($r = .24$) between psychosocial mentoring and self-efficacy and had urged other researchers to examine with a bigger sample size to confirm this theory. On contrary, they had found that career mentoring related with self-efficacy instead. In addition, self-efficacy positively related to salary, subjective career success, and performance effectiveness. Despite of mixed results, literatures still proved that mentoring benefit a protégé as a whole.

Among mentoring benefits, learning was the most commonly reporting among participants in formal mentoring program. (protégé, 37% and mentor, 43%) (Eby & Lockwood, 2005) Besides learning, other protégé's benefits which could be mapped onto Kram's (1985) functions included coaching (21%), psychosocial support (8%), exposure-and-visibility (4%), role model (3%), and sponsorship (3%). Benefits that did not listed on Kram's functions were career planning (13%) and networking opportunity (7%).

6.2. Benefits to Mentor

During the first decade after Kram's (1985) work, the majority of mentoring researches had focusing on protégé side of dyadic relationship. (Allen, Poteet, & Burroughs, 1997) After the turn of millennium, more attentions had been contributing to

mentor's side of benefits and motives. Typically, mentoring other was not mandated within organization during those periods but why so many mentors were willing to perform this extra-role and providing additional investment in time beyond responsibility. (Allen, Poteet, & Burroughs, 1997) *Social capital theory* helped clarify that mentor also benefited from mentoring. "Social capital consisted of cooperative relationships that provided individual with information, resources, and support that facilitated individual and collective goal achievement." (Eby, Durley et al., 2006, p. 5) Mentor also significantly learned during mentoring process, (Hirschfeld et al., 2006) such as updating information, technology, new issue brought up by protégé and using protégé as source of learning (Allen & Eby, 2003) and experimenting. Mentor's benefits might be classified into four categories: (1) career enhancement, (2) intelligence-information, (3) advisory role, and (4) psychic rewards. Usually, a mentor often experienced a feeling of pride and satisfaction in the progress made by a protégé. (Scandura & Williams, 2001) In general situation, mentors also gain situational satisfaction, esteem among peers and upper management, self confirmation, information and technical support receiving from protégé, creating a base of power within the organization, intrinsic satisfaction from passing on wisdom with knowledge, and organizational recognition. (Allen, Poteet, & Burroughs, 1997)

In short term, mentor could improve his own performance and managerial skills by receiving new perspective of organization, recognition by others, support and information from loyal base of protégé's, being stimulated by ideas of protégé, exhilaration from fresh energy providing by the young generation. Thus, a mentor was rejuvenating by creation of renewing sense of purpose in one's work role. Mentor's perception of short-term benefit had a positive relationship with mentor's job satisfaction and organization commitment. In long term, serving as a mentor could enhance relational skills, leadership skill, competency, career efficacy, and advancement, which leaded to predominance in the organization. Mentor's sense of purposes in the organization increased satisfaction deriving from work and fosters a deeper sense of belongingness to work place. (Eby, Durley et al., 2006)

Looking at mentor's benefit from another angle, Eby et al. (2006) had theorized that mentor's benefits (in the same fashion as protégé's) could be described as two broad categories. *Instrumental mentor benefits*, which were external to mentoring relationship, were similar to career mentoring benefits according to Kram's (1985) side of protégé. These instrumental mentor benefits included improvement of mentor's performance and stature within organization. These short-term benefits strongly related with long-term outcome of job satisfaction and organization commitment. *Relational mentor benefits*, which were internal to mentoring relationship, were similar to psychosocial mentoring benefits according to Kram's side of protégé. Relational mentor benefits included rewarding experience in developing loyal base of support, which reflected the mentor's perception of affective, relational bond, and rapport of the relationship. These short-term benefits strongly related with long-term outcome of intention to serve as a mentor in the future. Comparing to an earlier research, Allen et al. (1997) had stated that all types of mentoring (be it a mentor or a protégé) experiences were positively to willingness to mentor others in the future.

6.3. Benefits to Organization

There were fewer researches on organization's benefits comparing to mentor's and protégé's benefits. Interests in formal mentor-protégé relationship had escalated in the 1980's due, in part, to the belief that mentor-protégé relationships benefited not only protégé but also the organization. (Pollock, 1995) Among a few literatures that had mentioning organizational benefits, they stated only that mentoring benefit protégé, mentor, and organization as well but did not provide any empirical data. (Eby & McManus, 2004; Scandura, 1998) Mostly, articles mentioned that organizations used mentoring as new employees' socializing tool and as a part of training and development program. Organization encouraged mentoring through formal program since it developed employee performance and improved work attitudes. Given the benefits potentially gaining from mentoring, it was not surprising that mentoring had become a tool for promoting growth and development for junior members in the organization. (Scandura & Williams, 2001)

So far, there was no study, which measured effectiveness of mentoring at organizational level. Organization effectiveness included but not limited to company productivity, profitability, corporate-wide employee satisfaction, turnover rate, and any similar result. Among these reviewed literatures, researchers were interested in benefits only at individual level which had already been elaborated in the above two subsections. The said literatures implicitly assumed that employee's benefits, both for protégé and mentor, were also of organizational beneficial as well. This might not hold true in all circumstances because there were vast differences among organizational variables. Future empirical study on benefits of mentoring to organization was need in order to justify the value of mentoring program currently conducted in organizations, and to encourage new organizations to implement mentoring as part of their human resource development strategy.

6.4. Organizational Justice

There were two types of justice, distributive and procedural *organizational justices*. *Distributive justice* referred to the fairness of outcomes of being distributing among members of an organization. *Procedural justice* referred to the fairness by which means were used to obtain the desired result. (Muchinsky, 2003) Scandura (1997) had empirically established that mentoring was positively related with procedural organizational justice but failed to statistical significantly refer to distributive organizational justice. The same study went on indicating that various functions of mentoring such as career, psychosocial, and role modeling were positively related to career expectation, job satisfaction, and *organizational commitment*. Scandura noted, however, formal mentoring process might provide distributive justice but informal mentoring, which was a more effective form of mentoring, might be perceived as favoritism in workplace among those who did not get access to the opportunity to have a mentor.

Other consequences of mentoring, which were suitable to mention in this section, were as followed:

- Water (2004) had found that mentors' organizational commitment positively correlated with status of being a mentor because they were investing in their company beyond their own specific job requirements.

- McManus and Russell (1997) had proposed that mentoring and *organization citizenship behavior* (OCB) were positively related because they share common antecedents such as organizational commitment, fairness perception, and job satisfaction. They had hypothesized that both mentoring and OCB involved individuals exerting more efforts on the job than was required by formal role prescriptions. However, their paper did not provide any statistical investigation.

- Seibert (1999) had conducted a longitudinal quasi-experiment and empirically found that psychosocial mentoring had a positive relationship with job satisfaction, organizational commitment, self-esteem at work, and lower levels of work role stress. Nevertheless, the same study could not establish these consequences with the career function of mentoring.

Antecedents and consequences could be summarized as in Figure 1.4.

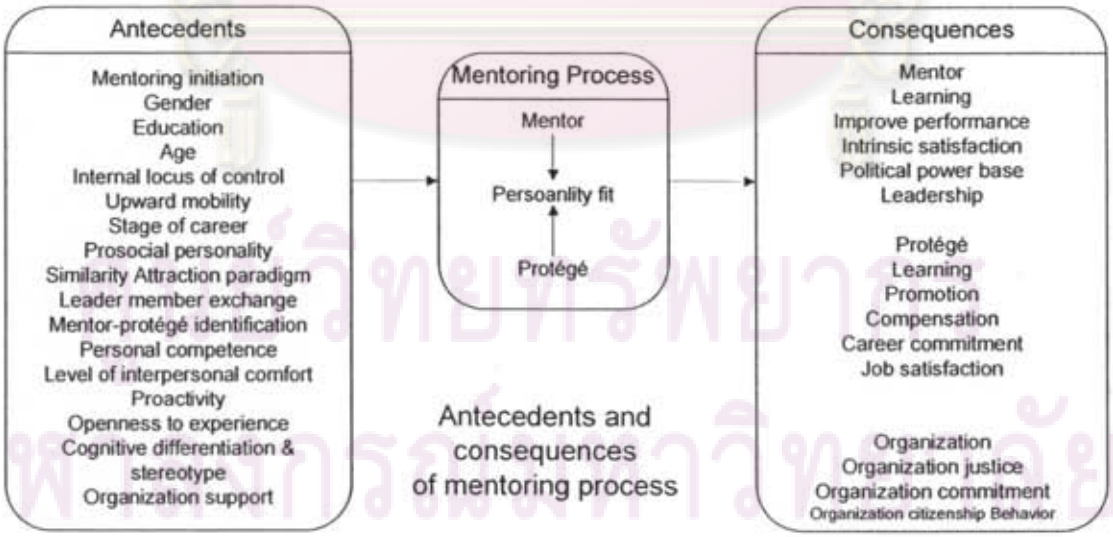


Figure 1.4 Antecedents and consequences of mentoring process

7. Dysfunctional Mentoring

Mentoring was a long and enduring interpersonal relationship, which lasted from six months to six years. During which period, especially the separation phase, relationships changed over times. Kram (1985) had described the typical psychological state of separation phase as the relationship became dissatisfying or destructive as when individual needs changed or organization circumstance changed, or both. Both mentor and protégé needed to adjust their stances toward each other and started a redefinition phase, or to end the relationship altogether. The redefinition or termination of relationship was necessary because it allowed protégés to move out of the relationship that no longer served their needs and to seek and develop a new mentoring that better served emerging career developmental needs. (Ragins & Scandura, 1997) The separation phase was also critical to mentors in order to demonstrate to themselves and to peers and supervisors that they had succeeded in developing new managerial talents. (Kram, 1985) The aforementioned events were typical for informal mentoring relationship where the relationship was formed spontaneously and voluntarily.

The dysfunctional relationship in formal mentoring program was more complicated and involved a lot more situational factors. Ragins and Scandura, (1997) had described reasons for dysfunctional mentoring relationship as: (1) a mentor became jealousy of protégé's advancement and sought to sabotage protégé's career, (2) overly dependent relationship by one or both parties, and (3) lack of support and the mentor's unrealistic expectations. In another literature, Eby et al., (2000) gave the reasons for dysfunctional mentoring relationship as: (1) mentors and protégé's dissimilar backgrounds, (2) mentors and protégé's dissimilar in term of attitudes, values and beliefs, and (3) a protégé had a direct reporting relationship with a mentor. Scandura (1998) had used Duck's (1994) typology as a framework to develop a typology of dysfunctional mentoring relationship as shown in Figure 1.5.

	Psychosocial	Vocational
Bad intent toward other	Negative relations (Bullies, Enemies)	Sabotage (Revenge, Silent treatment, Career damage)
Good intent toward other	Difficulty (Conflict, Binds)	Spoiling (Betrayal, Regret, Mentor off fast track)

Figure 1.5 Four potential dysfunctions in mentoring relationship

Note: From Scandura, T. A. (1998). Dysfunctional mentoring relationships and outcomes. *Journal of Management, 24(3)*, p. 454.

In the same literature, Scandura had described seven dysfunctional mentoring relationships: negative relation, sabotage, difficulty, spoiling, submissiveness, deception, and harassment. The details of which were as followed:

7.1. Negative relation. This was the situation when a tyrannical mentor exploited a protégé. An exploited protégé had to choose either remaining in an exploitive relationship or entering into a conflict with tyrannical mentor.

7.2. Sabotage. Either side of mentorship, a mentor or a protégé, was resentful from the action or ignorance of another party. For example, a mentor did not recommend a protégé for a promotion or a protégé treated a mentor with silent response. The resentments built up to the point when each party sought revenge on each other. The revenge could be either directly such as verbally attack or accusation, or indirectly such as "backstabbed," (Allen, Poteet, & Burroughs, 1997) or politically damaged other's career.

7.3. Difficulty. This dysfunctional behavior occurred when a mentor imposed a good intended behavior for a protégé. However, a protégé had to comply with a negative point of view and felt coercive.

7.4. Spoiling. This dysfunctional behavior occurred when either or both parties perceivably or actually betray another party. For example, a mentor unintentionally took credit from protégé work without praising a protégé. A protégé

revenged by presenting new idea to another manager besides a mentor. Both parties accumulated the resentments and the feelings of betrayals.

7.5. *Submissiveness*. This dysfunctional behavior occurred when a protégé overly depended on a mentor (offering submissiveness behavior) for an exchange of support and resources.

7.6. *Deception*. Either a mentor or a protégé might manipulate information to obtain compliance from another party.

7.7. *Harassment*. By definition, a mentor-protégé relationship was one that was imbalance in power. This dysfunctional behavior occurred when one party, mostly a mentor, abused the power over the relationship with a protégé either verbally or physically in the context of sexual or racial nature.

8. Contemporary Issues on Mentoring

Since the inception of the concept, mentoring had been widely adopted and adapted by business and not-for-business organizations throughout the United States as a personnel development tool, especially for socializing new employees to the organization settings. (Richard, Taylor, Barnett, & Nesbit, 2002; Scandura & Williams, 2001) Mentoring was used as means for the socialization, training, and career developing. As a socialize tool, it facilitated new employees' adaptation to work roles. Therefore, it reduced work-role stress, which was caused by ambiguity of work responsibility and conflicting work demand. (Seibert, 1999) One major reason that encouraged the organizations to practice mentoring was the change in economical structure. Since 1985, organizations had undergone major changes in structuring, (e.g., downsizing, restructuring, and merger & acquisition) work design, (e.g., team-base work) (Allen, Poteet, & Burroughs, 1997) and especially corporate re-engineering. As a result, organization structure had become flatter and interdepartmental communications became readily available which was the favorable condition for mentoring. It was estimated that one-third of the US major companies had a formal mentoring program. (Bragg, 1989; cited in Ragins & Cotton, 1999) One poll reported

that about 38% of all workers who were surveyed reporting to had been recipients of some forms in mentoring. (McShulskis, 1996; cited in Russell & Adams, 1997)

Besides mentoring in business workplace, this practice was also found in many academic journals of various occupations, such as career development, (Eby & Allen, 2006) assessment appraisal system, (Dreher & Dougherty, 1997) mentoring in graduated school, (Tenenbaum, Crosby, & Gliner, 2001) student mentoring, (Andrews & Chilton, 2000) academic institutes, (Janasz & Sullivan, 2004) hospital industry, (Lankau & Chung, 1998) physician, (Gram, 1992) surgeon, (Osborn et al., 1999) radiologist, (Lee, Anzai, & Langlotz, 2006) neurologist, (Selwa, 2003) nurse, (Borges & Smith, 2004) public accountant, (Viator, 2001) lawyer, (Wallace, 2001) police, (Dubord, 2001) and military. (May, 2003) Mentoring was also studied by researchers from a wide range of disciplines, such as education, counseling, social work, psychology, management, youth mentoring, student-faculty mentoring, and workplace mentoring. (Eby & Allen, 2006) There were over 500 articles on mentoring that had been published in popular and academic publications both for business and for educational purposes in the period of only ten years. (Russell & Adams, 1997)

In general, mentoring relationship, as a pure science, and its quality received very little empirical research attentions from scholars, especially in psychology area. (Allen & Eby, 2003) Most of the available empirical researches were conducted mainly on informal mentoring whose relationship occurs spontaneously and voluntarily by both mentor and protégé. On contrary, there was relatively very few attention of research on formal mentoring program despite its broad usage in many industries expanding across many disciplines. (Eby & Lockwood, 2005; Seibert, 1999) Moreover, a meta-analysis of the studies during the past 25 years also indicated that there was no experimental research ever been conducted in the mentoring field. (Underhill, 2006)

Scholars had been conducting researches in mentoring but with shattering directions and scattering across disciplines so that they resulted in many definitions of

mentoring for many professions. (Underhill, 2006) There was no agreement among researchers upon mentoring's definition and what it comprised of. This would have made it difficult to orchestrate the attempts to advance the knowledge to the research body of mentoring. Burke and McKeen (1997) had indicated that mentoring was new and still developing content areas, it was typical that it lacked an integrated research model or framework. Most research findings had been conducted only within the past three decades. During which period, researches were so fragmented and were merely listings of empirical results. (Chao, 1997) As a subject area to study, mentoring was at a relatively young and confusing stage comparing with other subject areas within organization behavioral science. (Allen et al., 2004) Until recently, the number of research started to grow and added to the body of mentoring literatures since mentoring continued to grow in popularity among researchers and practitioners alike. (Eby, Lockwood et al., 2006) As one demonstration to such attempt, Eby and Allen (2006) had called for submission of mentoring papers of researchers from a wide range of disciplines to be published as a special issue in the *Journal of Vocational Behavior*, whose publication date was expected in June 2008. Hopefully after this consolidation, there would be an integrative theory of mentoring upon which to be agreed by scholars of all disciplines. Ever since Kram's book in 1985, it had been almost a quarter of century that there was no academic textbook dedicating to mentoring subject. Mentoring received only superficial coverings in business textbooks but there were more than 20 nonacademic books of mentoring derivatives in the Amazon.com under search with mentoring key word.

This study used MBTI as a main instrument to measure personality fit. Therefore, it deserved a review for a thorough understanding of its usefulness as well as its limitation.

Myers-Briggs Type Indicator

A Swiss psychiatrist, Carls Gustav Jung had posited a theory of psychological types, which was displayed in his 1936 psychological typology:

> Its purpose was to provide a critical psychology, which would make methodical investigation and presentation of the empirical material possible. First and foremost, it was a critical tool for the research worker, who needed definite points of view and guidelines if he was to reduce the chaotic profusion of individual experiences to any kind of order... Secondly, a typology was a great help in understanding the wide variations that occurred among individuals, and it furnished a clue to the fundamental difference in the psychological theories now current. Finally yet importantly, it was an essential means for determining the "personal equation" of the practicing psychologist, who armed with an exact knowledge of his differentiated and inferior functions, could avoid many serious blunders in dealing with his patients. (Jung, 1971, p. 555; cited in McCaulley, 2000)

The Myers-Briggs type indicator (MBTI) was a self-report questionnaire built on Jung's theory of extraversion-introversion dichotomy of personal preferences. Jungian theory indicated that persons differ in the degree to which they were oriented toward the external world "extraversion" or the internal world "introversion." These two orientations were referred to as attitudes. (Arnau, Green, Rosen, Gleaves, & Melancon, 2003) Based on his observation, Jung had concluded that differences in behavior resulted from persons' inborn tendencies to use their minds in different ways. As persons acted on their own tendencies, they developed pattern of behaviors. Jungian psychological type theory had defined eight different patterns of normal person's behaviors, or types and explained how types developed. (Myers, 1998) From Jung's propositions, persons differed in the way they "perceive" the environment ("sensation" versus "intuition") and the way they made "judgment" about their perceptions. ("thinking" versus "feeling")

Components of Jung's Picture of Personality

Jung had observed that when persons' minds were active, they were involved in one of the two mental activities: taking in information - perceiving, or organizing that information and coming to conclusions - judging. Jung had also observed that persons tended to focus their energy and be energized either more by external world of people, experience, and activity or by more of the internal world of ideas, memories, and emotion. Jung had called these two orientations of energy extroversion (acting in the

outer world) and introversion (reflecting in the inner world). While each of the four mental processed within brain activities (perceiving and judging) that was - sensing, intuition, thinking, or feeling - had its own predictable characteristics, each also took on different flavor depending on whether the process was focused more on the outer extraverted world or on the inner introverted world. (Myers, 1998) Combining the two different orientations to the world with four mental processes, Jung had described eight fundamental patterns of mental activity available to people. (Figure 1.6)

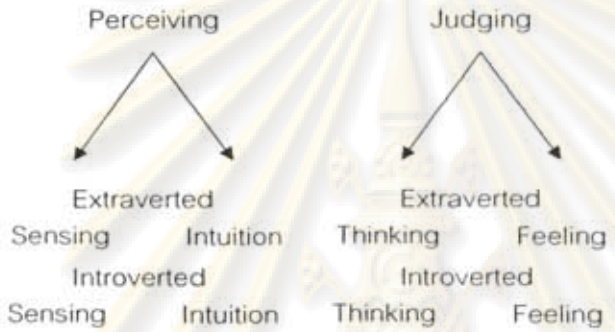


Figure 1.6 Jung's eight mental functions

Note: Modified from Myers, I. B. (1998). *Introduction to type* (6 ed.). Mountain View, CA: Consulting Psychologist Press, Inc. p. 7.

While these eight mental processes were available to and being used by everyone, Jung believed that persons were innately different in what they preferred. The natural preference for one of these functions over the others leaded individuals to direct energy toward it and to develop habits of behavior and personality pattern characteristic of that function. Jung had termed persons' preferring mental process their *domain function*.

Myers and Briggs's Development of Jung's Theory

Besides domain function, Jung had also described auxiliary, tertiary, and inferior function by the order of persons' preferences of mental processes. Briggs and Myers had developed Jung's idea of auxiliary function and had included its role in their concept and description of types. They also had added two mental activities initially be observed by Jung - perceiving and judging - on to Jung's eight mental functions. This development resulted in the 16 types indicating by the MBTI. (Figure 1.7)

	Sensing types		Intuitive types	
Introverts types	**ISTJ** Quiet, serious, earn success by thoroughness and dependability. Practical, matter-of-fact, realistic, and responsible. Decide logically what should be done and work toward it steadily, regardless of distractions. Take pleasure in making everything orderly and organized their work, their home, their life. Value traditions and loyalty.	**ISFJ** Quiet, friendly, responsible, and conscientious. Committed and steady in meeting their obligations. Thorough, painstaking, and accurate. Loyal, considerate, notice and remember specifics about people who are important to them, concerned with how others feel. Strive to create an orderly and harmonious environment at work and at home.	**INFJ** Seek meaning and connection in ideas, relationships, and material possessions. Want to understand what motivates people and are insightful about others. Conscientious and committed to their firm values. Develop a clear vision about how best to serve the common good. Organized and decisive in implementing their vision.	**INTJ** Have original minds and great drive for implementing their ideas and achieving their goals. Quickly see patterns in external events and develop long-range explanatory perspectives. When committed, organize a job and carry it through. Skeptical and independent, have high standards of competence and performance for themselves and others.
	ISTP Tolerant and flexible, quiet observers until a problem appears, then act quickly to find workable solutions. Analyze what makes things work and readily get through large amounts of data to isolate the core of practical problems. Interested in cause and effect, organize facts using logical principles, value efficiency.	**ISFP** Quiet, friendly, sensitive, and kind. Enjoy the present moment, what's going on around them. Like to have their own space and to work within their own time frame. Loyal and committed to their values and to people who are important to them. Dislike disagreements and conflicts, do not force their opinions or values on others.	**INFP** Idealistic, loyal to their values and to people who are important to them. Want an external life that is congruent with their values. Curious, quick to see possibilities, can be catalysts for implementing ideas. Seek to understand people and to help them fulfill their potential. Adaptable, flexible, and accepting unless a value is threatened.	**INTP** Seek to develop logical explanations for everything that interests them. Theoretical and abstract, interested more in ideas than in social interaction. Quiet, contained, flexible, and adaptable. Have unusual ability to focus in depth to solve problems in their area of interest. Skeptical, sometimes critical, always analytical.
Extraverts types	**ESTP** Flexible and tolerant, they take a pragmatic approach focused on immediate results. Theories and conceptual explanations bore them. They want to act energetically to solve the problem. Focus on the here-and-now, spontaneous, enjoy each moment that they can be active with others. Enjoy material comforts and style. Learn best through doing.	**ESFP** Outgoing, friendly, and accepting. Exuberant lovers of life, people, and material comforts. Enjoy working with others to make things happen. Bring common sense and a realistic approach to their work, and make work fun. Flexible and spontaneous, adapt readily to new people and environments. Learn best by trying a new skill with other people.	**ENFP** Warmly enthusiastic and imaginative. See life as full of possibilities. Make connections between events and information very quickly, and confidently proceed based on the patterns they see. Want a lot of affirmation from others, and readily give appreciation and support. Spontaneous and flexible, often rely on their ability to improvise and their verbal fluency.	**ENTP** Quick, ingenious, stimulating, alert, and outspoken. Resourceful in solving new and challenging problems. Adept at generating conceptual possibilities and then analyzing them strategically. Good at reading other people. Bored by routine, will seldom do the same thing the same way, apt to turn to one new interest after another.
	ESTJ Practical, realistic, matter-of-fact. Decisive, quickly move to implement decisions. Organize projects and people to get things done, focus on getting results in the most efficient way possible. Take care of routine details. Have a clear set of logical standards, systematically follow them and want others to also. Forceful in implementing their plans.	**ESFJ** Warmhearted, conscientious, and cooperative. Want harmony in their environment, work with determination to establish it. Like to work with others to complete tasks accurately and on time. Loyal, follow through even in small matters. Notice what others need in their day-by-day lives and try to provide it. Want to be appreciated for who they are and for what they contribute.	**ENFJ** Warm, empathetic, responsive, and responsible. Highly attuned to the emotions, needs, and motivations of others. Find potential in everyone, want to help others fulfill their potential. May act as catalysts for individual and group growth. Loyal, responsive to praise and criticism. Sociable, facilitate others in a group, and provide inspiring leadership.	**ENTJ** Frank, decisive, assume leadership readily. Quickly see illogical and inefficient procedures and policies, develop and implement comprehensive systems to solve organizational problems. Enjoy long-term planning and goal setting. Usually well informed, well read, enjoy expanding their knowledge and passing it on to others. Forceful in presenting their ideas.

Figure 1.7 Characteristics frequently associated with the 16 types of MBTI

Note: Modified from Myers, I. B. (1998). *Introduction to type* (6 ed.). Mountain View, CA: Consulting Psychologist Press, Inc. p. 13.

The MBTI Preferences

The E-I Dichotomy Where did persons focus their attention?

Extraversion. Persons who preferred extraversion like to focus on the outer world of people and activity. They directed their energy and attention outward and receive energy from interacting with people and from taking action.

Introversion. Persons, who preferred introversion liked to focus on their own inner world of ideas and experiences. They directed their energy and attention inward and received energy from reflecting on their thoughts, memories, and feelings.

The S-N Dichotomy How did persons prefer to take in information?

Sensing. Persons who preferred sensing liked to take in information that was real and tangible - what was actually happening. They were observant about the specifics of what was going on around them, and were especially attuned to practical realities.

Intuition. Persons who preferred intuition liked to take in information by seeing the big picture, focusing on the relationships and connections between facts. They wanted to grasp patterns and especially to attune to see new possibilities.

The T-F Dichotomy How did persons make decision?

Thinking. Persons who preferred to use thinking in decision making liked to look at the logical consequences of a choice or action. They wanted to remove themselves mentally from the situation to examine the pros and cons objectively. They were energized by commenting on and analyzing to identify what was wrong with something so they could solve the problem. Their goal was to find a standard or principle that would apply in all similar situations.

Feeling. Persons who preferred to use feeling in decision-making liked to consider what was important to them and to others who involved. They mentally placed themselves into the situation to identify with everyone so they could made decisions based on their values about honoring people. They were energized by appreciating and supporting others and looked for qualities to praise. Their goal was to create harmony and to treat person as a unique individual.

The J-P Dichotomy How did persons deal with the outer world?

Judging. Persons who preferred to use their judging process in the outer world

liked to live in a planned, orderly way that sought to regulate and manage their lives. They wanted to make decisions, settled, and moved on. Their lives tended to be structured and organized, and they liked to have things settled. Sticking to a plan and schedule were very important to them. They were energized by getting things done.

Perceiving. Persons who preferred to use their perceiving process in the outer world liked to live in a flexible, spontaneous way, seeking to experience, and understand life rather than control it. Detailed plans and final decisions were felt confining to them. They preferred to stay open to new information and last-minute options. They were energized by their resourcefulness in adapting to the demands of the moment. (Myers, 1998, pp. 9-10)

The MBTI Questionnaire

The MBTI was one of frequently used psychological tests particularly in the field of social psychology, industrial and organizational psychology (Limwong, 1999) and vocational counseling. (Saggino & Kline, 1996) The questionnaire had been using and consistently revising for over 50 years. Form M, which was used in this study, was the latest version. In the development of form M, the item weighted of this questionnaire were based on standardizing sample from 3,200 adults in a random US national sample. As of today, more than two million MBTI questionnaires were administered in the United States each year. The MBTI questionnaire had also been translated into more than 30 languages worldwide. (Myers, 1998)

The MBTI had been used in a wide variety of organizational applications such as career guidance, personal development, organization development, job analysis, (Harvey, Murrey, & Markham, 1995) team building, management development, conflict management, leadership training, (Gardner & Martinko, 1996) problem solving, relationship counseling, education and curriculum development, diversity and multicultural training, and academic counseling. (Myers, 1998) However, the MBTI had rarely been used in research studies focusing on psychopathology even though it had construct validity in par with the other personality inventories that were using in that area. (Janowsky, Morter, & Hong, 2002)

The questionnaire itself consisted of 93 pairs of forced-choice items. There were two types of questions, which were divided in four parts: (1) the first type of questionnaire consisted of a phrase describing the situation, a guiding question, or both, with two answers, and (2) the second type was only a pair of words from which only one to be chosen without any cue or reason. The sample items were exhibited in the appendix B.

Each pair of questionnaire consisted of opposite mental processes from one of the four dichotomies:

The personality of extraversion (E) versus introversion (I)	21 items
The personality of sensing (S) versus intuition (N)	26 items
The personality of thinking (T) versus feeling (F)	24 items
The personality of judging (J) versus perceiving (P)	22 items

When respondent had completed the questionnaire, the score of eight preferences were calculated by subtracting the predominating mental process with the lesser one within the same dichotomy. The preference that had a higher value was the person's prevalence or tendency of behavior, resulting in four letters, one of which came from one polar of each dichotomy, for example, the type ENFP.

In case that the score was tied within the dichotomy, use following rules:

If E = I	let it be	I	If S = N	let it be	N
If T = F	let it be	F	If J = P	let it be	P.

Result of the questionnaire could be the simplest form as four letter category such as form M (self-scoring) or could be submitted for further computation into a clarity report of preferences with more detail as shown in Figure 1.8. According to company's information, the numbers associated with each preference did not mean that a person had a strong preference toward that aspect. The higher number of preference only implied that a person highly consistent answered to that preference. However, according to psychological point of view, answering to the dichotomy scale

in a consistent way indicated a strong preference toward one end. This was one of the reasons that MBTI, in fact, was a continuous measurement by its nature. The 16-typological categories only made a respondent understanding the result quicker by comparing the four letters with the pre-describing personalities in self-scorable form. By doing this, many details were missing for evaluation. This enabled MBTI to have many products, based on Jungian theory, which were in several depths of details (and pricings) which made MBTI so popular in personal development and counseling business.

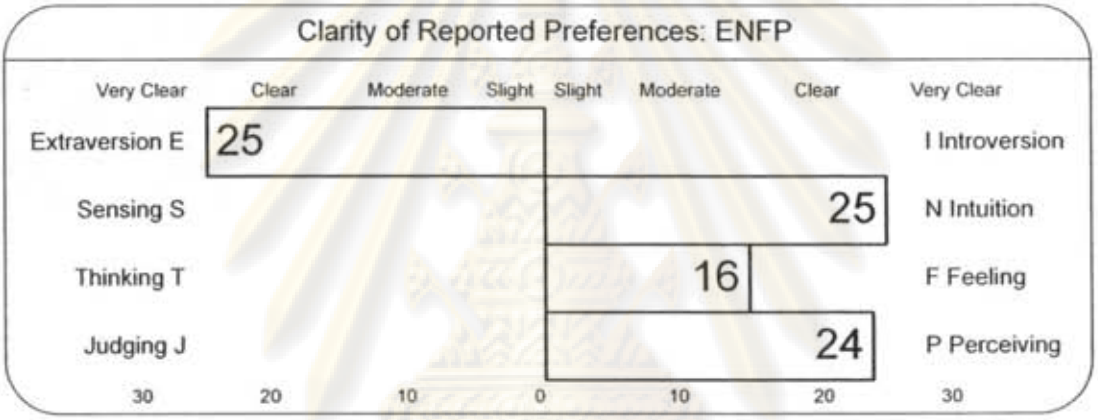


Figure 1.8 Clarity of report preferences

Note: Modified from Hammer, A. L. (2007). Myers-Briggs type indicator career report. Retrieved February 2, 2007, from https://www.cpp.com.

The above analysis was the step one report of the personality analysis. MBTI had more products such as MBTI form Q which had a capability of featuring a computerized program to analyze individual item with *item response theory* and produced a detail analysis such as a step two report, four letter of preferences and twenty facets of personality. Each of the eight mental processes contained five facets, which gave participants more details of individual personality. (Figure 1.9) The step two report assisted participants by tailoring the details providing advices and actions plan to achieve a specific purpose. These reports included but not limited to career development, interpretive report for organization, team development, working-style

development to help improving communication, managing change, and solving conflict in an organization.

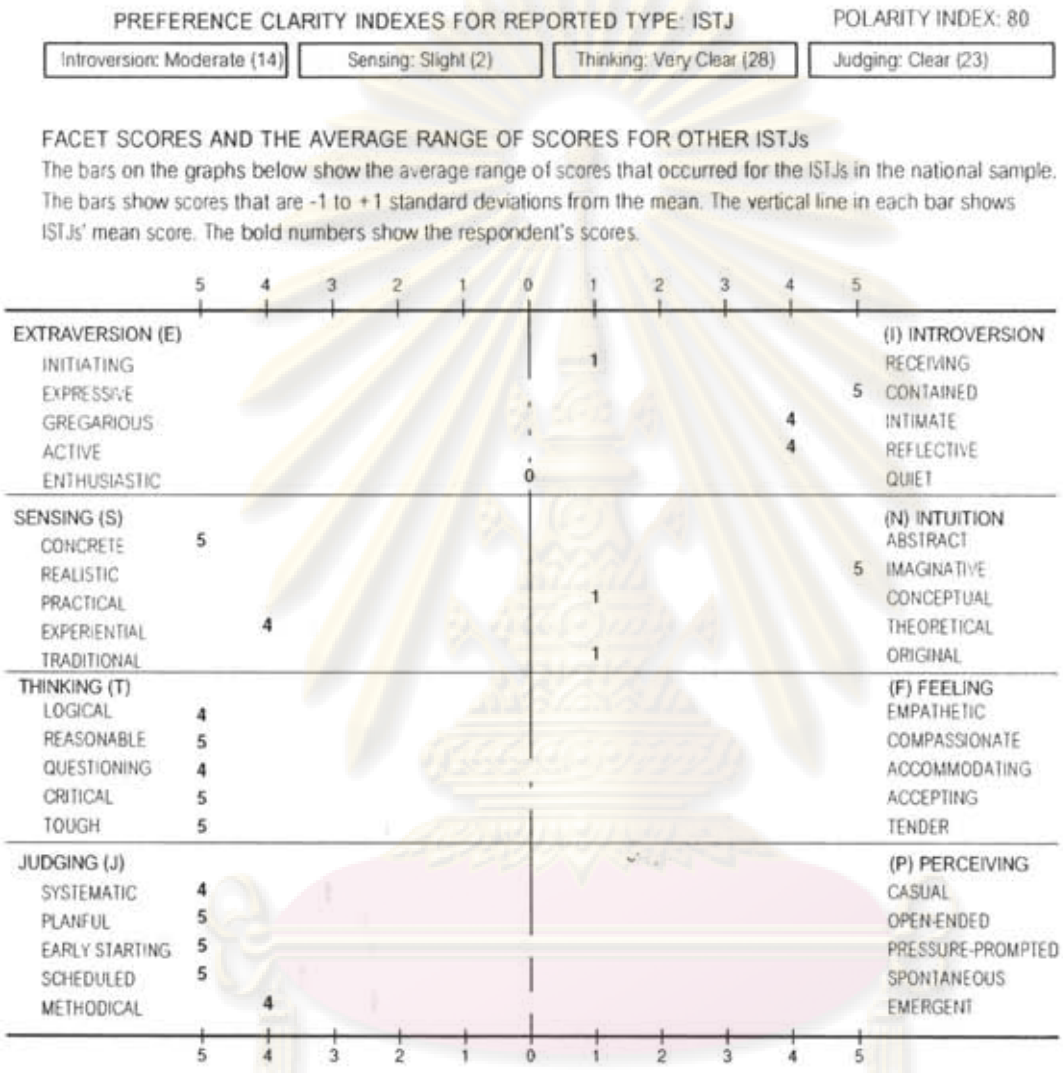


Figure 1.9 A sample of step two report
Note: Modified from Quenk, N. L., & Kummerow, J. M. (2007). A step II report. Retrieved February 2, 2007, from https://www.cpp.com.

From individual calculation of facets using item response theory (Harvey & Hammer, 1988), a step two report generated in-depth details of individuals and tendency of behaviors to better understand themselves and surrounding situation. Depending on the requests, MBTI in step two could generate many kind of useful tool such as problem solving solution or even a systematic planning to serve a personal developmental need. (Figure 1.10)

Potential Problems in Communication Style

Because of the natural differences in your communication styles you may misinterpret each other's behavior or unintentionally annoy each other. Check these lists to see if this might be happening.

John, you may...	Mary, you may...
Misinterpret your colleague s quiet approach as purposeful withholding of information	Feel overwhelmed with all of the facts or possibilities discussed by your colleague
Be surprised when your colleague announces a decision	Assume that everyone knows what you are thinking
Not read your colleague's memo entirely (or at al but rather take it as a signal that he/she is ready to *discuss* the issue	Be surprised when your colleague interprets your written communication as merely the *beginning* of the discussion
Feel put off or rejected if your attempts at social conversation are ignored	Feel distracted by or anxious about social conversation, preferring to stick to the issue
Not respect your colleague's need for privacy	Not respect your colleague's need for contact
Respond to what you view as your colleague's withdrawal by increasing your attempts to contact him/her	Respond to attempts for increased contact by withdrawing further
Push your colleague to make a decision before he/she has thought about the issue in depth	Resist attempts to hurry your decision by not being available

Joint Action Plan for Communication Style

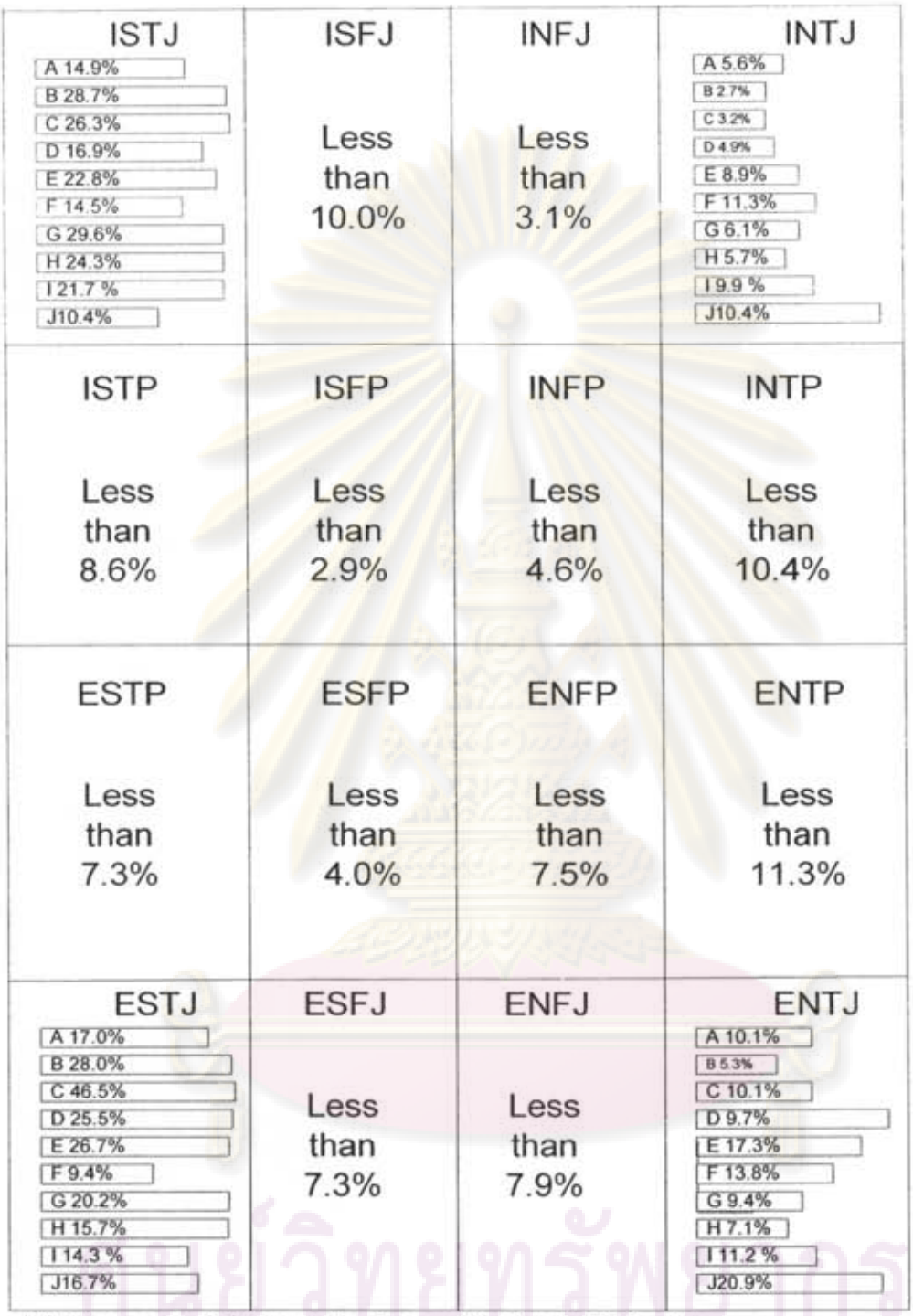
Your differences can be valuable because you bring complementary strengths to communication. Together you have a useful balance between discussing (E) and reflecting (I). To capitalize on these differences, however, you need to understand and appreciate each other's style. The action steps below will help if you work on them together. Note which steps you agree to take and which steps need further discussion.

Agree	Discuss	
____	_____	Negotiate how much time the Introvert will need and the Extravert will be able to wait before discussing the issues
____	_____	Allow the Introvert a period of uninterrupted "thinking space" (either a period of time or a physical space) to compose his/her thoughts; help the Extravert identify others with whom he/she can discuss ideas
____	_____	Decide how frequently you need to "check in" with each other so that the Introvert's ideas don't surprise the Extravert
____	_____	Discuss your preferences for written memos versus discussion
____	_____	Discuss how much social versus task-related talk is helpful or needed
____	_____	Decide what matters are best discussed by dropping by someone's office, versus what matters are best discussed in meetings

Figure 1.10 A sample of step two working styles report

Note: Modified from Ingrid, I. (2007). Work styles report. Retrieved February 2, 2007, from https://www.cpp.com

From the MBTI data bank, Figure 1.11 presented data on types of manager in business and industry in the United States. Figure 1.12 presented data on type of fields of counseling. (McCaulley, 2000) The personalities of both professional groups were opposite in all dichotomy preferences.



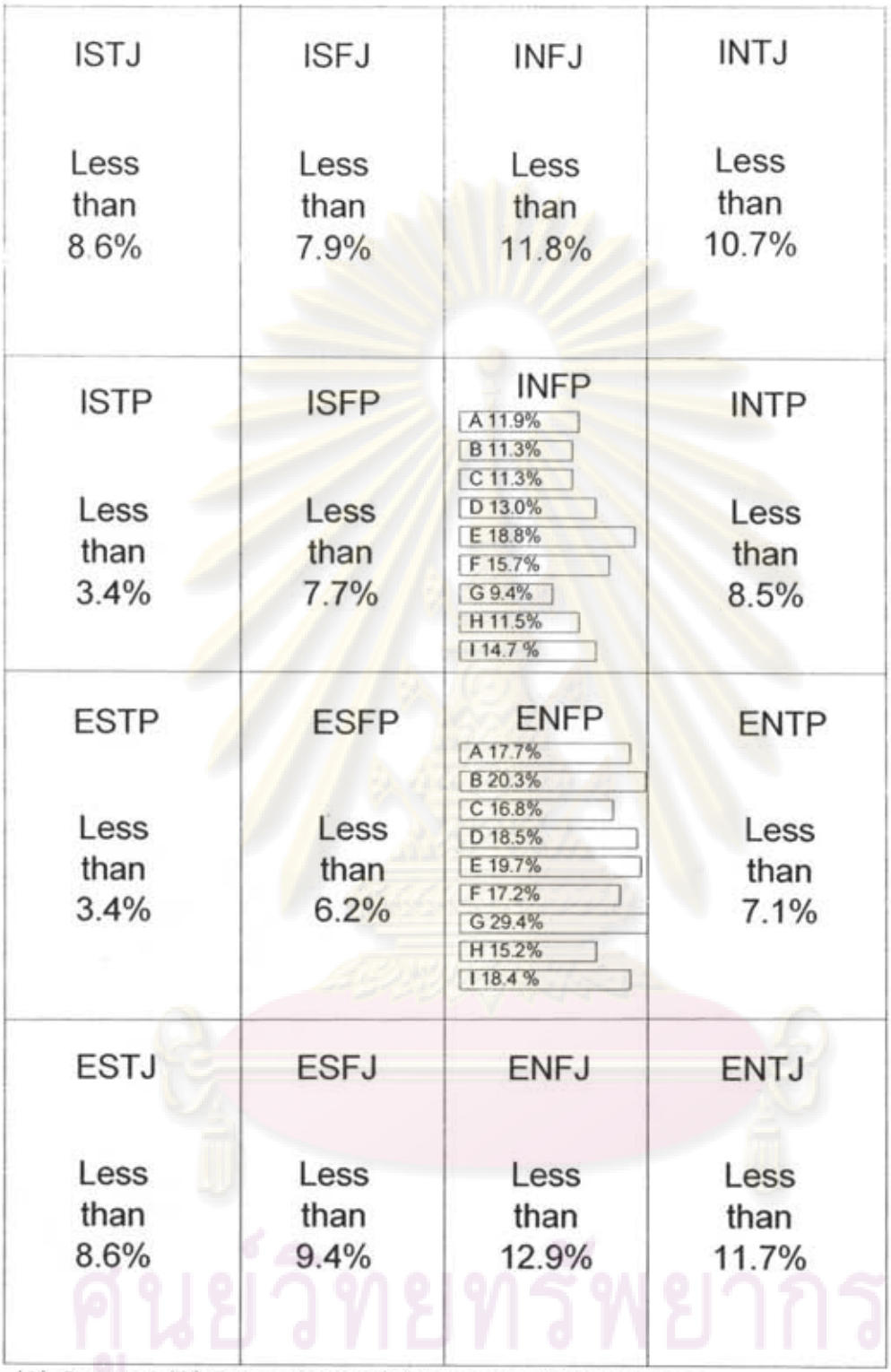
(A) Managers (B) Small Business (C) Retail (D)Banking

(E) Telephone (F) Inc. 500 (G) Accounting (H) Supervisors

(I) Mid Managers (J) Executives

Figure 1.11 MBTI percentage of managers in business and industry in the United States

Note: Modified from McCaulley, M. H. (2000). Myers-Briggs type indicator: A bridge between counseling and consulting. *Consulting Psychology Journal: Practice and Research, 52(2)*, p. 123.



(A) General (B) Rehabitation (C) Vocation & Education

(D)School (E) Runaways (F) Crisis (G) Psychodrama

(H) Social Work (I) Psychology

Figure 1.12 MBTI percentage of counselors in different fields

Note: Modified from McCaulley, M. H. (2000). Myers-Briggs type indicator: A bridge between counseling and consulting. *Consulting Psychology Journal: Practice and Research, 52(2)*, p. 124.

Thai Translation of MBTI Questionnaire

Method of Translation

Back translation.

This Thai translation of MBTI form M used back-translation technique (Lounner, Water, Berry, & Widdup, 1988; cited in Pantitanonta, 2004) as shown in Figure 1.13. This method of translation aimed at the correctness of linguistic meanings. (Limwong, 1999)

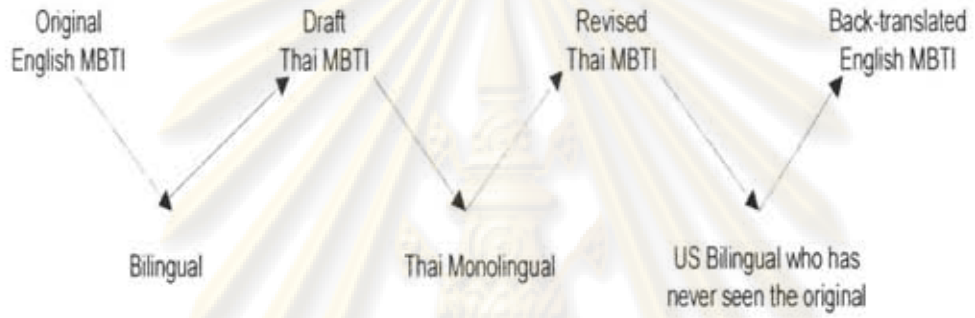


Figure 1.13 MBTI back translation technique

Note: From Pantitanonta, S. (2004). *A development of a type of person inventory based on the Myers Briggs type indicator form M (Thai version) for upper secondary school students*. Chulalongkorn University, Bangkok. p. 43

Construct translation.

In some instances, Thai word or phrase that was translated from the English with exact linguistic meaning but reflected different psychological construct. In this case, the translation needed to be revised in order to retain the original construct intending to be measured. (Limwong, 1999) When comparing the back-translated MBTI with the original MBTI, the translations were acceptably similar to original constructs, except for a portion of items, which needed to be revised using previous translated wordings from previous thesis. (Likidsomboon, 2000; Limwong, 1999; Tepayayone, 1999)

Verification

Both original MBTI and Thai MBTI were tested-retested (two weeks apart) with 40 Thai graduate students who were attending English graduate program.

	First Group	Second Group
First Test	Original MBTI	Thai MBTI
Second Test	Thai MBTI	English MBTI

The correlations of test-retest between original MBTI and a Thai translation version were quite high, except for sensing and intuition. (Table 1.1)

Table 1.1

Correlation of test-retest original MBTI and Thai MBTI among 40 Thai graduate students

	Test-retest
Extraversion	.79*
Introversion	.78*
Sensing	.47*
Intuition	.63*
Thinking	.73*
Feeling	.72*
Judging	.81*
Perceiving	.81*

*$p<.05$

Note: From Pantitanonta, S. (2004) *A development of a type of person inventory based on the Myers Briggs type indicator form M (Thai version) for upper secondary school students*, Chulalongkorn University, Bangkok. p. 46.

Reliability.

The Thai version MBTI form M had been administered to 1,500 Thai secondary school students. The reliabilities were established as in Table 1.2.

Table 1.2

Reliability of Thai MBTI on 1,500 Thai secondary school students

	Split-half	Cronbach's α	test-retest
Extraversion - Introversion	.75	.73	.81*
Sensing - Intuition	.35	.46	.62*
Thinking - Feeling	.62	.69	.79*
Judging - Perceiving	.73	.73	.70*
Total	.68	.71	*$p<.05$

Note: From Pantitanonta, S. (2004). *A development of a type of person inventory based on the Myers Briggs type indicator form M (Thai version) for upper secondary school students*, Chulalongkorn University, Bangkok. pp. 53-55.

Again, sensing and intuition were quite weak in reliabilities comparing with other dichotomies. For the purpose of comparison, data of reliability for MBTI in US high school student ranged from .67 to .85 (Myers & McCaulley, 1992)

Validity.

Thai MBTI had been validated with Thai Edward personal preference schedule (EPPS). (Rakkarn, 1978) The result of correlations was exhibited in Table 1.3.

Table 1.3
Correlation between Thai MBIT with Thai EPPS

Facet	E - I	S - N	T - F	J - P
Achievement	.167	.139	-.273	.002
Deference	.128	-.168	-.164	.046
Order	.235	-.029	-.058	-.389*
Exhibition	-.133	.162	-.128	-.009
Autonomy	-.228	.028	-.005	.213
Affiliation	-.265	-.245	.218	.089
Intraception	.066	.050	.075	-.108
Succorance	.179	-.109	.223	-.133
Dominance	-.253	.209	-.208	-.076
Abasement	.272	-.042	.194	.038
Nurturance	.077	-.244	.399*	-.189
Change	-.277*	.221	.214	.309*
Endurance	.297*	-.046	-.254	-.252
Heterosexuality	-.088	.102	-.037	.115
Aggression	-.096	-.153	-.171	.291*

*$p<.05$

Note: From Pantitanonta, S. (2004). *A development of a type of person inventory based on the Myers Briggs type indicator form M (Thai version) for upper secondary school students.* Chulalongkorn University, Bangkok. p. 56.

From above table, three facets of MBTI (E-I, T-F, and J-P) had significant ($p<.05$) correlations with at least one of the EPPS facets. However, S-N facet did not correlate with any facet of EPPS. Table 1.4 showed the known group technique of validity.

Table 1.4

Validity with known group technique of Pantitanonta's study

	Correlation
Extraversion - Introversion	.74*
Sensing - Intuition	.60*
Thinking - Feeling	.72*
Judging - Perceiving	.84*

*$p<.05$

Note: From Pantitanonta, S. (2004). *A development of a type of person inventory based on the Myers Briggs type indicator form M (Thai version) for upper secondary school students*. Chulalongkorn University, Bangkok p. 57.

From known group technique, E-I, T-F, and J-P had moderate to high relationships bur S-N had only moderate relationship. From overall point of view, S-N demonstrated the weakest indicator among all dichotomies of MBTI.

Prediction ratio.

> The method previously used in the MBTI to select items and provided a classification on each scale employed what were called "prediction ratios" (PRs). A prediction ratio was computed for each response to each MBTI item by dividing the percentage of people holding the target preference who answered an item in the keyed direction (e.g., a person with a preference for Thinking who chose the response keyed to Thinking) by the percentage of everyone answering that item in the keyed direction. Based on previous research, Myers selected items for inclusion on the MBTI if the prediction ratio for at least one of the responses was >.62 (c.f. Myers & McCaulley, 1985). (Harvey & Hammer, 2007, p. 19)

In judging of which item of MBTI better represented the preference it intended to indicate, Harvey and Hammer (2007) used item response theory and agreed to use prediction ratio, by which either item of the two was greater than .62, as the critical point to accept that the pairing items could discriminate the prevalence of attitude. This prediction ratio was the percentages of respondents who answer to that particular personality item and really belonged to that personality type. The higher the number, the stronger that item could discriminate the personality type. (Table 1.5)

Table 1.5

Prediction ratio of Thai MBTI of Pantitanonta's study

Item#	A	PR	B	PR	Item#	A	PR	B	PR	Item#	A	PR	B	PR
1	J	.53	P	.85*	32	S	.71*	N	.60	63	N	.50	S	.64*
2	P	.76*	J	.60	33	P	.62*	J	.49	64	F	.74*	T	.52
3	S	.62*	N	.54	34	E	.69*	I	.62*	65	P	.67*	J	.64*
4	E	.71*	I	.72*	35	I	.50	E	.67*	66	I	.57	E	.73*
5	N	.65*	S	.69*	36	J	.59	P	.76*	67	E	.72*	I	.54
6	F	.75*	T	.51	37	N	.59	S	.63*	68	J	.58	P	.69*
7	P	.68*	J	.71*	38	F	.80*	T	.44	69	T	.42	F	.71*
8	E	.65*	I	.59	39	T	.48	F	.75*	70	J	.63*	P	.65*
9	J	.61	P	.72*	40	S	.63*	N	.50	71	P	.62*	J	.54
10	J	.59	P	.62*	41	P	.72*	J	.71*	72	I	.59	E	.72*
11	P	.67*	J	.65*	42	I	.64*	E	.74*	73	S	.62*	N	.48
12	I	.56	E	.75*	43	J	.63*	P	.70*	74	N	.48	S	.63*
13	S	.64*	N	.53	44	N	.66*	S	.68*	75	F	.74*	T	.40
14	E	.66*	I	.52	45	F	.70*	T	.47	76	P	.64*	J	.67*
15	N	.57	S	.67*	46	T	.40	F	.71*	77	E	.74*	I	.53
16	F	.79*	T	.54	47	S	.62*	N	.50	78	T	.49	F	.72*
17	P	.73*	J	.63*	48	I	.70*	E	.67*	79	N	.61	S	.73*
18	I	.52	E	.71*	49	J	.64*	P	.73*	80	F	.74*	T	.50
19	E	.68*	I	.57	50	N	.56	S	.71*	81	T	.44	F	.72*
20	J	.60	P	.66*	51	F	.77*	T	.55	82	S	.67*	N	.51
21	P	.59	J	.62*	52	T	.41	F	.81*	83	N	.54	S	.65*
22	I	.53	E	.72*	53	S	.63*	N	.55	84	F	.81*	T	.45
23	E	.70*	I	.62*	54	I	.66*	E	.71*	85	T	.55	F	.74*
24	N	.61	S	.62*	55	N	.63*	S	.64*	86	S	.68*	N	.49
25	P	.67*	J	.57	56	F	.85*	T	.51	87	N	.61	S	.65*
26	I	.53	E	.71*	57	T	.55	F	.79*	88	F	.76*	T	.57
27	I	.57	E	.76*	58	S	.62*	N	.66*	89	T	.42	F	.82*
28	J	.65*	P	.80*	59	J	.55	P	.71*	90	S	.62*	N	.57
29	N	.60	S	.65*	60	I	.55	E	.76*	91	F	.76*	T	.50
30	F	.82*	T	.48	61	S	.63*	N	.55	92	T	.48	F	.74*
31	T	.54	F	.79*	62	E	.68*	I	.46	93	S	.63*	N	.48

* PRs > .62

Note: The higher the number of prediction ratio, the better quality that item represents the personality type. Critical point indicating the inclusion on item pair in the questionnaire was that either one of the item must had prediction ratio above .62.

Self Report Personality Preferences

In MBTI full 93 items test, they were forced-choice of two opposites. The numbers of answers to each of eight preferences were then summed and contrasted between preferences polar. The result was four letters personal preferences. The way by which a test was administered, only respondents could did the test for themselves. The purpose of this section was to develop a simpler version of personality similarity test, based on MBTI questionnaire, whereby it could be administered to describe the personality of self as well as to describe the person in focal, such as mentoring counterpart and ideal figure.

The MBTI questionnaire had four parts. Part two and four were choices from a pair of words without reasoning. They could not be used for this purpose. Items of part three involved behaviors toward particular situations. They were too complicated to predict other's reaction rather than self. Part one, however, was simply descriptions of persons, which could be observed directly. Then, the only best predictive ratio items from part one were considered to be used as constructs representing eight personality preferences that would be scored by five point Likert scale. This rating would be used for measurement of: (1) perceived personality of self, (2) ideal personality of mentoring counterpart, and (3) perceived personality of mentoring counterpart.

During the process of item selection, some best predictive ratio statement could not stand meaningfully on its own without mentioning the other choice. An example was item 1B. Without reading item 1A first, 1B was meaningless. In this case, the next best predictive ratio item was used as substitution. The result of selection was illustrated in Table 1.6.

Table 1.6

Item selection to represent preferences and their associated predictive ratio

Preferences	Highest items	*PRs*	Substituted items	*PRs*	Differences in *PRs*
Extraversion	60B	.76*	12B	.75*	.01
Introversion	4B	.72*			
Sensing	79B	.73*	5B	.69*	.04
Intuition	44A	.66*	24A	.61	.05
Thinking	88B	.57	16B	.54	.03
Feeling	56A	.85*	6A	.75*	.10
Judging	41A	.71*	7B	.71*	
Perceiving	1B	.85*	2A	.76*	.09

**PRs*>.62

The questionnaire for self-report personality looked like items in Figure 1.14.

Factors	Personality traits		Strongly Disagree	Disagree	Both Side Equally	Agree	Strongly Agree
Extraversion	MBTI (M) Item 12 (B)	PR = .75*					
Introversion	MBTI (M) Item 4 (B)	PR = .72*					
Sensing	MBTI (M) Item 5 (B)	PR = .69*					
Intuition	MBTI (M) Item 24 (A)	PR = .61					
Thinking	MBTI (M) Item 16 (B)	PR = .54					
Feeling	MBTI (M) Item 6 (A)	PR = .75*					
Judging	MBTI (M) Item 7 (B)	PR = .71*					
Perceiving	MBTI (M) Item 2 (A)	PR = .76*					

Figure 1.14 Questionnaire for self-reporting personality

MBTI as a Continuous Data

Traditionally, MBTI came in a self-scorable form, which was cleverly designed. The questionnaire was printed on two pages of paper, lying on a self-carbon copied answer sheet. Once a respondent answered by marking an "X" in an appropriate box, the mark was automatically transferred to its designated space in the answer sheet.

The respondent summed "Xs" in each row and summed the numbers of eight columns. With subtractions within dichotomy, a respondent knew the four letter of personality. The process of interpreting the personality took only a few minutes. This made MBTI a very popular tool to assess personality among personal development industry such as training and coaching because it gave an instant result and enabled the training facilitator to go on with related lecturing topics of within a few days seminar program. If a participant wanted more detail on personality, one could mail in for computerized interpretation as illustrated in Figure 1.8 to 1.10.

This implied that the four letter and the 16 personality types fell short on information. By expanding the categorical paradigm (type personality) into continuous data (trait personality), more information was available and was more fine-grained. Limwong (1999) had indicated in her MBTI thesis that the type theory used in MBTI was too coarse to describe personality properly since person had a degree of certain preference or behavior by which not appropriately be described as simply presence or absence. Together with Tepayayone (1999) for the same reason, both used the trait theory, which allowed a degree of behavior to vary, to analyze MBTI personality in their thesis.

The question of whether Jungian preference was categorical or continuous had been a debating issue. Using two bootstrap taxonomic methods, (MAMBAC and MAXCOV-HITMAX) Arnau et al. (2003) had strongly confirmed that MBTI was not a true, non-arbitrary taxon underlying Jungian preferences measuring by MBTI. McCrae and Costa, (1989) (cited in Harvey et al., 1995) had recommended MBTI to abandon Jungian framework and reinterpreted the MBTI in term of the five-factor model. Thus, MBTI difference between preference types were more likely variations in degree and not variations in kind. From a statistical perspective, the MBTI four letter type formulas might imply statistically significant personality difference when none existed. (Pittenger, 2005) Davito (1985) (cited in Furnham, 1996) had also pointed out that even the MBTI manual provided less evidence for the type personality than the continuous trait-like

measurement, which against the spirit of the test. Therefore, the study in the thesis treats MBTI data as continuous and to be analyzed accordingly by *structural equation modeling*. (SEM) Because this study use SEM as a main statistical procedure, a brief review of SEM would be helpful.

Structural Equation Modeling

Among statistical techniques using for analysis of research models today, a few techniques were regarding as high-level statistical techniques such as structural equation modeling (SEM), *hierarchical linear models* (HLM), and *latent class analysis* (LCA). HLM and LCA were quite situational specific statistical methods, which were very useful and revealed specific information under certain conditions.

Unlike HLM and LCA, SEM statistical technique was quite a universal application that could replace all other statistical techniques previously developed. (Figure 1.15)

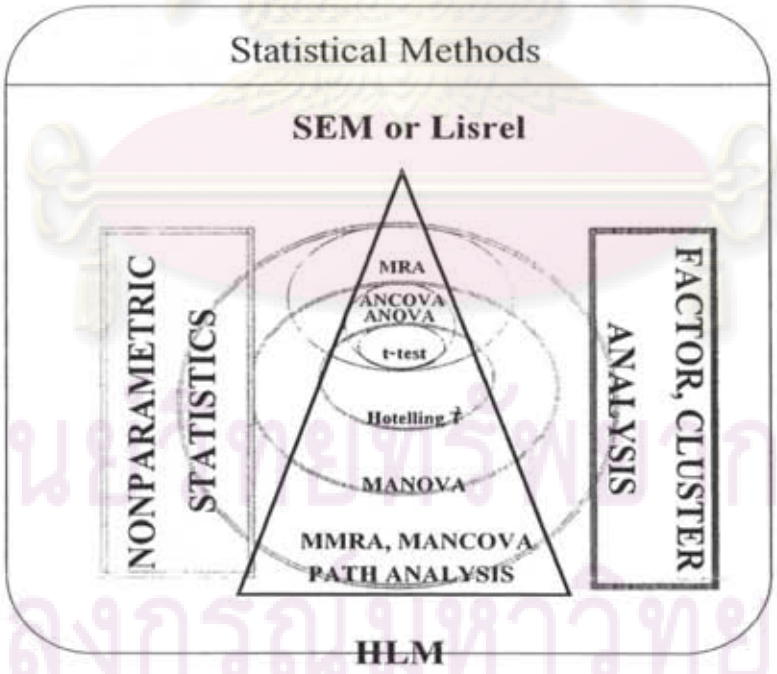


Figure 1.15 SEM's capabilities to analyze the situation comparing to others programs

Note: Modified from Wiratchai, N. (2005a). *High level statistical analysis for research.* Bangkok: Faculty of Education, Chulalongkorn University.

To be specific, SEM had capabilities to analyze situations where following statistical techniques were required: (Wiratchai, 2005a) (1) t-test, Anova, (2) Correlation, Multiple regression analysis=MRA, (3) Ancova, (4) Hotelling T-square, Manova, (5) Multivariate MRA =MMRA, (6) Mancova, (7) Path analysis = PA, (8) Exploratory factor analysis: EFA, (9) Confirmatory factor analysis = CFA, (10) PA with latent variables = SEM full model, (11) Second order factor analysis model, (12) Simplex model, Mimic model, (13) Longitudinal factor analysis model, (14) Latent growth curve model, (15) Forecasting, (16) Econometric models, (17) Multi-level modeling, (18) Variance and covariance decomposition models, (19) Multiple group strategy, (20) Latent structure analysis (categorical data), (20.1) Profile analysis, (20.2) Latent class analysis, and (20.3) Latent trait analysis.

SEM was a non-static statistical technique, its algorithm was expandable, and new features were continually developing. Lisrel, which was now in version 8.8, had been testing new applications regularly. These new features were discussed in http://sscientral.com. The proven techniques would be integrated in Lisrel's new version. Wiratchai (2005) had given some examples of new analytical techniques, which newer version of Lisrel could perform as followed: (1) Soft modeling, Multi-level causal model, (2) GLM repeated measure model, (3) Qualitative data analysis, (4) Neural network, (5) Data envelopment analysis (DEA), (6) Conjoint analysis, (7) Survival analysis, (8) Bootstrapping estimation, (9) Optimal scaling techniques, (9.1) Correspondence analysis, (9.2) Homogeneity analysis (HOMALS), (9.3) Nonlinear principal component analysis, (9.4) Nonlinear canonical correlation analysis, (9.5) Categorical regression analysis, (10) Bayesian statistical techniques, and (11) Psychometric, Measurement scaling.

SEM Underlying Technique

Developed by Karl G. Jöreskog in 1960, SEM was an integrated statistical method of two parts, factor analysis model, and path analysis model. Using parameters estimation method, SEM estimated target parameters according to

specified model and given empirical correlation matrix or covariance matrix of parameters by estimating parameters in sequential manner (iterations). The program ran several iterations according to preset limit by which the model might or might not converge. SEM was not a magical tool, its strength was the capability to estimate the parameters as many iterations as it took. However, the disadvantage was that the program did not think logically. Even bad input or illogical model could converge successfully but wrongly. According to an old saying, it was garbage-in garbage-out scenario. The user needed to have a good background of theoretical research model in order to design the experiment correctly so that the SEM would converge and model would fit within a few modification indices adjustments.

Research Design

Good SEM started with a good preplanning and research design. (Figure 1.16)

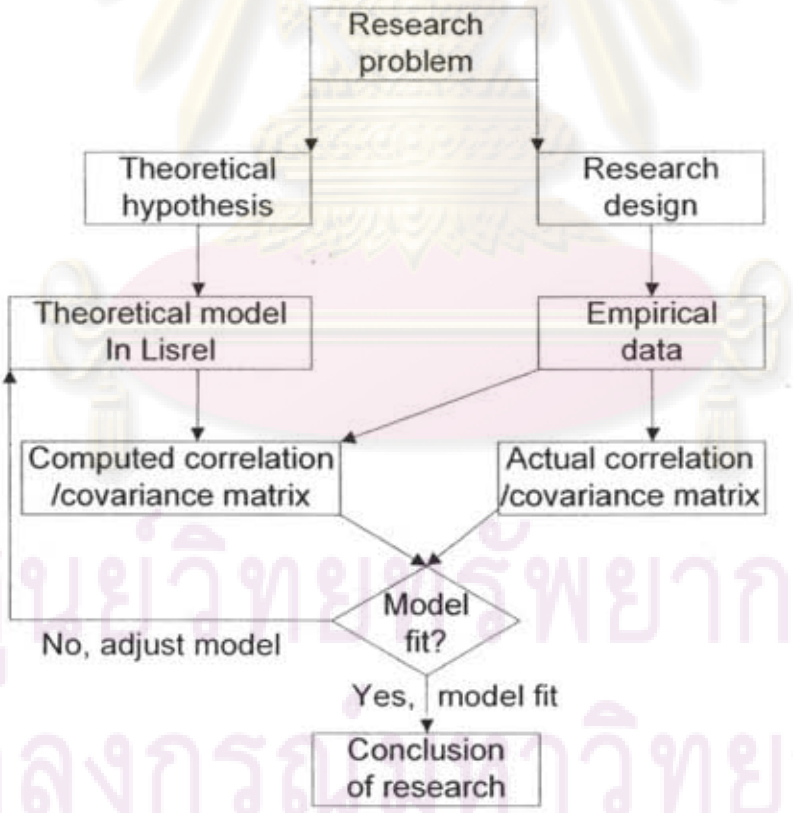


Figure 1.16 Steps to design SEM analysis
Note: Modified from Wiratchai, N. (2005a). *High level statistical analysis for research.* Bangkok: Faculty of Education, Chulalongkorn University.

SEM Assumptions

In order for SEM to run correctly, four basic assumptions were needed: (Jöreskog & Sörbom, 2001; Wiratchai, 1999)

1) All parameters in the model had linear and additive relationships,
2) The distribution of exogenous variables and endogenous variables, and their error terms were normal distributions. The average error terms epsilon (ε), delta (δ), and zeta (ς) were zero,
3) Error terms epsilon (ε) was uncorrelated with construct eta (η)
   delta (δ) was uncorrelated with construct ksi (ξ)
   zeta (ζ) was uncorrelated with construct ksi (ξ), and
4) In analyzing time series data of more than two series, the parameter was free of time-lagged effect.

Advantage of SEM

Wiratchai (2005b) pointed out the advantages and disadvantages of SEM as followed:

1) SEM had wide applications from the easiest t-test through HLM,
2) SEM treated research model as the analytical model. Researcher could use statistical analysis to perceive the whole picture of model. SEM provided indicators to ensure whether how well research model represented the empirical data, and
3) SEM relaxed certain basic statistical assumption. The program calculated the error terms associated with all parameters. Therefore, it allowed the calculation of parameters of variables whose error terms were inter-correlated.

Disadvantage of SEM

1) SEM needed large sample size in the same way as multiple regression analysis,

2) The test of model fitness based on a chi-square statistic that aimed at not to be able to reject a null hypothesis of H0 : $\Sigma = \Sigma(\theta)$, which implied a model fit at certain confident level but it did not mean that the model was the only best fitted one, and

3) SEM took times to adjust the model in case of soft modeling, besides good planning. Human knowledge and skills were necessary to master the SEM because SEM could only calculate but human could think.

Lisrel Program Structure

By virtue, SEM was a DOS command program ran by syntax. (Figure 1.17)

```
DA NI=6 NO=556 MA=KM
LA
'S-C ABIL' PPAREVAL PTEAEVAL PFRIEVAL 'EDUC ASP' 'COL PLAN'
KM
1.00
0.73  1.00                    Correlation Matrix
0.70  0.68  1.00              from empirical data
0.58  0.61  0.57  1.00        to be used in parameter
0.46  0.43  0.40  0.37  1.00  estimation
0.56  0.52  0.48  0.41  0.72  1.00
MO NX=6 NK=2 LX=FI PH=ST TD=DI,FR
LK
ABILITY ASPIRATN
FR LX(1,1) LX(2,1) LX(3,1) LX(4,1) LX(5,2) LX(6,2)
OU SE TV RS MR FS
```

Figure 1.17 A sample of typical Lisrel's syntax

Note: Modified from Piyapimolsith, C. (2000). *Lisrel for research*. In. Bangkok: Srinakarintaravirote University. p. 44.

Lisrel for Windows used graphic user interface (GUI) to help user created this syntax. Each drag and drop of some symbol created a variable. Each drag of arrow-headed line created a "free" command between two variables by which created a parameter to be estimated by the program and thus lost one degree of freedom.

General Lisrel Program

A full Lisrel model for single sample was defined by following three equations:

The structural equation model: $\eta = B\,\eta + \Gamma\,\xi + \zeta$

The measurement model for y: $y = \Lambda_y\,\eta + \varepsilon$

The measurement model for X: $X = \Lambda_X\,\xi + \delta$ (Jöreskog & Sörbom, 2001)

Lisrel used Greek characters to represent its components as in Figure 1.18.

Name	Math Symbol	Lisrel Name	Parameter Symbol	Order	Possible Form	Default Form	Default Mode
LAMBDA-Y	Λ_y	LY	$\lambda^{(y)}$	NY x NE	ID, IZ, ZI,DI, FU	FU	FI
LAMBDA-X	Λ_x	LX	$\lambda^{(y)}$	NX x NK	ID, IZ, ZI,DI, FU	FU	FI
BETA	B	BE	β	NE x NE	ZE, SD, FU,	ZE	FI
GAMMA	Γ	GA	γ	NE x NK	ID, IZ, ZI,DI, FU	FU	FR
PHI	Φ	PH	ϕ	NK x NK	ID, DI, SY, ST	SY	FR
PSI	Ψ	PS	ψ	NE x NE	ZE, DI, SY	DI	FR
THETA-EPSILON	Θ_ϵ	TE	$\Theta^{(\epsilon)}$	NY x NY	ZE, DI, SY	DI	FR
THETA- DELTA	Θ_δ	TD	$\Theta^{(\delta)}$	NX x NX	ZE, DI, SY	DI	FR

Figure 1.18 Greek symbols used in Lisrel model

Note: Modified from Jöreskog, K., & Sörbom, D. (2001). *Lisrel8: User's reference guide (2 ed.)*. Lincolnwood, IL: Scientific Software International, Inc. p. 11.

Lisrel Model A typical model could be expected as in Figure 1.19.

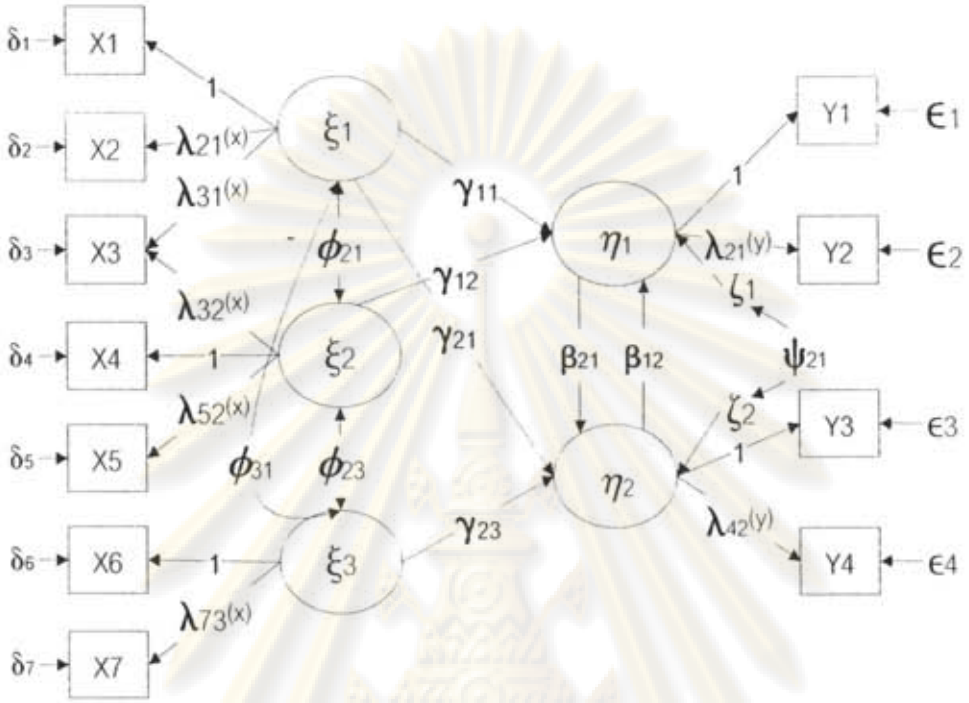


Figure 1.19 A typical full model of Lisrel

Note: Modified from Jöreskog, K., & Sörbom, D. (2001). *Lisrel8: User's reference guide (2 ed.)*. Lincolnwood, IL: Scientific Software International, Inc. p. 6.

Actually, Lisrel estimated the parameters from at least eight basic matrices. There were three more matrices for advance user. For the sake of ease of understanding, let us assume one simple model as in Figure 1.20.

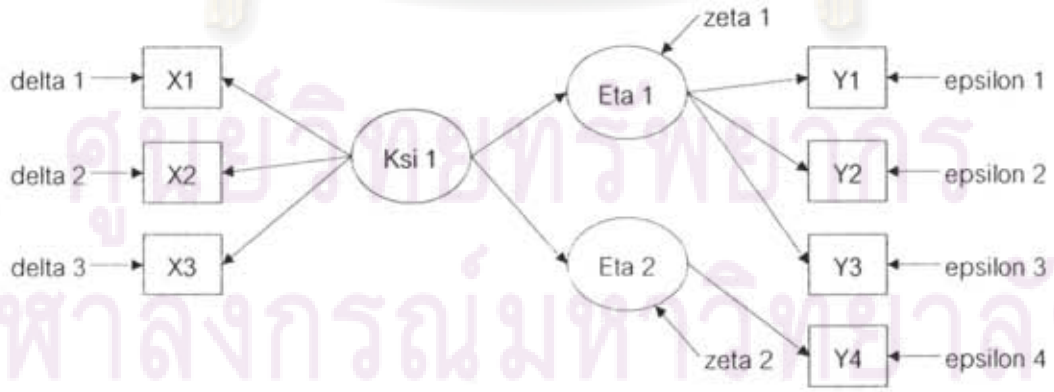


Figure 1.20 A sample of typical Lisrel's model

Note: Modified from Piyapimolsith, C. (2000). *Lisrel for research*. In. Bangkok: Srinakarintaravirote University. p. 13.

This path diagram from Windows GUI translated to eight Lisrel's matrices by which Lisrel used to estimate the parameters. (Figure 1.21)

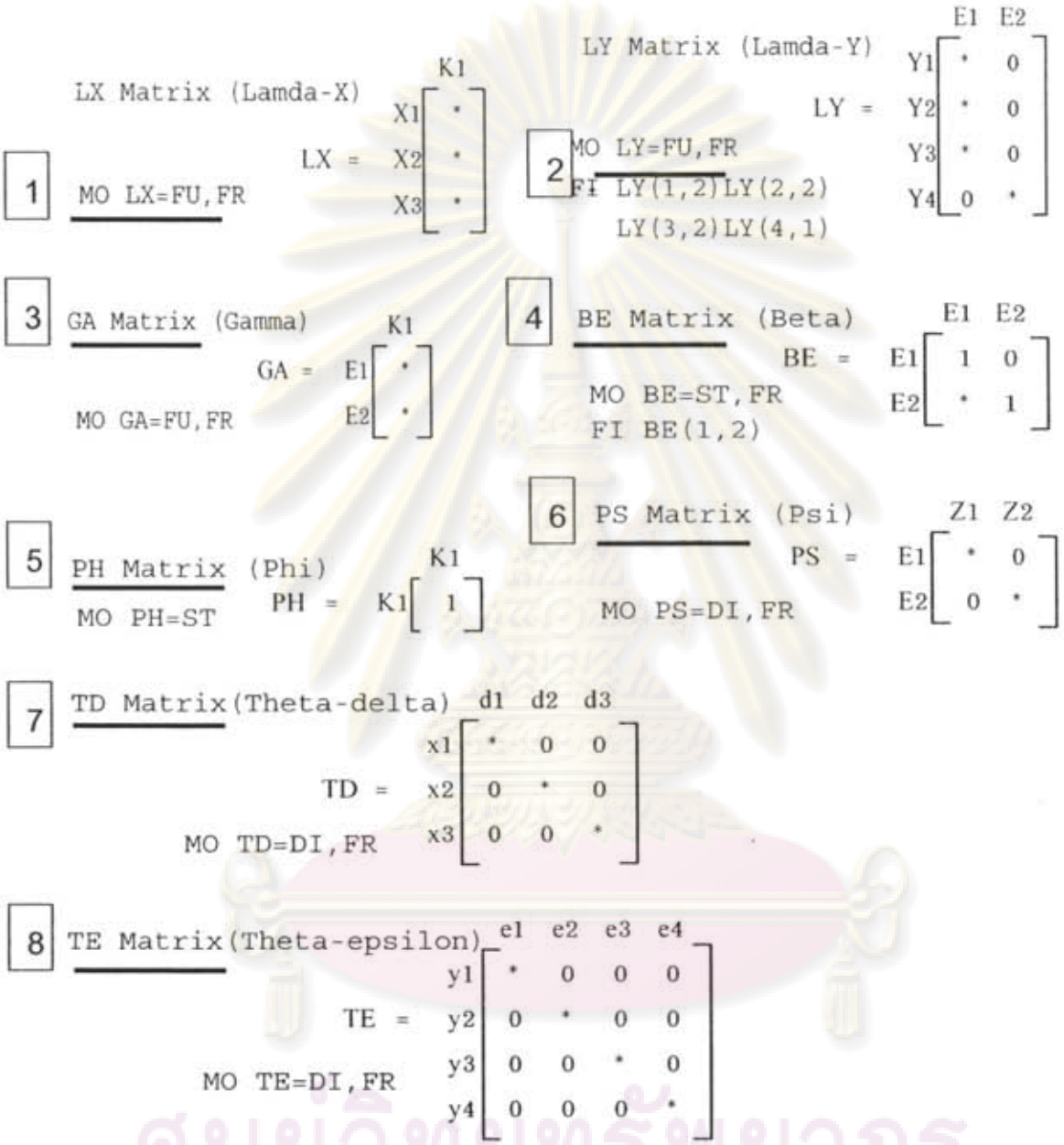


Figure 1.21 Eight matrices correspond to the diagram in Figure 1.20

Note: Modified from Piyapimolsith, C. (2000). *Lisrel for research*. In. Bangkok: Srinakarintaravirote University. pp. 14-16.

The mark "*" referred to parameters which Lisrel program estimated the value from these matrices. Lisrel then compared parameters with the input correlation or

covariance matrix from empirical data collection. When properly adjusted and the model converge, researcher used theory and skill to reduce the chi-square until significant level $p<.05$. Lisrel's report showed several figures to indicate how well the model fitted the empirical data, namely goodness-of-fit (GOF) as followed:

- Chi-square (χ^2) GOF - the lower the number, the more similar model with data,
- Statistical significant of Chi-square (p) must be equal or higher than critical value,
- Degree of freedom must remain positive - the higher the number, the better it was,
- Goodness-of-Fit Index (GFI) – approaching the value of one was a good indicator,
- Root Mean Square Residual (RMSR) and Standardized Root Mean Residual (SRMR) approaching zero was good, and
- Root Mean Square Error of Approximation (RMSEA) - approaching zero was good. (Hair, Black, Babin, Anderson, & Tatham, 2006)

Delimitations

The delimitation of this study was the measurement of mentoring success. There were arguments among researchers of what was the best indicator. On one hand, some scholars advocated the objective career successes such as, but not limited to, compensation, salary growth, promotion, and career growth. (Allen et al., 2004; Bozionelos, 2004) It was understandable that, in mentoring context, success was measured on intra-organizational career progression through sponsorship and coaching. However, objective career success was more effectively measured by using longitudinal research design, which took more time than cross sectional approach. (Kidd, Jackson, & Hirsh, 2003; Ragins & Cotton, 1999) Some researchers saw these objective career successes as the results of many other activities of employees, such as performance, tenure, political skill, connection network, being at the right time at the right place, and the liked. These were needed to be studied longitudinally. (Scandura & Williams, 2001) However, there was no quantitative research in mentoring, which was conducted in longitudinal nature. (Feldman, 1999) On the other hand, subjective career success was intangible but was equally important to professional health. It included but was not limited to career satisfaction, expectation for advancement,

career commitment, job satisfaction, and intention to stay. These subjective components of career success could be measured by using self-report in a cross sectional design. (Allen et al., 2004) One should aware; however, that subjective career success represented a "snap shot" at that moment of measuring and could change periodically. In the same meta-analysis, Allen et al. had indicated that mentoring was more strongly related to subjective indicators of career success such as career and job satisfactions than it was to objective ones.

Being aware the shortcomings of instruments for both objective and subjective career success, this study then limited the scope at measuring only the success of mentorship. The extent to which successful mentoring benefited career success had already been empirically established in many literatures. (Chao, 1997) Therefore, the design of this thesis used cross sectional approach to measure subjective mentoring success by measuring *mentorship quality* and *mentorship learning* as exhibited in Figure 1.22. These two constructs had been developed, used, and validated with confirmatory factor analysis from the journal by leading scholars in mentoring fields with reliability of .85 and .88 respectively. (Allen & Eby, 2003; Allen et al., 2006)

Mentorship Quality (α=.85)	Mentorship Learning (α=.88)
1) The mentoring relationship between my protégé and I was very effective	1) I learned a lot from my protégé
2) I am very satisfied with the mentoring relationship my protégé and I developed	2) My protégé gave me a new perspective on many things
3) I was effectively utilized as a mentor by my protégé	3) My protégé and I were "co-learners" in the mentoring relationship
4) My protégé and I enjoyed a high-quality relationship	4) There was reciprocal learning that took place between my protégé and I
5) Both my protégé and I benefited from the mentoring relationship	5) My protégé shared a lot of information with me that helped my own professional development

Figure 1.22 Subjective success of mentorship

Note: From Allen, T. D., and Eby, L. T., (2003). Relationship effectiveness for mentors: Factors associated with learning and quality. *Journal of Management, 29(4),* p. 483.

Operational Definition of Mentoring

As with other psychological constructs, mentoring needed an operational definitions to assign "meaning to a construct or a variable by specifying activity or operations necessary to measure it and evaluated the measurement" (Kerlinger & Lee, 1999, p. 42) so that researchers would measure and validate the same thing. It was important for mentoring researches to mature in finding agreement regarding the mentoring construct and its operational definitions. (Mullen, 1994) From Kram's (1985) original work, she had concluded nine mentoring functions from qualitative interviews. These were still accepted as references in modern literatures. From reviewing literatures, it appeared that the various mentoring researchers might be examining subtly yet importantly different relationships. Scandura and Viator (1994) had developed 15-items mentoring functions as exhibited in Table 1.7, which had been used by many studies. (Hirschfeld et al., 2006) There were other operating definitions developed independently such as 29-items of Riley and Wrench's (1985) career support scale. (Pollock, 1995) Pollock himself had developed a noteworthy operational definition of mentoring resulted in 22-items behavioral survey items, loaded on four factors.
(Table 1.8)

Pollock's (1995) factor analysis in Table 1.8 resulted in four factors. Two of which (F1 and F2) confirmed Kram's (1985) functions with additional two new functions. (F3 and F4) Upon investigating individual items, factor one and three were closely related. They should be integrated and labeled as psychosocial mentoring functions. Likewise, factor two and four could result in career mentoring functions. By doing so, Pollock's study then supported Kram's seminal propositions. Meanwhile, Ragins and McFarlin (1990) had developed 33-items on 11-functions of mentoring by which adding social and parent functions to Kram's work. (Figure 1.23)

On the surface, results of many studies were heading in the same direction but many essential elements could not be agreed upon. As stated in contemporary

issues on mentoring in literature review, research needed to explicate more clearly what functions mentoring was composed of. Hopefully, factor analysis from this study confirmed one of proposing mentoring function classifications. In addition, the upcoming special issue of mentoring in *Journal of Vocational behavior* in mid 2008 should have progress on this matter. (Eby & Allen, 2006) Until there was more conceptual clarity, no consistent operational definitions of construct could be developed and then no clear theory could established. (Feldman, 1999)

Table 1.7

Varimax factor loadings on the mentorship scale

Mentorship item	Factor 1 Social support	Factor 2 Career development	Factor 3 Role modeling
1. Mentor took a personal interest in my career	.20	.71	.05
2. Mentor had placed me in important assignments	-.13	.64	.03
3. Mentor gives me special coaching on the job	.21	.62	.22
4. Mentor advises me about promotional opportunities	.25	.57	.02
5. I share personal problems with mentor	.73	.14	.14
6. Mentor helps me coordinate professional goals	.07	.54	.23
7. I socialize with mentor after work	.78	.03	.00
8. I try to model my behavior after mentor	.17	.03	.69
9. I admire mentor's ability to motivate others	.10	.06	.80
10. I exchange confidences with mentor	.77	.10	.23
11. I respect mentor's knowledge of the accounting profession	.00	.14	.55
12. I consider mentor to be a friend	.70	.24	.24
13. I respect mentor's ability to teach others	.18	.25	.69
14. Mentor had devoted special time and consideration to my career	.25	.73	.13
15. I often go to lunch with mentor	.65	.22	.00

Note: From Scandura, T. A., and Viator, R. E. (1994). Mentoring in public accounting firms: An analysis of mentor–protégé relationships, mentorship functions, and protégé turnover intentions. *Accounting, Organizations and Society, 19(8)*, p.725.

Table 1.8

Factor loadings and communalities (η^2) for principal components analysis with varimax rotation on behavioral survey items

Item	*F1*	*F2*	*F3*	*F4*	η^2
Respected (P)	.82	.17	.10	.09	.72
Valued opinions (P)	.80	.10	.13	.18	.72
Listened (P)	.77	.17	.13	.13	.69
Showed caring (P)	.59	.43	.18	.07	.63
Noted talent (P)	.57	.41	.22	.14	.60
Enhanced self-confidence (P)	.55	.49	.21	.01	.69
Supported goals (P)	.46	.36	.18	.15	.53
Role modeled (P)	.21	.66	.22	.27	.61
Gave career advice (C)	.12	.63	.20	.17	.54
Aided promotions (C)	.26	.56	.04	.11	.44
Encouraged (P)	.51	.56	.19	.15	.71
Coached (C)	.09	.50	.21	.39	.62
Provided comfort (P)	.33	.48	.20	.15	.58
Shared info on people (C)	.18	.22	.76	.01	.69
Taught politics (C)	.07	.30	.60	.05	.47
Shared classified info (C)	.44	.13	.59	.03	.62
Shared info on trends (C)	.10	.12	.55	.32	.57
Made introductions (C)	.23	.39	.46	.18	.45
Demanded high performance (C)	.13	.10	.09	.76	.62
Gave challenging work (C)	.25	.01	.20	.65	.60
Enhanced creative thinking (C)	.37	.19	.19	.60	.62
Communicated expectations (C)	.20	.30	.14	.59	.56
Percent variance	15.29	12.41	9.21	8.96	
Percent covariance	25.51	20.70	15.36	14.95	
Cronbach's α	.90	.86	.74	.72	

Note: P = Psychosocial, C = Career behavior, Factor labels: F1 = Psychosocial, F2 = Coaching, F3 = Political Behavior, and F4 = Stimulated/Challenged. *N* = 356.

Note: From Pollock, R. (1995). A test of conceptual models depicting the developmental course of informal mentor-protégé relationships in the work place. *Journal of Vocational Behavior, 46*, p. 154.

My Mentor:

(SPONSOR) α =.82	(ROLE MODEL) α =.78
helps me attain desirable positions.	serves as a role model for me.
uses his/her influence to support my advancement in the organization.	is someone I identify with.
uses his/her influence in the organization for my benefit.	represents who I want to be.
(EXPOSURE) α =.85	(ACCEPTANCE) α =.90
helps me be more visible in the organization.	accepts me as a competent professional.
creates opportunities for me to impress important people in the organization.	sees me as being competent.
brings my accomplishments to the attention of important people in the organization.	thinks highly of me.
(COACH) α =.74	(COUNSELING) α =.63
helps me learn about other parts of the organization.	serves as a sounding board for me to develop and understand myself.
gives me advice on how to attain recognition in the organization.	guides my professional development.
suggests specific strategies for achieving career aspirations.	guides my personal development.
(PROTECT) α =.81	(FRIENDSHIP) α =.80
protects me from those who may be out to get me.	is someone I could confide in.
"runs interference" for me in the organization.	provides support and encouragement.
shields me from damaging contact with important people in the organization.	is someone I could trust.
(CHALLENGE) α =.91	(SOCIAL RELATIONSHIP) α =.88
gives me tasks that require me to learn new skills.	and I frequently get together informally after work by ourselves.
provides me with challenging assignments.	and I frequently socialize one-on-one outside the work setting.
assigns me tasks that push me into developing new skills.	and I frequently had one-on-one, informal social interactions.
	(PARENTAL ROLE) α =.74
	is like a father/mother to me.
	reminds me of one of my parents.
	treats me like a son/daughter.

Figure 1.23 Mentor role instrument as developed by Ragins and McFarlin (1990)

Note: From Ragins, B. R., and Cotton, J. L. (1999). Mentor functions and outcomes: A comparison of men and women in formal and informal mentoring relationships. *Journal of Applied Psychology, 84(4)*, p. 550.

Variables

There were three latent constructs, which initially comprised of nine factors. Details of which were as followed:

1) Mentor-protégé personality similarity. They were developed and tested the psychometric property from Thai translation of MBTI form M (Pantitanonta, 2004) revising with Tepayayone's (1999), Limwong 's (1999), and Likidsomboon's (2000) questionnaires. These resulted in four exogenous independent continuous variables.

- difference in mentor-protégé E-I score,
- difference in mentor-protégé S-N score,
- difference in mentor-protégé T-F score, and
- difference in mentor-protégé J-P score.

The difference in factors' score could be either plus or minus sign. However, in calculation of SEM, absolute values of difference were used without sign.

2) Subjective success of mentorship. They were developed and tested the psychometric property from Allen and Eby's (2003) subjective success of mentorship (Figure 1.22) and were rated on five point Likert scale.

- Mentorship Quality 5 items (α=.85) reflecting psychosocial functions, and
- Mentorship Learning 5 items (α=.88) reflecting career functions.

Both factors were scored on five point Likert scale and sum within each factor as indicators of success in mentorship.

3) Mentoring functions. They were developed and tested the psychometric property from Ragins and McFarlin's (1990) 33-items mentor role instrument, (Figure 1.23) which was rated on five point Likert scale. Conducting a factor analysis and summing the items within each factor produced the indicators of three mentoring factors. According to literature review, there were three factors in mentoring functions, career function, role model function, and psychosocial function.

Expected Benefits

1) The findings from this study should gain insights of mechanism of mentoring process. Especially, the proposed main model should reveal paths and effects of personality fit on success of mentorship.

2) The findings of correlations among factors and among constructs helped practitioners to focus their attempts on the weak links in order to improve effectiveness of their mentoring implementation.

3) This thesis added series of testing to verify existing presumptions of mentoring theory.

4) This thesis proposed alternative model, which was more simple and shorter for ease of administration.

5) The findings provided tool for matching mentoring pair in formal mentoring program base on personality testing.

Organization of the Study

This thesis was structured into five chapters. Chapter one contained all basic thesis elements together with literature reviews. Chapter two explained the research methodology in full detail, including instrumentation, participants, data collection, and data analysis procedure. Chapter three presented findings of this research. Chapter four dedicated to discussion of findings. Summaries, conclusion, and recommendation were concluded in the fifth chapter.

CHAPTER II

METHODOLOGY

Main Model

This thesis used exploratory research method. There was no prior research attempting to establish a direct empirical correlation between personality fit of mentor and protégé and subjective success of mentorship. Except for one similar study, which the current thesis based on, Allen and Eby (2003) had asked respondents how similar were they to their mentoring counterparts on a three-point scale as mentioned earlier in literature reviews. Based on the similarity attraction paradigm mentioned in chapter I, the perceived similarity increased the liking between persons and the likelihood of increasing mentoring functions, which ultimately resulted in higher success of mentorship.

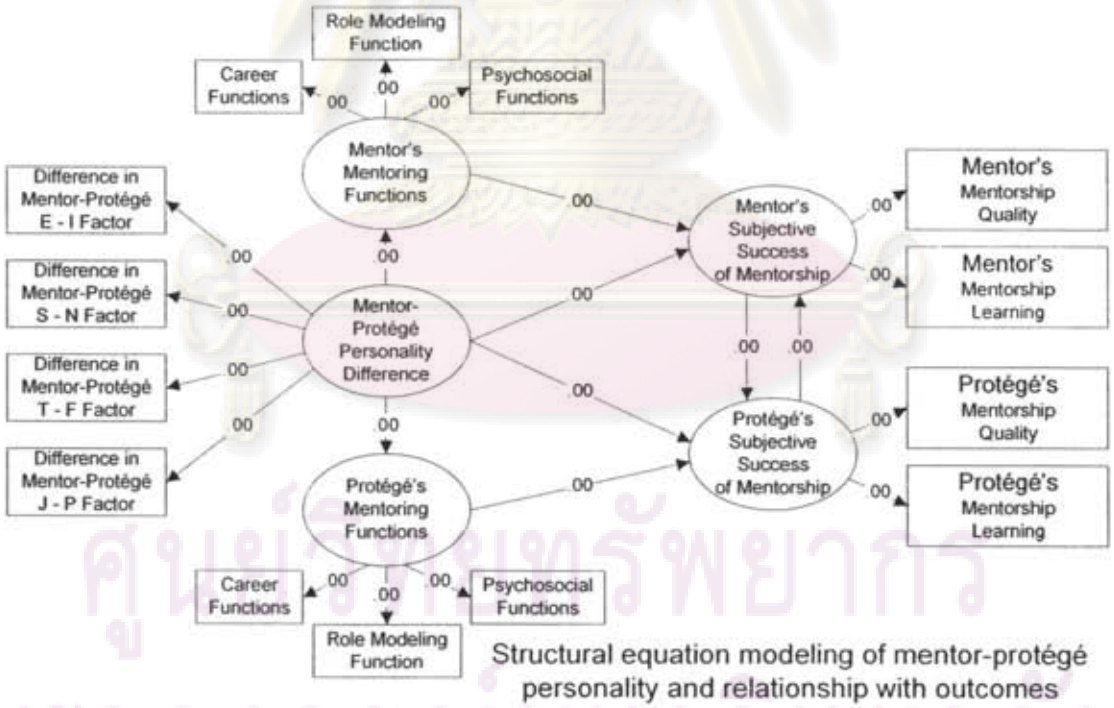
Main model had three main constructs.

1. Mentor-protégé personality similarity that measured personality fit. This exogenous construct was measured by differences between each pair of mentor's-and-protégé's scores on MBTI four factors. The factors were always calculated by mentor's scores subtracting with protégé's scores. Therefore, all four factors could be either positive or negative value up to respective items in MBTI. (E-I = $\pm$ 21, S-N = $\pm$ 26, T-F = $\pm$ 24, and J-P = $\pm$ 22,) Only absolute values were used to construct a model.

2. Subjective success of mentorship. They measured the success of mentoring pair. This endogenous construct was measured from Allen and Eby's (2003) mentorship quality and mentorship learning. In this main model, mentor's-and-protégé's successes were measured separately resulting in two different sub constructs.

3. Mentoring functions were measured from Ragins and McFarlin's (1990) 33-items mentor role instrument. Before analyzing the main model, thesis used confirmatory factor analysis to specify the number of factors to be used in this study. This would answer the purpose of study number one. Meanwhile, the model showed three factors according to literature review. Same as previous constructs, there were one sub-construct for mentor and one for protégé.

From reviewing the literatures in chapter I, the mentoring functions were acting as a mediator between personality similarity and subjective success of mentorship. Thus, mentoring functions performed as mediators on both sides - mentor and protégé. The reviewing literatures also suggested that success for both mentor and protégé were mutually benefits and interdependently. To prove this proposition, the success on one side of dyadic relationship acted as a mediator of the reciprocal party. This proposition was reflected in the conceptual framework of Figure 2.1.



Structural equation modeling of mentor-protégé personality and relationship with outcomes

Figure 2.1 Conceptual framework of the research method of main model

Main model was depicted by pairing of mentor-protégé to be analyzed simultaneously and paralleling like a mirror image. Mentor-protégé personality similarity was a central linkage of the model. On mentor's side, mentor-protégé personality similarity had a direct effect on mentor's subjective success of mentorship. Personality similarity also had indirect effects on mentor's success through a mediator, mentor's mentoring functions, and via protégé's subjective success of mentorship. The procedure on protégé's side could be explained by the same fashion.

Among pool of mentor-protégé pairs, protégés with four months in mentorship and below were classified as in initiation phase. The rests were classified as in cultivation phase. This procedure used MANOVA to prove whether mentoring functions were different between mentors and protégés of two phases. (Figure 2.2)

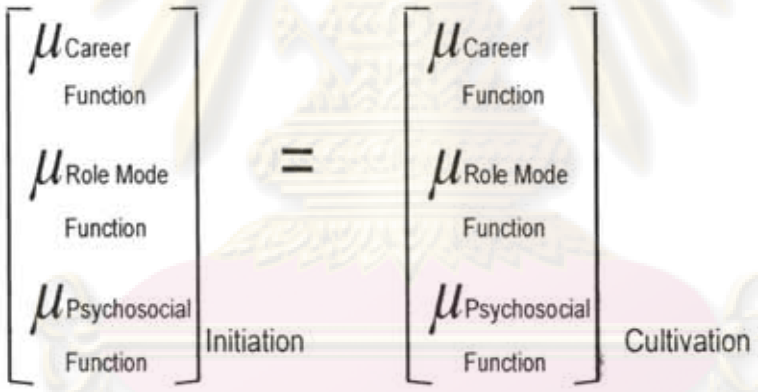


Figure 2.2 MANOVA to test vector of means of mentoring functions at different phases

By conducting a multi-group factor analysis, overall fitness between mentor's-and-protégé's personalities could be determined. (Figure 2.3) This would answer purpose of study number two.

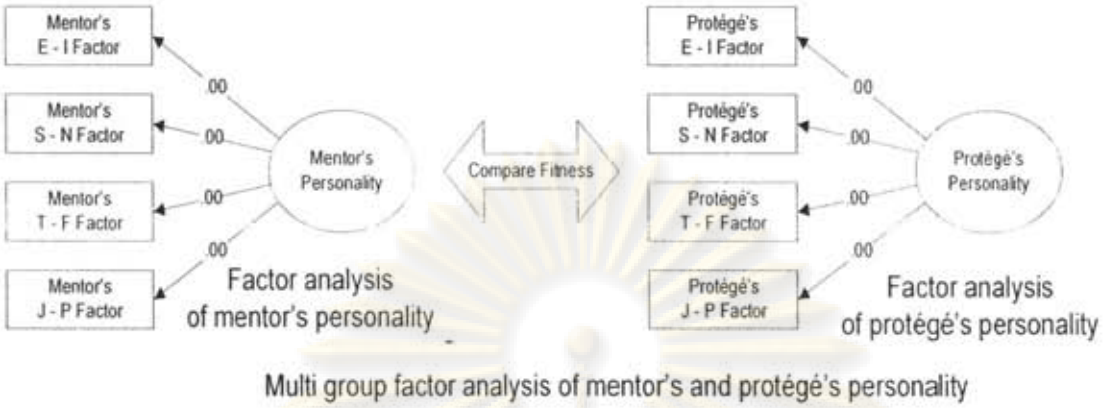


Figure 2.3 Multi-group factor analysis of mentor's-and-protégé's personality

Competing Model

Competing model was the method of utilizing the same data collecting from the same study but using different model or statistical method or both. The result of competing model should confirm the result of the main model. Besides confirmation, competing model might suggest alternative research procedure, which could produce the same result as main model. This particular competing model was developed by using multi-step approach. The proposition came from Kram's (1985) notion that a mentor viewed a protégé as a younger version of self and a protégé views a mentor as a person whom one inspired to be like. Therefore, as long as one person viewed another person similar to oneself, no matter how to measure it, the similarity attraction paradigm took immediate effect.

1. The first prerequisite was to establish that respondents could identify their own and their counterpart's personalities in an abstract manner. Based on the similarity attraction paradigm, persons who perceived the counterparts as similar to themselves would increase the liking and therefore the likelihood of success in mentorship.

2. The best items representing each of eight mental functions of MBTI would be used as items for self-reporting by measuring on five point Likert scale rating as an alternative to MBTI. (Figure 1.14) First, compare the result of self-evaluation of personality with a full-scale MBTI using MANOVA. (Figure 2.4)

$$\begin{bmatrix} \mu_{E-I} \\ \mu_{S-N} \\ \mu_{T-F} \\ \mu_{J-P} \end{bmatrix}_{\text{MBTI}} = \begin{bmatrix} \mu_{E-I} \\ \mu_{S-N} \\ \mu_{T-F} \\ \mu_{J-P} \end{bmatrix}_{\text{Perceived Self (Alternative)}}$$

Figure 2.4 MANOVA to test whether self-reported personality correlated with MBTI

If there was an acceptable correlation between the two, then the competing model was conducting in the similar fashion as the main model but on individually basis, which did not need match pairing data input. While the main model calculated mentor-protégé pair simultaneously and used real MBTI, competing model used alternative personality measurement. Therefore, personality fit from competing model was measured from the similarity between ideal personality and perceived personality of mentoring counterparts, which had a score range of ± 5. Two other constructs, mentoring functions and subjective success of mentorship remain the same. This competing proposition was reflected in the conceptual framework in Figure 2.5.

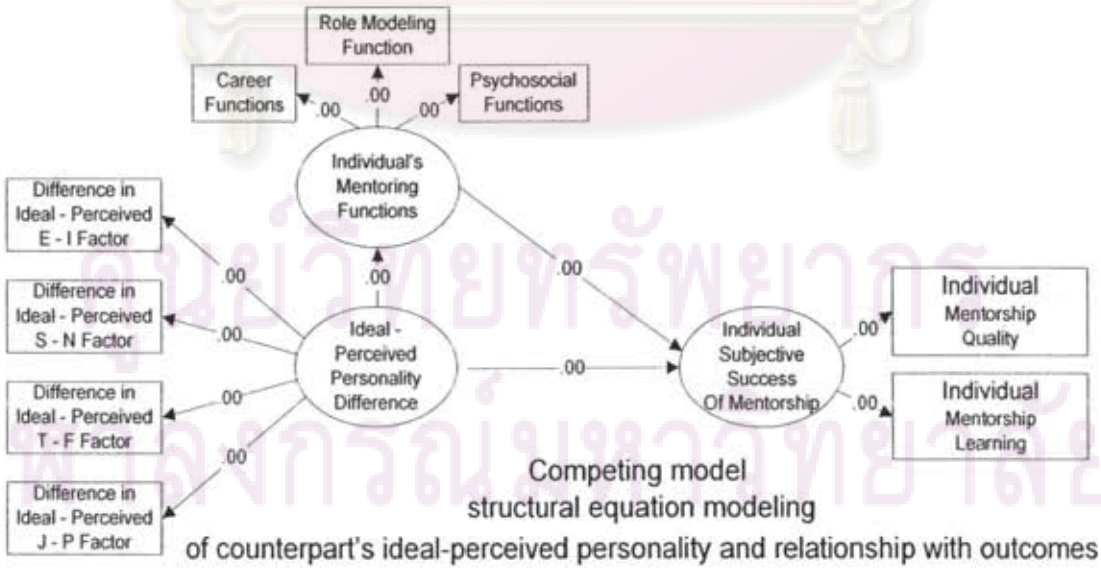


Figure 2.5 Competing model

In competing model, ideal-perceived personality similarity of counterpart (personality fit) had a direct effect on individual subjective success of mentorship. Ideal-perceived personality similarity also had an indirect effect through a mediator, which were individual mentoring functions. By using multi-group technique of SEM to analyze mentors and protégé separately, additional information would reveal itself.

With similar approach as in Figure 2.4, Kram's (1985) notion that a mentor viewed a protégé as a younger version of self could be tested. Alternatively, by putting in another term, a person would want ideal counterpart to be like oneself. (Figure 2.6) This would answer purpose of study number five.

$$\begin{bmatrix} \mu_{E-I} \\ \mu_{S-N} \\ \mu_{T-F} \\ \mu_{J-P} \end{bmatrix}_{\text{Perceived Self (Alternative)}} = \begin{bmatrix} \mu_{E-I} \\ \mu_{S-N} \\ \mu_{T-F} \\ \mu_{J-P} \end{bmatrix}_{\text{Ideal counterpart (Alternative)}}$$

Figure 2.6 MANOVA to test whether one wanted counterpart to be an image of self

Participants

This study was administered to personnel of the Bangkok Insurance PCL., which had a formal mentoring program implementing for eight years and still was practicing today. The reason to use only one company was to control extraneous variables such as company's size, culture, or management support according to min-max-con principle. Data indicated that there were 213 mentor-protégé pairs employing in the company at the time of initial contact. Because the company was well aware of gender difference weak link, they kept cross gender mentoring pairs at minimum. Ninety mentor-protégé pairs had started the relationship in 2005, 90 pairs in 2006, and 23 pairs in 2007. At the time of actual survey, there were 184 pairs of mentor-protégé. One hundred forty-three pairs of which were same gender and 41 of which were cross

gender mentoring pairs. Even though the company set a mandatory period of mentoring for one year, most of mentoring continued because majority of parings were working in the same department. There were 23 mentors who had more than one protégé. The study used participants in two phases.

1) Questionnaire verification and pilot test. Thirty identifiable pairings (60 persons) were randomly selecting from the pairings pool.

2) Data collection. There were 20 parameters to be estimated in this study. Weiss (1972; cited in Wiratchai, 1999) had suggested the highest ratio of sample to parameter was 20 while some mentioned 10 as the lowest ratio. (Adsawakosol, 2003) In statistical class, a rule of thumb was the number of sample to be between 200 and 400 for SEM. From above data, 184 pairs, (including multi-protégés mentors) should be sufficed.

Instrumentation

The questionnaire in this thesis consisted of three main instruments, which were: (1) Myers-Briggs type indicator, (2) mentoring quality and mentoring learning, and (3) mentor role instrument. Details of which were as followed:

1) Myers-Briggs Type Indicator

Original MBTI comprised of 93 questions divided into four sections. The data analysis of this thesis was different from what it intended for commercial purpose. Therefore, 93-items were regrouping into two sections for ease of administration.

Section one.

Part one and three of original MBTI were combined into one section.

Section two.

Part two and four of original MBTI were combined into one section.

Since MBTI was copyright protected, a permission to use MBTI research edition was displayed in Appendix A as well as a permission to include sample items of the questionnaire in this thesis. The sample items of the questionnaire were displayed in Appendix B. The basic building block of MBTI was well described in literature review of this thesis. Another purpose of this study was to develop competing model as described earlier. Right after MBTI, respondents were asked to rate their opinion of personality of self, of ideal mentoring counterpart, and of actual counterpart.

Section three.

The respondents were asked to mark score for the personality of themselves and personality of ideal and actual counterparts in five point Likert scale.

2) Mentoring Quality and Mentoring Learning

Subjective successes of mentorship were measured by Allen and Eby's (2003) 10-items instrument as exhibited in Figure 1.22.

3) *Mentor Role Instrument*

Mentoring functions were measured by Ragins and McFarlin's (1990) 33-items mentor role instrument as exhibited in Figure 1.23.

Section four.

This section also asked respondents to rate the subjective successes of mentorship and mentoring functions with counterpart in focal, in five point Likert scale.

Data Collection

With assistance of human resource department of Bangkok Insurance PCL., pairing of mentor-protégé list had been prepared. Concerned parties were notified of upcoming survey. Both mentors and protégés were administered at the same time by

distribution via internal mailing system. All responses were returned to human resource department.

Data Analysis Procedures

Pilot Study

1) Compare and revise some wording of Pantitanonta's (2004) questionnaire with the original English MBTI form M. In case of ambiguity of construct meaning, consult Tepayayone's (1999), Limwong's (1999), and Likidsomboon's (2000) questionnaires for substitution. Use prediction ratio in Table 1.5 to revise the especially low prediction ratio items, even though the translation was linguistically correct. After revised the wording, it strongly reflected the meaning of the construct to be measured.

2) Conduct a pilot study to verify the MBTI questionnaire using the same group of participants as in main study. Based on item response theory, either one of the two answers must had a prediction ratio (PR) above .62 There were four items – MBTI number 19, 23, 24, and 28 – which did not meet PRs above .62. Then, calculate the internal consistency (CITC) for each of eight prevalence personalities. Determine the items, which were below a critical point. There were 29 items, which did not meet the critical r (58, .05, 1-tailed) ≈.214. Despite of the finding, agreement for using MBTI did not allow modification of its instrument. The Cronbach's coefficient could be now established for four dichotomy factors prior to data collection.

3) Conduct a factor analysis of 33-items mentor role instrument from Ragins and McFarlin's (1990). Confirmatory factors analysis showed three constructs. All items had passed the critical r (58, .05, 1-tailed) ≈.214. Then, thesis calculated Cronbach's coefficient for each factor. Details of which were displayed in Table 3.1.

4) Conduct an internal consistency (CITC) for and Cronbach's coefficient for 10-items subjective success of mentorship, which were mentorship quality and mentorship learning. All items had passed the critical r (58, .05, 1-tailed) ≈.214.

Then, calculate Cronbach's coefficient for each factor. Details of which were displayed in Table 3.1.

5) Determine whether competing model was viable for further study. This competing model was serving as alternative way for achieving the similar objective as same model. The results in Figure 3.5, Figure 3.6, and Table 3.6 proved that competing model was similar to altered main model for comparison but at lesser regression coefficience. Therefore, competing model was viable for further study.

Main Study

1) The first regular procedure was preliminary cleaning up the data.

2) Mentoring functions were analyzed by conducting confirmatory factor analysis (CFA) of Ragins and McFarlin's (1990) 33-items mentoring role instrument using Lisrel according to literature review in Figure 1.1. Allen and Eby's (2003) subjective success of mentoring instrument was conducted in order to confirm its reliability and construct validation as in Figure 1.22. (purpose of study number one)

3) Spurious variance was a confound factor for any statistical model. It was necessary to eliminate or control spurious variance. A multi-group factor analysis of personality profiles using Lisrel according to Figure 2.3 was a procedure to test whether mentor's-and-protégé's personality profiles were unified. The unification of personality profiles ensured that the spurious variance was reduced to minimum. (purpose of study number two)

4) Kram's (1985) theory of mentoring phase was verified by conducting MANOVA according to Figure 2.2 to test difference in mentoring phase. (purpose of study number three)

5) The major purpose of this thesis is to study the effect of personality fit on success in mentorship. Main model used Lisrel to analyze factor loading and path analysis of the main model as shown in Figure 2.1. (purpose of study number four)

6) Kram's (1985) made a notion in her book that one wanted counterpart to be an image of self. MANOVA was then conducted to verify this notion according to Figure 2.6. (purpose of study number five)

7) Similarity attraction paradigm suggested that the perception of similarity between two persons, which did not need to be solely personality, increased effectiveness of communication and therefore increased success of mentorship. Competing model utilizing alternative measurement of the same construct, which was the similarity of two persons, was created to compare with the main model. Alternative measurement employed eight optimal items in Table 1.6 (one from each personality preferences of MBTI) and to be self reported on five point Likert scale. This also resulted in E-I, S-N, T-F, and J-P scores. Before the competing model to continue, the correlation between real MBTI and self-reported score had to be established by using MANOVA, (Figure 2.4) or by other means. Even though they measured the same construct, the significant level could not be hoped as much as $p<.05$ since the two methods were huge difference. If there was a sufficient evidence that alternative measurement was valid, it was logical to project that the same eight items five point Likert scale could measure another person in focal, specifically the existing mentoring counterpart and an ideal non-existent counterpart. Then competing model in Figure 2.5 could be executed. (purpose of study number six)

CHAPTER III

FINDINGS

Pilot Study

Sixty questionnaires were administered at randomly selected 30 pairs of mentor-protégé out of a pool of 184 pairs. Three measuring instruments in questionnaires were analyzed for their reliability. The two instruments, subjective success of mentorship and mentor role instrument, were analyzed using initial internal consistency using *t* – test of high-low groups and corrected item-total correlation. (CITC) The analyses of success in mentorship and mentor role instrument revealed a positive prospect of reliabilities. The translation of success in mentorship and mentoring function items had altogether passed the criterion of above two methods as demonstrated in Table 3.1.

Table 3.1

Item analyses of personality fit questionnaires (n=60)

	Item Groups	No. of items	*t* - value		*p* - value		Cronbach's α
			from	to	from	to	
Mentoring Success	Mentorship quality	5	4.031	9.230	.000***	.001***	.903
	Mentorship learning	5	5.977	10.39	.000***	.000***	.919
Mentoring Functions	Sponsor	3	6.124	10.48	.000***	.000***	.706
	Exposure	3	7.379	8.999	.000***	.000***	.792
	Coaching	3	4.415	8.646	.000***	.001***	.676
	Protection	3	5.197	13.00	.000***	.000***	.591
	Challenge	3	7.081	10.35	.000***	.000***	.850
	Role model	3	6.811	7.306	.000***	.000***	.819
	Acceptance	3	5.153	6.116	.000***	.001***	.666
	Counseling	3	4.039	8.747	.000***	.001***	.732
	Friendship	3	5.028	6.798	.000***	.000***	.736
	Social relation	3	8.500	11.41	.000***	.000***	.896
	Parental role	3	5.243	10.95	.000***	.000***	.724

Every single item had CITC value above critical *r* (58, .05, 1-tailed) ≈.214.

The third instrument, Myers-Briggs type indicator (MBTI) of 60 pilot questionnaires showed a controversial result. As suggesting in user manual, MBTI used item response theory (IRT) by which an item whose, either one or two, answers with prediction ratio (PR) above .62 to be included in the batteries. (Harvey & Hammer, 2007; Myers & McCaulley, 1992) Using IRT, five out-of 93 MBTI items would not have passed the requirement. They were MBTI number 19, 23, 24, 26, and 28. According to Pantitanonta's (2004) thesis, all Thai translation of MBTI items passed PRs >.62 at higher sample size.

With parallel efforts, high-low group's *t* – test and CITC calculation were also conducted to ensure the quality of questionnaire items. The result showed that 29 out of 93 items did not achieve the critical $r \approx .214$. Strange enough though, the Cronbach's α of 93 and 64 items differed merely in the range of two percentage points as illustrated in Table 3.2.

Table 3.2

Comparison of full 93 MBTI and 64 items that had passed CITC test from pilot study

MBTI items	Full 93 items	Cronbach's α	Reduced 64 items	Cronbach's α
Extraversion - introversion	21	.852	18	.864
Sensing – Intuition	26	.620	7	.636
Thinking - Feeling	24	.840	19	.857
Judging - Perceiving	22	.802	20	.812

This brought up a dilemma. On one hand, using IRT promised that five items would have passed PRs > .62 as number of sample increased. On the other hand, there was no logical expectation as how one-third of questionnaires would have passed CITC criteria as number of sample increases.

It was convinced to use full 93 MBTI items in main study because of four reasons. The details of which were as followed:

1. Developers of MBTI explicitly indicated that IRT was the method to test the inclusion of items in questionnaire. (Harvey & Hammer, 2007)

2. The permission agreement excluded any modification of MBTI.

3. MBTI form M was weighted by a standardizing sample of 3,200 adults in random US national sample. More than two million MBTI questionnaires were administered in the US each year. Its validity was established for the usage "as it is." When test was to be used for a purpose for which it had not been validated, or for which there was no supported claim for validity, user was responsible for providing evidence of validity.

4. Cronbach's αs of the two sets of questionnaire were virtually the same. By asking more questions than necessary, there was an option to delete poor items at final analysis if it deemed necessary. Asking too few questions, on the other hand, rendered data useless if evidences showed later on that excluded items were indeed valid.

By thus, the pilot questionnaire was also used in main study. Then, it allowed inclusion of 60 pilot questionnaires in main study since it was the same questionnaire.

Main Study

Descriptive Statistic

Three hundred and sixty-eight questionnaires were distributing to designated 184 pairs of mentor-protégé. The number of 334 complete questionnaires had been returned which accounts for 91% response rate. Among 334 questionnaires using for analysis in this thesis, 156 pairs of mentor-protégé were identified.

Descriptive statistic of variables was displayed in Table 3.3.

Table 3.3

Descriptive staistic of varibles

			n	Mean	SE Mean	Std. Deviation	Coeff. of Variable	Range	Minimum	Maximum	Skewness	Kurtosis
	Age	Total	337	31.54	0.35	6.32	0.20	34	21	55	0.89	1.02
		Mentor	167	35.91	0.41	5.32	0.15	34	21	55	0.88	1.95
		Protege	167	27.48	0.32	4.20	0.15	29	21	50	2.04	8.26
-	Month in Mentorship	Total	337	12.31	0.49	8.94	0.73	29	1	30	0.43	-1.20
		Mentor	167	12.10	0.68	8.77	0.72	29	1	30	0.45	-1.14
		Protege	167	12.51	0.71	9.13	0.73	29	1	30	0.42	-1.26
Myers-Briggs Type Indicator	MBTI E-I [a]	Total	337	3.51	0.50	9.10	2.59	42	-21	21	-0.34	-0.47
		Mentor	167	3.19	0.68	8.78	2.75	40	-19	21	-0.26	-0.46
		Protege	167	3.84	0.73	9.43	2.46	42	-21	21	-0.42	-0.45
	MBTI S-N [b]	Total	337	6.42	0.41	7.58	1.18	44	-18	26	0.38	0.11
		Mentor	167	7.14	0.54	6.96	0.97	38	-12	26	0.36	-0.09
		Protege	167	5.70	0.63	8.11	1.42	40	-18	22	-0.32	0.10
	MBTI T-F [c]	Total	337	5.75	0.52	9.56	1.66	44	-20	24	-0.50	-0.29
		Mentor	167	6.95	0.69	8.93	1.29	44	-20	24	-0.59	0.07
		Protege	167	6.46	0.72	9.27	1.44	40	-18	22	-0.61	-0.30
	MBTI J-P [d]	Total	337	8.05	0.48	8.85	1.10	40	-18	22	-0.74	-0.08
		Mentor	167	9.64	0.63	8.13	0.84	34	-12	22	-0.83	0.13
		Protege	167	6.46	0.72	9.27	1.44	40	-18	22	-0.61	-0.30
Mentoring Functions	Average Career Functions	Total	337	3.23	0.03	0.52	0.16	3.61	1.00	4.61	-0.85	2.10
		Mentor	167	3.25	0.04	0.45	0.14	3.06	1.28	4.33	-0.85	1.74
		Protege	167	3.21	0.04	0.57	0.18	3.61	1.00	4.61	-0.80	1.90
	Average Role Model Functions	Total	337	3.17	0.03	0.64	0.20	3.50	1.17	4.67	-0.19	0.04
		Mentor	167	3.18	0.04	0.57	0.18	3.33	1.17	4.50	-0.07	0.34
		Protege	167	3.16	0.05	0.70	0.22	3.50	1.17	4.67	-0.24	-0.24
	Average Psychosocial Functions	Total	337	3.67	0.03	0.49	0.13	3.78	1.11	4.89	-0.91	3.26
		Mentor	167	3.72	0.03	0.45	0.12	3.56	1.11	4.67	-1.33	5.98
		Protege	167	3.62	0.04	0.53	0.15	3.44	1.44	4.89	-0.59	1.89
Subjective Success in Mentorship	Average Mentoring Quality	Total	337	3.88	0.03	0.60	0.15	3.80	1.20	5.00	-1.00	2.82
		Mentor	167	3.86	0.04	0.56	0.15	3.00	2.00	5.00	-0.59	0.92
		Protege	167	3.91	0.05	0.63	0.16	3.80	1.20	5.00	-1.33	4.21
	Average Mentoring Leaning	Total	337	3.77	0.04	0.65	0.17	4.00	1.00	5.00	-0.77	1.33
		Mentor	167	3.59	0.05	0.60	0.17	3.60	1.40	5.00	-0.81	0.92
		Protege	167	3.95	0.05	0.64	0.16	4.00	1.00	5.00	-1.02	2.51

(a) Extraversion - Introversion score, (b) Sensing - Intuition score, (c) Thinking - Feeling score, (d) Judging - Perceiving score

Mentor. There were 74 male mentors (44%) and 93 female mentor (56%). Age of mentors ranged from 21 to 55 years with a mean of 36 years.

Protege. There were 91 male protégés (54%) and 76 female protégés (46%). Age of protégés ranged from 21 to 50 years with a mean of 27 years.

Pairing. There were 118 pairs of same gender mentor-protégé (76%) and 38 pairs of cross-gender mentor-protégé (24%). Number of months in mentoring ranged from one to 30 months with an average of 12.3 months.

By average, respondents in this survey were MBTI type E (3.51), S (6.42), T (5.75), and J (8.05). All four types had negative skewness which supported that majority was ESTJ. Considering individual personality types in Table 3.3, extraversion-introversion was particularly standout from the rest at being widely spread along E-I continuum (CV = 2.59, kurtosis = -.47) than other three types. ($CV \approx 1$, kurtosis $\approx$ -.2) Comparing type of respondents to data in Figure 1.11, ESTJ and ISTJ were predominate personality types for business and industry managers in US. Finding in this section confirmed that MBTI was valid across culture for this aspect, which STJ (both E and I) personality types were norms of business. One cautionary note, there were respondents who were on the extreme scale of extraversion, introversion, sensing, thinking, and judging. Possessing extreme personalities made it difficult to communicate to person at opposite character. These extremists needed group counseling to add flexibility of their personality preferences.

Mentors consistently reported higher mentoring functions in three mentoring functions constructs. This could imply that mentors were well aware of mentoring as their duties while protégés took it for granted. On the opposite side, protégés reported more success in both quality and learning success scale than mentors did. This could imply that protégé's benefits were more perceivable than mentor's benefits.

Item Analysis of Questionnaires

With larger sample size of 334, prediction ratio of all 93 items met the requirement that either one of the two answers had PR > .62 as exhibited in Table 3.4.

Table 3.4

Prediction ratio of MBTI questionnaire from 334 samples

A	PR	B	PR	A	PR	B	PR	A	PR	B	PR
1J	0.86 *	1P	0.79 *	32S	0.84 *	32N	0.48	63N	0.34	63S	0.90 *
2P	0.55	2J	0.90 *	33P	0.34	33J	0.88 *	64F	0.34	64T	0.96 *
3S	0.83 *	3N	0.50	34E	0.67 *	34I	0.73 *	65P	0.29	65J	0.97 *
4E	0.80 *	4I	0.83 *	35I	0.65 *	35E	0.93 *	66I	0.57	66E	0.89 *
5N	0.60	5S	0.83 *	36J	0.98 *	36P	0.36	67E	0.88 *	67I	0.44
6F	0.48	6T	0.82 *	37N	0.42	37S	0.86 *	68J	0.88 *	68P	0.43
7P	0.49	7J	0.95 *	38F	0.81 *	38T	0.81 *	69T	0.84 *	69F	0.36
8E	0.72 *	8I	1.00 *	39T	0.78 *	39F	0.35	70J	0.94 *	70P	0.23
9J	0.88 *	9P	0.37	40S	0.84 *	40N	0.39	71P	0.52	71J	0.88 *
10J	0.88 *	10P	0.52	41P	0.67 *	41J	0.94 *	72I	0.55	72E	0.83 *
11P	0.28	11J	0.97 *	42I	0.58	42E	0.90 *	73S	0.86 *	73N	0.27
12I	0.58	12E	0.86 *	43J	0.96 *	43P	0.35	74N	0.38	74S	0.88 *
13S	0.90 *	13N	0.36	44N	0.51	44S	0.83 *	75F	0.33	75T	0.73 *
14E	0.88 *	14I	0.50	45F	0.50	45T	0.90 *	76P	0.36	76J	0.90 *
15N	0.34	15S	0.93 *	46T	0.78 *	46F	0.34	77E	0.84 *	77I	0.45
16F	0.62 *	16T	0.81 *	47S	0.81 *	47N	0.48	78T	0.84 *	78F	0.39
17P	0.29	17J	0.97 *	48I	0.75 *	48E	0.79 *	79N	0.42	79S	0.82 *
18I	0.47	18E	0.81 *	49J	0.91 *	49P	0.57	80F	0.34	80T	0.91 *
19E	0.69 *	19I	0.44	50N	0.45	50S	0.84 *	81T	0.81 *	81F	0.49
20J	0.88 *	20P	0.32	51F	0.50	51T	0.89 *	82S	0.98 *	82N	0.33
21P	0.21	21J	0.96 *	52T	0.93 *	52F	0.50	83N	0.31	83S	0.92 *
22I	0.75 *	22E	0.86 *	53S	0.91 *	53N	0.31	84F	0.49	84T	0.89 *
23E	0.75 *	23I	0.94 *	54I	0.72 *	54E	0.80 *	85T	0.82 *	85F	0.78 *
24N	0.36	24S	0.84 *	55N	0.56	55S	0.82 *	86S	0.93 *	86N	0.29
25P	0.32	25J	0.90 *	56F	0.74 *	56T	0.80 *	87N	0.29	87S	0.91 *
26I	0.65 *	26E	0.77 *	57T	0.83 *	57F	0.77 *	88F	0.53	88T	0.84 *
27I	0.58	27E	0.89 *	58S	0.77 *	58N	0.38	89T	0.80 *	89F	0.55
28J	0.95 *	28P	0.75 *	59J	0.90 *	59P	0.43	90S	0.78 *	90N	0.31
29N	0.41	29S	0.80 *	60I	0.60	60E	0.89 *	91F	0.46	91T	0.84 *
30F	0.46	30T	0.92 *	61S	0.83 *	61N	0.33	92T	0.87 *	92F	0.43
31T	0.91 *	31F	0.52	62E	0.82 *	62I	0.39	93S	0.94 *	93N	0.40

*PRs > .62

Using high-low groups *t* – test and corrected total-item correlation (CITC) in final sample of 334 ,only four out of 93 MBTI items did not meet the critical *r* (300, .05, 1-tailed) =.095. They were MBTI number 46, 58, 75, and 90. Cronbach's αs of 334 questionnaires were: extraversion-introversion = .834, sensing-intuition = .681, thinking-feeling = .820, and judging-perceiving = .824. Details analyses of each item were exhibited in Appendix D1. Both aforementioned numbers of passing items were the same at the earlier analyses of 255, 318, and final 334 samples. That meant the sample sizes that were appropriated for conducting item analysis - one for IRT and one for CITC - were somewhere between 60 and 255 samples.

The same procedure applied to Allen and Eby's (2003) subjective success in mentorship, which were relationship (mentorship) quality and relationship (mentorship) learning. Cronbach's αs for 334 questionnaires were mentorship quality = .906, and mentorship learning = .899. The results of individual item were displayed in Appendix D2.

Eleven-factors mentoring functions of mentor role instrument had been tested by the same method. Results were shown in Appendix D3. Followings were Cronbach's αs: (1) sponsor = .718, (2) exposure = .751, (3) coaching = .696, (4) protection = .665, (5) challenging assignment = .854, (6) role model = .816, (7) acceptance-and-confirmation = .696, (8) counseling = .630, (9) friendship = .674, (10) social relation = .886, and (11) parental role = .828.

Factor Analysis

Purpose of Study Number One

Prior to confirmatory factor analysis (CFA), initial exploratory factor analysis (EFA) of 33-items mentor role instrument was conducted using SPSS. The EFA results of 33-items were six factors but groupings were confusing so that it was not able to draw any meaningful conclusion. The reasons that EFA did not arrive at constructs

according to literatures review was the inter-correlations among eleven factors. Almost half of mentoring functions were cross-constructs correlated with $r > .50$. (Table 3.5 and Appendix E1) Kram (1985) had used qualitative interview research to arrive at career related and psychological mentoring functions. Later researches isolated role model mentoring function as the third mentoring category. (Figure 1.1) By using purely statistical procedure from scratch, EFA had little possibility to arrive at factor groups according to established theory.

Then, CFA using Lisrel was conducted based on literature review in Figure 1.1. The correlation matrix of mentoring functions was displayed in Table 3.5. The result of CFA was exhibited in Figure 3.1. A brief Lisrel print out was displayed in Appendix E1. Factor loadings of eleven mentoring functions into three constructs were quite vary. The lowest factor loading was social relationship ($b = .34$). The highest was counseling. ($b = .91$) Two mentoring functions added by Ragins and McFarlin (1990), namely social relationship and parental role, did not fit at all with psychosocial function. ($b = .01$) Instead, parental role fitted well with role model function. ($b = .58$) Social relation referred as having activities outside working hours. It could fit both career function and role model equally well because career function was highly inter-correlated with role model function. ($r = .91$) Logically, social relation in workplace helped employees work comfortably, enhanced communication and cooperation, (Ragins, 1997) which in turn increased productivity and thus should belong to career function. Another explanation was that personal relationships made them "in-group" according to leader-member exchange (LMX) theory. (Godshalk & Sosik, 2003)

Table 3.5

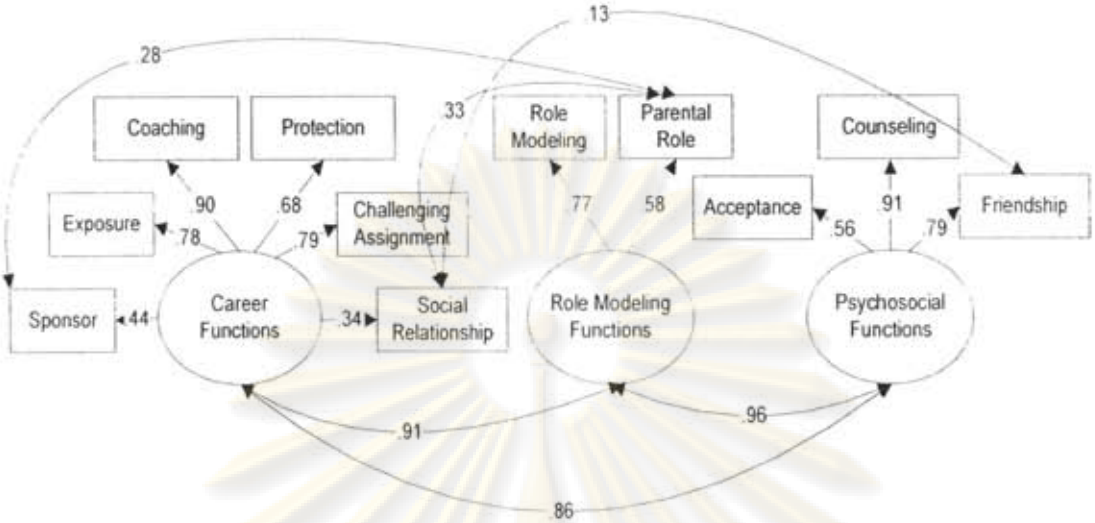
Correlation matrix of mentoring functions

	Mean	Standard Deviation	Sponsor score	Exposure score	Coach score	Protect score	Challenge score	Social relation score	Role model score	Parental role score	Acceptance score	Counseling score	Friendship score
Sponsor score	7.31	2.25	(.718)										
Exposure score	10.57	2.04	0.40 **	(.751)									
Coach score	11.11	1.81	0.40 **	0.71 **	(.696)								
Protect score	10.41	1.95	0.48 **	0.51 **	0.62 **	(.665)							
Challenge score	11.13	2.13	0.37 **	0.63 **	0.64 **	0.52 **	(.854)						
Social relation score	7.59	2.61	0.43 **	0.28 **	0.28 **	0.24 **	0.22 **	(.886)					
Role model score	11.43	1.95	0.24 **	0.53 **	0.60 **	0.46 **	0.56 **	0.26 **	(.816)				
Parental role score	7.59	2.55	0.52 **	0.47 **	0.49 **	0.40 **	0.45 **	0.53 **	0.44 **	(.828)			
Acceptance score	10.49	1.71	0.20 **	0.44 **	0.42 **	0.34 **	0.36 **	0.24 **	0.39 **	0.27 **	(.696)		
Counseling score	11.20	1.71	0.34 **	0.58 **	0.71 **	0.54 **	0.60 **	0.33 **	0.68 **	0.51 **	0.51 **	(.630)	
Friendship score	11.36	1.83	0.27 **	0.51 **	0.59 **	0.51 **	0.51 **	0.38 **	0.61 **	0.43 **	0.49 **	0.72 **	(.674)

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Figure in parenthesises along diagonal are Cronbach's α of respective factors.



Chi-Square=48.18, *df*=34, *p*-value=.05432, GFI=.98, RMSR=.027, SRMR=.027, RMSEA=.035

Figure 3.1 Confirmatory factor analysis of mentor role instrument

Note. Lisrel's path diagrams in this report did not show correlations of error terms within same construct. Only cross- construct correlation of errors were displayed and discussed. Full correlation of error terms were displayed in Lisrel path diagrams. Syntaxes and goodness of fit statistics were also displayed in Appendix E.

These in-groupers worked in team and were more likely to achieve more output (Scandura, 1998; Scandura & Williams, 2004) than solitary employee would normally do. Thus, social relation belonged to career function (b = .34) rather than role model. Being substantially correlating (r = .86 to .96), all three constructs of mentoring functions should well aware a problem of multicollinearity. (Wiratchai, 2007) Result suggested that activities outside working hours were conducted in parental manner to avoid sexual role conflict. This finding supported Ragins' (2007) rationale of adding these two functions to address cross-gender issues in mentoring relationships. Social relationship was also related with friendship, (r = .13) which made perfect sense that having activities outside working hours increased friendship. Another correlation was parental role with sponsor. (r = .29) This was in accordance with human instinct that parents supported advancement of their children, so did mentor to protégé. Lisrel's CFA was also conducted on subjective success of mentorship. A correlation matrix of mentoring quality and learning was in Table 3.6. The result confirmed Allen and Eby's (2003) research as depicted in Figure 3.2.

Table 3.6

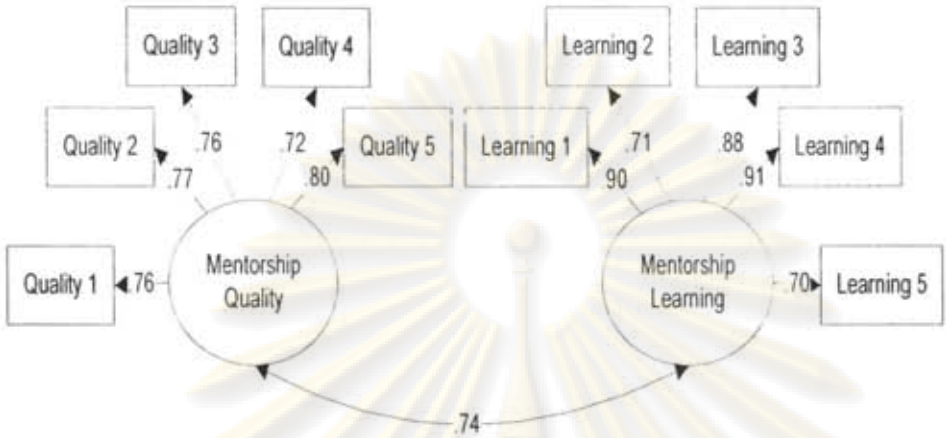
Correlation matrix of mentorship quality and mentorship learning

	Mean	Standard	Mentorshi p Quality 1	Mentorshi p Quality 2	Mentorshi p Quality 3	Mentorshi p Quality 4	Mentorshi p Quality 5	Mentorshi p	Mentorshi p	Mentorshi p	Mentorshi p	Mentorshi p
Mentorship Quality 1	3.86	0.71	(.788)									
Mentorship Quality 2	3.90	0.71	0.78 **	(.776)								
Mentorship Quality 3	3.83	0.74	0.57 **	0.57 **	(.700)							
Mentorship Quality 4	3.90	0.69	0.74 **	0.70 **	0.63 **	(.809)						
Mentorship Quality 5	3.93	0.65	0.61 **	0.62 **	0.69 **	0.70 **	(.758)					
Mentorship Learning 1	3.81	0.72	0.51 **	0.52 **	0.50 **	0.45 **	0.52 **	(.717)				
Mentorship Learning 2	3.75	0.78	0.45 **	0.46 **	0.38 **	0.43 **	0.44 **	0.67 **	(.764)			
Mentorship Learning 3	3.74	0.77	0.47 **	0.51 **	0.48 **	0.48 **	0.54 **	0.58 **	0.61 **	(.764)		
Mentorship Learning 4	3.75	0.70	0.52 **	0.53 **	0.56 **	0.54 **	0.54 **	0.57 **	0.58 **	0.81 **	(.748)	
Mentorship Learning 5	3.79	0.87	0.43 **	0.46 **	0.43 **	0.44 **	0.43 **	0.65 **	0.74 **	0.63 **	0.62 **	(.770)

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Figure in parenthesises along diagonal are Corrected Item - Total Correlation (CITC) of respective items.



Chi-Square=34.68, *df*=24, *p*-value=.07331, GFI=.98, RMSR=.023, SRMR=.023, RMSEA=.037

Figure 3.2 Confirmatory factor analysis of subjective success of mentorship

Descriptions of each quality and learning items were referred to Figure 1.22. Path diagram, syntax, and goodness of fit indicators were in Appendix E2. Factor loadings of both constructs were consistent on high range from learning 5 (b = .70) to learning 4. (b = .91) Average means of mentorship quality (3.83) were higher than mentorship learning items (3.77) but standard deviations of mentorship learning were higher according to Table 3.3. Coefficience of variable of mentorship leaning (.17) was greater than mentorship quality (.15) and its value tended to spread more than mentorship quality.

According to Allen and Eby (2003), mentorship quality related with psychosocial function. Mentorship learning related with career related functions. This relationship was in accordance with average psychosocial score of 3.67, which was higher than career related (3.23) and role model (3.17) scores. (Table 3.3) There was no cross factor correlation but constructs of mentorship quality and learning were substantially correlated. (r = .74) Researchers should aware a problem of multicollinearity if they planned to use this instrument. (Wiratchai, 2007)

Causal Relationships

Purpose of Study Number Two

To conduct a multi-group factor analysis by Lisrel, this test was to find whether 167 mentor's and 167 protégé's personality profiles were similar. A correlation matrix of this model was displayed here in Table 3.7. Result was displayed in following Figure 3.3.

Table 3.7

Multi-group correlation matrices of mentor's and protege's personality profile

MENTOR'S	Mean	Standard Deviation	M_MBTI E-I	M_MBTI S-N	M_MBTI T-F	M_MBTI J-P
M_MBTI E-I	3.19	8.78	(.834)			
M_MBTI S-N	7.14	6.96	-0.17 *	(.681)		
M_MBTI T-F	6.95	8.93	0.00	-0.18 *	(.820)	
M_MBTI J-P	9.64	8.13	0.06	-0.18	0.36 **	(.834)

PROTÉGÉ'S	Mean	Standard Deviation	P_MBTI E-I	P_MBTI S-N	P_MBTI T-F	P_MBTI J-P
P_MBTI E-I	3.84	9.43	(.834)			
P_MBTI S-N	5.70	8.11	-0.07	(.681)		
P_MBTI T-F	4.56	10.04	-0.01	0.03	(.820)	
P_MBTI J-P	6.46	9.27	0.08	0.04	0.45 **	(.834)

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Figure in parenthesises along diagonal are Cronbach's α of respective factors.

The result in Figure 3.3 suggested that personality profiles of both end of mentoring dyad were unified. This finding gave confidence that variances in mentoring

function and success in mentorship were not caused by variance in personality profile itself. Unified personality profile between comparing subjects reduced spurious variance of every models in the research. Brief Lisrel's printout was summarized in Appendix E3.

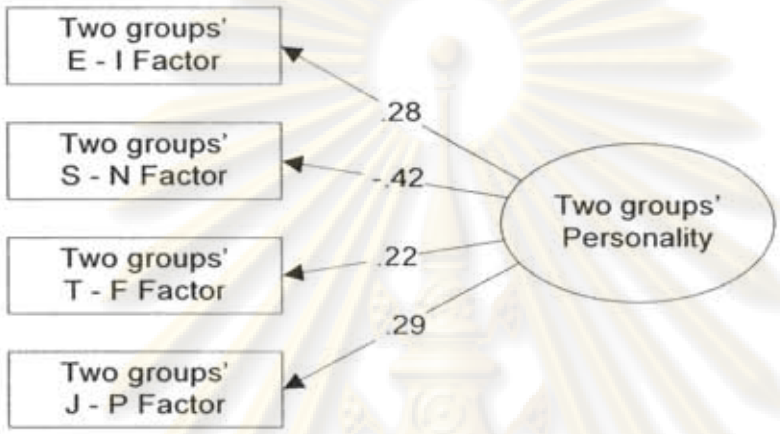


Figure 3.3 Multi-group Lisrel comparing mentor's-and-protégé's personality profiles

Purpose of Study Number Three

To test whether there was any differences of mentoring functions between mentoring phases. In order of ease reference, Figure 2.2 was repeated here.

$$\begin{bmatrix} \mu_{\text{Career Function}} \\ \mu_{\text{Role Mode Function}} \\ \mu_{\text{Psychosocial Function}} \end{bmatrix}_{\text{Initiation}} = \begin{bmatrix} \mu_{\text{Career Function}} \\ \mu_{\text{Role Mode Function}} \\ \mu_{\text{Psychosocial Function}} \end{bmatrix}_{\text{Cultivation}}$$

Figure 2.2 MANOVA to test vector of means of mentoring functions at different phases

In order to find whether vector of means of initiation phase was different from cultivation phase, a point of phase changing was established by conducting a series of MANOVA at different months in mentorship between two to twelve months. Result was shown in Table 3.8.

Table 3.8

Significances of MANOVA for mentoring functions at difference months in mentorship

	Number of mentor and protégé at different cut off phases (months in mentor)											
	1	2	3	4	5	6	7	8	9	10	11	12
Initiation phase	9	38	75	99	112	121	140	149	158	164	169	193
Cultivation phase	315	296	259	235	222	213	194	185	176	170	165	141
Indicators	MANOVA's *p* - value of mentor functions at different months in mentorship											
Pillai's trace	.458	.098	.000	.009	.073	.123	.361	.468	.339	.293	.283	.353
Wilks' lambda	.458	.098	.000	.009	.073	.123	.361	.468	.339	.293	.283	.353
Hotelling's trace	.458	.098	.000	.009	.073	.123	.361	.468	.339	.293	.283	.353
Roy's largest root	.458	.098	.000	.009	.073	.123	.361	.468	.339	.293	.283	.353

Preliminary MANOVA tests in Table 3.8 indicated the mentoring phase changed at the fourth month. This almost supported Kram's (1985) theory that initiation phase of mentoring turned by average of six to twelve month but just two months ahead. The MANOVA was then conducted to test vectors of means of mentoring

functions between initiation phase (up to four months) and cultivation phase (five months and more). Result of which was displayed in Table 3.9.

Table 3.9

MANOVA results of mentoring functions at initiation and cultivation phase

Phase of mentoring	Initation	Cultivation	Mean (a) Difference	Sig.(b)	Value	F	Sig.
Number of respondents	99	235					
Averge Career Score	3.35	3.18	0.18	0.004 **			
Average Role Model Score	3.35	3.10	0.25	0.001 ***			
Average Psychosocial Score	3.75	3.64	0.12	0.048 *			
Pillai's trace					0.035	3.948	0.009 **
Wilks' lambda					0.965	3.948	0.009 **
Hotelling's trace					0.036	3.948	0.009 **
Roy's largest root					0.036	3.948	0.009 **

* The mean difference is significant at $p < .05$

** The mean difference is significant at $p < .01$

*** The mean difference is significant at $p \leq .001$

(a) Initaiation Phase - Cultivation phase

(b) Adjustment for multiple comparisons:

Least Significant Difference (equivalent to no adjustments).

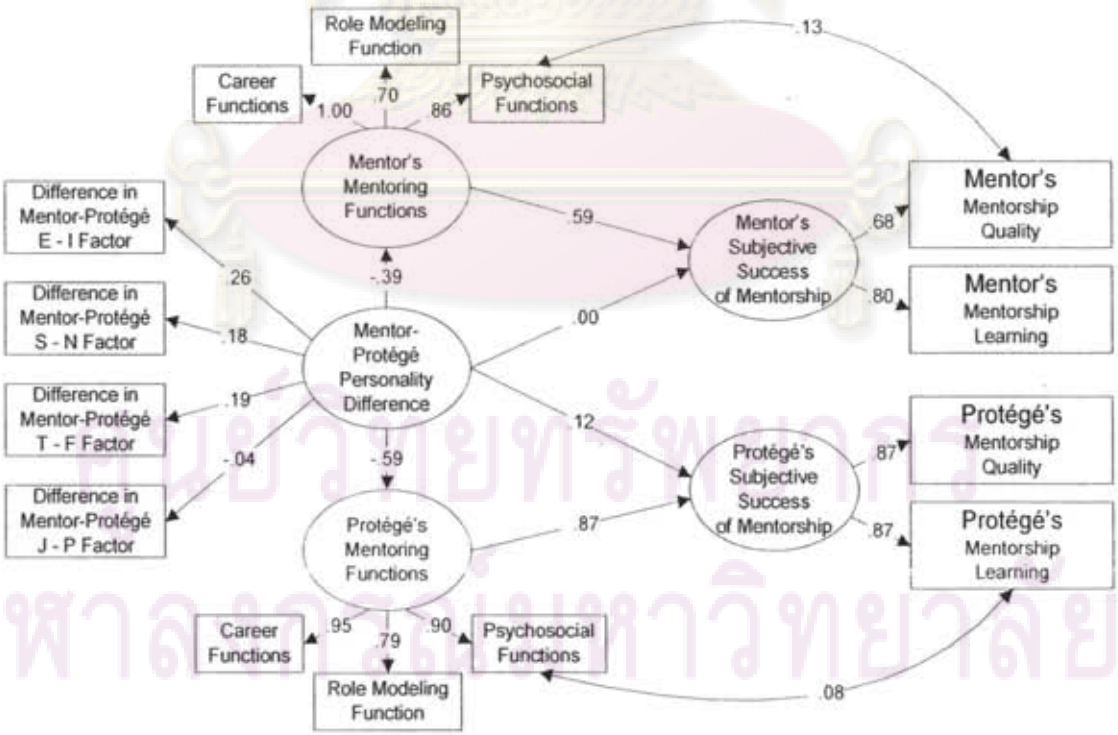
Table 3.9 showed that initiation phase reported higher mentoring functions than cultivation phase significantly by all mentoring functions. This contradicted to Kram's (1985) research that mentoring functions were in full effects at cultivation phase. Upon consulting with human resources department of respondents' organization, explanation to this contradiction was that employees under four months were still in legal probation period. They were eager in participating company's policy until they receive permanent employee status. There might be some misconception among protégés that mentoring existed to guide them through probation period. Once they received permanent employee status, they saw less benefits of mentoring and then approached their mentors less frequently.

Main Model

Purpose of Study Number Four

Purpose number four was to establish cause and effect relationships whereby difference (less similarity) in personality influenced subjective success of mentorship. A correlation matrix of main model was next in Table 3.10. Since this thesis studied the effect of similarity of personality on personality (less difference), similarity was in focus rather than difference. In statistical model, independent variable was difference in personality. Hence, statistical negative regression coefficience caused by difference of personalities conferred to positive correlation for the similarity of personalities.

The result was depicted in Figure 3.4, which empirically established both direct and indirect effect paths from difference (less similarity) of personality to success of mentorship.



Chi-Square=81.17, *df*=65, *p*-value=.08497, GFI=.93, RMSR=.052, SRMR=.052, RMSEA=.040

Figure 3.4 Lisrel model of similarity of personality to mentoring success

Table 3.10

Correlation matrix of main model

	Mean	Standard Deviation	M-P MBTI E-I Absolute	M-P MBTI S-N Absolute	M-P MBTI T-F Absolute	M-P MBTI J-P Absolute	M_Career Score	M_Role Model Score	M_Psychosocial Score	M_Mentorship Quality	M_Mentorship Learning	P_Career Score	P_Role Model Score	P_Psychosocial Score	P_Mentorship Quality	P_Mentorship Learning
M-P MBTI E-I Absolute	11.19	8.03	(.834)													
M-P MBTI S-N Absolute	8.17	6.10	0.02	(.681)												
M-P MBTI T-F Absolute	10.32	8.18	0.08	0.05	(.820)											
M-P MBTI J-P Absolute	9.64	7.47	-0.02	0.17 *	0.37 **	(.834)										
M_Career Score	58.60	8.22	-0.15	-0.12	-0.09	0.00										
M_Role Model Score	19.08	3.44	-0.06	-0.06	0.00	-0.02	0.72 **									
M_Psychosocial Score	33.58	4.07	-0.05	0.03	0.03	0.02	0.63 **	0.62 **								
M_Mentorship Quality	19.35	2.81	-0.13	0.03	-0.11	-0.04	0.41 **	0.30 **	0.52 **	(.906)						
M_Mentorship Learning	17.99	2.99	-0.18	0.06	-0.06	-0.05	0.47 **	0.33 **	0.46 **	0.56 **	(.899)					
P_Career Score	57.56	10.32	-0.16	-0.13	-0.13	0.00	0.31 **	0.18 *	0.17 *	0.10	0.07					
P_Role Model Score	18.93	4.23	-0.19	-0.10	-0.11	0.00	0.29 **	0.27 **	0.18 *	0.10	0.12	0.76 **				
P_Psychosocial Score	32.54	4.81	-0.12	-0.03	-0.12	0.02	0.14	0.06	0.06	0.06	0.04	0.76 **	0.71 **			
P_Mentorship Quality	19.44	3.13	-0.11	-0.01	-0.14	-0.03	0.09	-0.14	0.00	0.05	0.05	0.65 **	0.53 **	0.73 **	(.906)	
P_Mentorship Learning	19.72	3.22	-0.11	0.00	-0.13	0.02	0.10	0.00	0.06	0.00	0.02	0.64 **	0.54 **	0.67 **	0.77 **	(.899)

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Figure in parenthesises along diagonal are Cronbach's α of respective factors.

Surprisingly, personality difference (less similarity) did not had negative direct effect on success in mentorship on both mentor's and protégé's path. Instead, mentoring functions fully mediated all difference's (less similar) negative regression coefficiences on both mentor's and protégé's paths. A full Lisrel output was displayed in Appendix E4. As one could expect, the less difference (more similar) in personality, the more mentoring functions were provided and received. (mentor's b = -.39, protégé's b = -.59) The effect of mentoring function was highly translated to mentoring success. (mentor's b = .59, protégé's b = .87) Indirect effect of each other's success of mentorship through counterpart's success was too small in magnitude, which could be omitted to keep main model parsimonious. Effects between difference (less similarity) of personality and success of mentorship were summarized in Table 3.11.

Table 3.11

Effect of personality difference on success of mentorship

		Mentor		Protégé
Direct effect		.00		.12
Indirect effect	(-.39 x .59)	-.23	(-.59 x .87)	-.52
Total effect		-.23		-.40

A main model in Figure 3.4 needed a careful interpretation. On mentor's path, it was obvious that personality difference (less similarity) had no direct relationship at all with success of mentorship. (b = .00) Personality difference (less similarity) negatively correlated with mentor's mentoring functions (b = -.39) and mentoring functions translated well to mentor's success in mentorship. (b = .59) Total effect of b = -.23 came solely from indirect effect path where for mentoring functions act as a full mediator.

The cause and effect path on protégé's side was quite difficult to explain. The direct positive relationship between difference (less similarity) of personality with protégé's success in mentorship (b = .12) was inconsistent neither with literature

reviews nor with mentor's path. Upon close inspection of correlation matrix in Table 3.10, correlations between protégé's mentoring functions and protégé's successes in mentorship were outstanding high (r = .53 to .73) whereby mentor's sides were lower. (r = .30 to .52) Moreover, negative correlations between difference in personalities and mentoring functions of protégé were greater in magnitude (r = .00 to -.19) than mentor's. (r = .00 to -.15) Multiplying the above two correlations, indirect effect path of protégé was much higher than mentor's path. At the same time, correlations between personality differences and protégé's success in mentorship (r = .00 to -.14) were not much different from mentor's (r = .06 to -.18). While direct path of mentor in the model was b =.00, direct effect of protégé was inevitably turned to positive value because protégé's direct effect had to discount its indirect effect in order to achieve total effect as per empirical data. Additional analysis of this relationship was discussed in the next chapter. The cause of positive association, if it was true relationship at all, could not be answered by quantitative research. Qualitative interview research was a more appropriate way to find the causation.

Lisrel model showed that protégé's indirect effect (b = -.52) was higher than mentor's. (b = -.23) Even discounting by its direct effect, protégé's total effect (b = -.40) was still larger than mentor's total effect. (b = -.23) This phenomenon pointed that protégé who received mentoring functions derived success in mentorship largely (b = .87) than mentor who gave them. (b = .59) This obviously demonstrated that mentor valued the benefits of mentoring far less than protégé. If mentors did not value the benefits of mentoring on their own behalf, it might cause an infectiveness of mentoring as reviewed earlier.

Competing Model

Prior to execution of competing model, a condition by which alternative measurement correlated with MBTI had to be satisfied. A conceptual model of Figure 2.4 was repeated here for ease of reference.

$$\begin{bmatrix} \mu_{E-I} \\ \mu_{S-N} \\ \mu_{T-F} \\ \mu_{J-P} \end{bmatrix}_{\text{MBTI}} = \begin{bmatrix} \mu_{E-I} \\ \mu_{S-N} \\ \mu_{T-F} \\ \mu_{J-P} \end{bmatrix}_{\text{Perceived Self (Alternative)}}$$

Figure 2.4 *MANOVA to test whether self-reported personality correlated with MBTI*

MANOVA analysis failed to established equality of above vector of means. (centroids) Pairing correlations of MBTI's scores with alternative measurement were E-I's r = .630, S-N's r = .212, T-F's r = .514, and J-P's r = .219. These correlations were moderate to low and did not satisfy the requirement of r = .60 to .80 as being good correlated. (Wiratchai, 2007) A multi-group Lisrel also failed to establish goodness of fit for model using difference scales. A chi-square of more than one thousand was left from the analysis. This huge difference resulted from the attempt to compare two totally difference scale, even though they were measuring the same construct. Additional explanation was discussed in next chapter.

What competing model really needed was that alternative measurement was as good as MBTI in telling difference of two persons. The method usually used to perform item analysis was a power of alternative measurement to discriminate the high and low group. For MBTI personality preferences, it deemed to be a more appropriate analysis to satisfy the condition in this particular situation. The result was displayed in Table 3.12.

Table 3.12

Ability of alternative measurement items to discriminate high and low group of MBTI

Alternative Likert-MBTI personality preferences questions	Personality preference factors	Item analysis using high group and low group						*n* = 334	
		High group of MBTI			Low group of MBTI				
		n	*M*	*SD*	*n*	*M*	*SD*	*t*	*p*
IE12 MBTI # 12 (B)	Extraversion	92	3.78	.768	111	2.77	.871	8.658	.000***
EI4 MBTI # 4 (B)	Introversion	92	2.37	.861	111	3.59	.814	-10.267	.000***
NS5 MBTI # 5 (B)	Sensing	93	3.86	.523	95	3.84	.673	.206	0.419
NS24 MBTI # 24 (A)	Intuition	93	3.57	.865	95	4.01	.779	-3.669	.000***
FT16 MBTI # 16 (B)	Thinking	111	4.11	.623	98	3.32	.667	8.830	.000***
FT06 MBTI # 6 (A)	Feeling	111	2.91	.720	98	3.60	.809	-6.495	.000***
PJ07 MBTI # 7 (B)	Judging	112	4.23	.569	102	3.57	.668	7.786	.000***
PJ02 MBTI # 2 (A)	Perceiving	112	2.61	.649	102	3.17	.891	-5.209	.000**
Self reported E-I Score	E - I	92	1.41	1.224	111	-.81	1.290	12.576	.000***
Self reported S-N Score	S - N	93	.29	.904	95	-.17	.941	3.407	.001***
Self reported T-F Score	T - F	111	1.20	1.007	98	-.29	.995	10.689	.000***
Self reported J-P Score	J - P	112	1.21	1.108	102	.72	1.111	3.224	.001***

The items of introversion, intuition, feeling, and perceiving had negative *t* - values because they were reverse questions of the respective high-low groups. The result showed that only one item of sensing factor was not significance. Otherwise, the alternative measurements had the power to discriminate high and low MBTI groups very significantly at *p* level of no more than .001. Nevertheless, when sensing coupled with intuition factor, S–N factor was significant at $p = .001$. Competing model used couple of items as independent variable, namely E-I, S-N, T-F, and J-P. These four variables were shown in Table 3.12 as having power to discriminate high and low group of personality preference at significant level of no more than $p = .001$.

The above results convinced that alternative measurement was good enough to measure personality preferences on one condition that it must compare result with its own scale. This finding was important because it allowed a person to measure one's own perception of personality, personality of non-existing ideal mentoring counterpart, and perception of mentoring counterpart's personality. All these scores could

legitimately be compared with each other since they were measuring the same construct by same scale.

Purpose of Study Number Five

Before proceeding to competing model, a successive MANOVA testing of alternative measurement was conducted to evaluate similarity of perception between self and ideal mentoring counterpart as depicted in following Figure 2.6.

$$\begin{bmatrix} \mu_{E-I} \\ \mu_{S-N} \\ \mu_{T-F} \\ \mu_{J-P} \end{bmatrix}_{\text{Perceived Self (Alternative)}} = \begin{bmatrix} \mu_{E-I} \\ \mu_{S-N} \\ \mu_{T-F} \\ \mu_{J-P} \end{bmatrix}_{\text{Ideal counterpart (Alternative)}}$$

Figure 2.6 MANOVA to test whether one wanted counterpart to be an image of self

The result showed that MANOVA was significant at p – value = .000. (Table 3.13) It meant that perception of self-personality was not the same as ideal mentoring counterpart. This finding did not support Kram's (1985) notion whether one wanted mentoring counterpart to be an image of self. Contrast analysis showed F value significantly in all four means at $p < .001$.

Table 3.13

MANOVA result of perceived self and ideal counterpart

Phase of mentoring	Perceived self	Ideal counterpart	Mean Difference	Sig.(a)	Value	*F*	Sig.
Extraversion-Introversion	0.33	0.94					
Sensing-Intuition	0.08	0.80					
Thinking-Feeling	0.53	1.20					
Judging-Perceiving	1.00	1.00					
Groups			-0.28	0.000 ***			
Pillai's trace					0.384	68.71	0.000 ***
Wilks' lambda					0.616	68.71	0.000 ***
Hotelling's trace					0.623	68.71	0.000 ***
Roy's largest root					0.623	68.71	0.000 ***

* The mean difference is significant at $p < .05$

** The mean difference is significant at $p < .01$

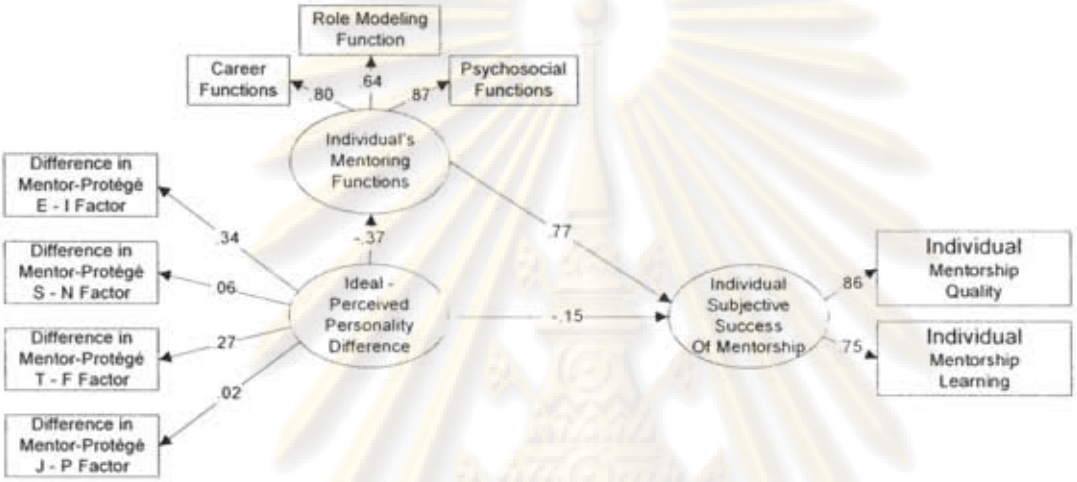
*** The mean difference is significant at $p \leq .001$

(a) Adjustment for multiple comparisons:

Least Significant Difference (equivalent to no adjustments).

Purpose of Study Number Six

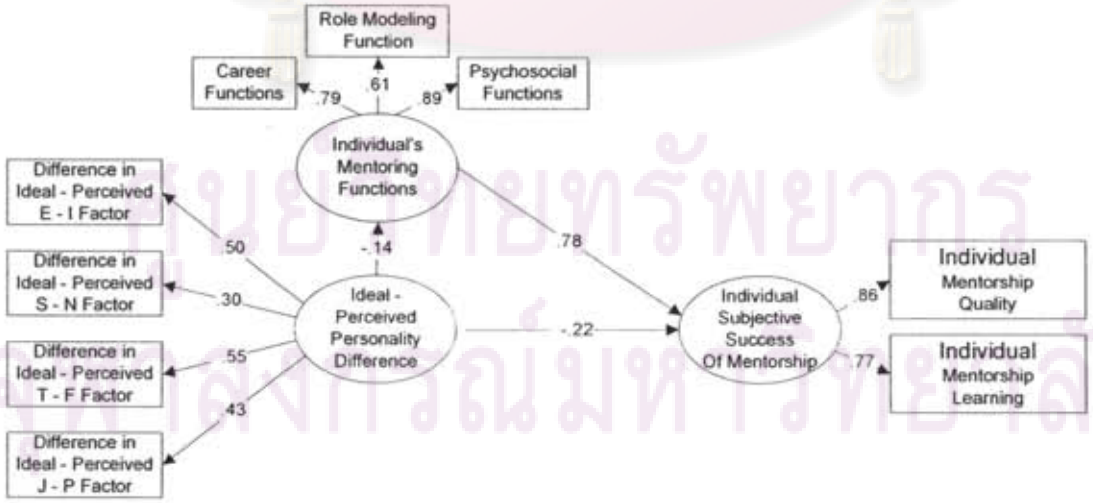
The last study of this thesis was a proposal of competing model. In order to be able to evaluate competing model, main model was rearranged for calculation by individually basis. Correlation matrix was in Table 3.14 and result in Figure 3.5. Lisrel output was shown in Appendix E5.



Chi-Square=27.62, *df*=20, *p*-value=.11880, GFI=.98, RMSR=.028, SRMR=.028, RMSEA=.035

Figure 3.5 Main model calculating individually to compare with competing model

By using similar structure, except for the method of measuring of differences in personality, competing model's correlation matrix was in Table 3.15. Result was in following Figure 3.6. A brief Lisrel output was in Appendix E6. Path and size of effect as in Table 3.16.



Chi-Square=29.02, *df*=21, *p*-value=.11349, GFI=.98, RMSR=.035, SRMR=.035, RMSEA=.034

Figure 3.6 Competing model using alternative personality measurement

Table 3.14

Correlation matrix of main model calculated on individual

	Mean	Standard Deviation	M-P MBTI E-I Absolute	M-P MBTI S-N Absolute	M-P MBTI T-F Absolute	M-P MBTI J-P Absolute	Career Score	Role Model Score	Psychosocial Score	Mentorship Quality	Mentorship Learning
M-P MBTI E-I Absolute	11.19	8.02	1.00								
M-P MBTI S-N Absolute	8.17	6.09	0.02 **	1.00							
M-P MBTI T-F Absolute	10.32	8.17	0.08 **	0.05 **	1.00						
M-P MBTI J-P Absolute	9.64	7.46	-0.02 **	0.17 **	0.37 **	1.00					
Career Score	58.08	9.33	-0.15 **	-0.12	-0.11	0.00	1.00				
Role Model Score	19.01	3.85	-0.13 **	-0.08	-0.06 *	-0.01	0.75 **	1.00			
Psychosocial Score	33.06	4.47	-0.08	0.00	-0.05	0.02	0.70 **	0.67 **	1.00		
Mentorship Quality	19.39	2.97	-0.12 **	0.01	-0.12 *	-0.04	0.55 **	0.43 **	0.63 **	1.00	
Mentorship Learning	18.85	3.22	-0.14 **	0.03	-0.09 **	-0.02 *	0.53 **	0.43 **	0.52 **	0.65 **	1.00

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 3.15

Correlation matrix of competing model

	Mean	Standard Deviation	Ideal Perceived E-I Absolute	IIdeal Perceived S-N Absolute	Ideal Perceived T-F Absolute	Ideal Perceived J-P Absolute	Career Function	Role Model Function	Psychosocial Function	Mentorship Quality	Mentorship Learning
Ideal Perceived E-I Absolute	1.19	1.32	1.00								
IIdeal Perceived S-N Absolute	0.59	0.71	0.15 **	1.00							
Ideal Perceived T-F Absolute	0.93	1.10	0.28 **	0.15 **	1.00						
Ideal Perceived J-P Absolute	0.72	0.91	0.20 **	0.15 **	0.40 **	1.00					
Career Function	58.13	9.29	-0.19 **	-0.01	-0.08	-0.05	1.00				
Role Model Function	19.02	3.83	-0.15 **	0.01	-0.11 *	-0.09	0.74 **	1.00			
Psychosocial Function	33.05	4.44	-0.07	0.04	-0.08	-0.02	0.70 **	0.66 **	1.00		
Mentorship Quality	19.41	2.98	-0.14 **	-0.05	-0.13 *	-0.10	0.54 **	0.42 **	0.63 **	1.00	
Mentorship Learning	18.84	3.25	-0.17 **	-0.08	-0.20 **	-0.12 *	0.52 **	0.41 **	0.53 **	0.66 **	1.00

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 3.16

Main model calculate individually compare to competing model

	Main model calculated individually		Competing model	
Direct effect		-.15		-.22
Indirect effect	(-.37 x .77)	-.28	(-.14 x .78)	-.11
Total effect		-.43		-.33

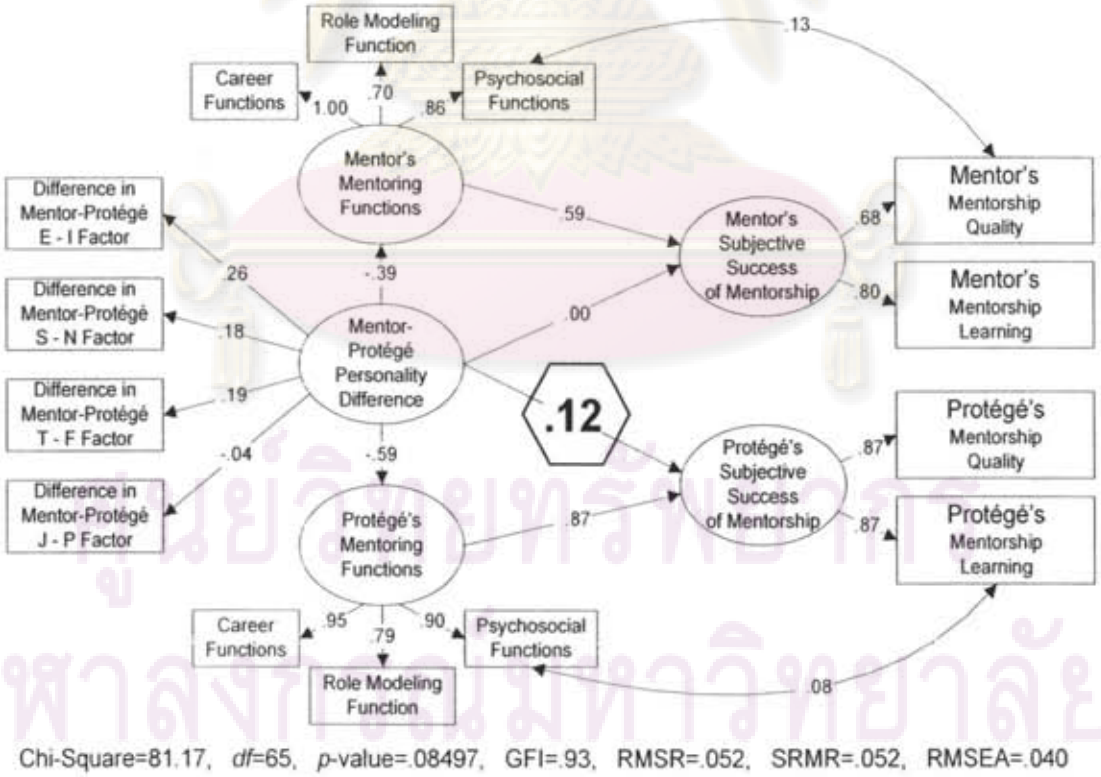
The result indicated that perceived personality difference (or less similarity) played an importance role on individual's perception of mentoring success. In competing model, difference (or less similarity) of perceived personality between ideal and actual mentoring counterpart had direct negative effect (b = -.22) while main model calculated individually in Figure 3.5 indicated direct effect of b = -.15. Competing model suggested that perception was really matters more than actual difference in personality. The more perception of counterpart's personality was similar to an ideal figure, the more that individual felt directly success in mentorship. Similar to main model calculate individually (b = -.37 x .77= -.28), mentor functions of competing model acted as a mediator but to a lower indirect effect (b = -.14 x .78= -.11). Competing model's path and effects conformed to main model calculating individually but to the lesser extent. Despite competing model used only eight questions from part one of MBTI; it gave worthy information. Therefore, it was convinced that competing model was vital for further study.

CHAPTER IV

DISCUSSION

After extracting as much information as possible out of single set of data, many issues had to be addressed. Findings in chapter three were presented in sequences of statistical procedures. Some findings had to be established in order for another procedure to begin. In this chapter, discussion was presented by the order of their importance to thesis's topics. Looking at a large picture, result findings in previous chapter supported all research objectives of this thesis. Nevertheless, there was a point that personality difference (less similar) positively direct correlated with protégé's success of mentorship. This relationship was clarified in this chapter.

Main Model



Chi-Square=81.17, *df*=65, *p*-value=.08497, GFI=.93, RMSR=.052, SRMR=.052, RMSEA=.040

Figure 3.4 Lisrel model of similarity of personality to mentoring success

This main model used differences of mentor's and protégé's personality score as measured by MBTI form M but in absolute value. Differences in four personality factors composed a construct of difference in personality. The higher the score was the more differences of personalities between mentoring pairs were. This made a linear scale of difference whereby zero was a perfect match between two persons. The objective of this thesis was focused on similarity of personality, which was opposite to statistical illustrations. In discussion section, personality similarity was preferred for discussion rather than differences. Therefore, minus sign of regression coefficient (- *b*) was interpreted as a positive correlation when mentioned the similarity. On the other hand, plus sign of regression coefficience (+ *b*) was negative correlation associated with similarity.

Result in main model suggested that similarity of personality enhanced mentoring function on both side of mentoring pairs. This confirmed Allen and Eby's (2003) similarity attraction paradigm. Similarity of personality increased the level of comfort and enhanced communication between mentor and protégé. Thus, personality fit increased effectiveness of mentoring. The result on Figure 3.4 further showed that effectiveness solely derived from amount of mentoring functions. Mentoring functions act as strong mediator for success in mentorship. Mentor's regression coefficience of mentoring function to mentoring success was $b = .59$. (protégé's $b = .87$) This finding was important. Having these high correlations, any attempt to increase mentoring functions would successfully translate to success of mentorship. Besides personality fit, there were many factors that helped increase amount and level of mentoring function. Organization could promote mentoring functions in order to help its employee's success in mentorship. Existing researches showed that successful mentoring provided protégés with significant benefits. They included but not limited to higher salary, overall compensations, career advancement, number of promotions, career satisfaction, (Allen, Poteet, Russell et al., 1997; Day & Allen, 2004), self-esteem, organization commitment, organization recognition, (Eby, Durley et al., 2006) organization socialization, (Chao, 1997) intent to stay, tenure with organization, self-

esteem, lower work stress, and lower work-family conflict. (Underhill, 2006) Mentor's successes in mentorship benefited their own career enhancement, intelligence-information, advisory role, and psychic rewards. (Scandura & Williams, 2001) Organization also benefited from mentoring success of its employees. (Pollock, 1995)

Direct effect of similarity of personality adversely affected success in mentorship but in relatively small magnitude. Even though it contradicted to literature reviews and to common sense, personality fit of protégé path discounted the success in mentorship. Nevertheless, total effect of mentor's side (b = -.23) and protégé's side (b = -.39) were still substantial after discounts as demonstrated in Table 3.11. The mechanism as how personality fit reversely impacted success of mentorship was not fully understood. Only explanation could be offered here was the extraordinary high correlation coefficience of protégé's mentoring functions with success of mentorship. It then made protégé's direct effect correlation coefficience positive value and discounted the indirect effect in order to derive at total effect as indicated by empirical data. The direct effect of personality fit to success of mentorship was not truly positive value as illustrated in altered main model of Figure 3.5 and subsequent analysis in this chapter. However if there was any chance that personality fit indeed discounted the effectiveness of mentoring, a further qualitative research should be conducted to find the nature of such relationship. Another interesting point was that psychosocial mentoring function had correlation with mentorship quality.
(mentor's r = .13 and protégé's r =.08) This partly supported Allen and Eby's (2003) literature that relationship (mentorship) quality related to psychosocial functions. The relationship (mentorship) learning related to career functions.

Table 4.1 illustrated detailed path effects of main model. Path analysis confirmed what had been found in previous chapter that mentoring functions fully mediated indirect effects of main model.

Table 4.1

Lisrel's interpretation of main model's structural equation

Paths		Regression Coefficience (b)	Standard Error (SE)	t	Standardized Solution (β)
From	To				
Common Variables (Lambda-X Matrix)					
Extraversion-Introversion	Personality Difference	.26	.12	2.20*	.26
Sensing-Intuition	Personality Difference	.18	.12	1.53	.18
Thinking-Feeling	Personality Difference	.19	.12	1.59	.19
Judging-Perceiving	Personality Difference	-.04	.12	-.31	-.04
Mentor's Path (Lambda-Y Matrix)					
Career Related	Mentoring Functions	1.00	-	-	1.02
Role Model	Mentoring Functions	.70	.10	7.05***	.71
Psychosocial	Mentoring Functions	.86	.08	10.27***	.87
Mentoring Quality	Success in Mentorship	.68	-	-	.68
Mentoring Learning	Success in Mentorship	.80	.14	5.94***	.80
Mentor's Path (Gamma Matrix)					
Personality Difference	Mentoring Functions	-.39	.13	-3.01**	-.39
Personality Difference	Success in Mentorship	.00	.14	0.03	.00
Mentor's Path (Beta Matrix)					
Mentoring Functions	Success in Mentorship	.59	.14	4.13***	.61
Protégé's Path (Lambda-Y Matrix)					
Career Related	Mentoring Functions	.95	-	-	.95
Role Model	Mentoring Functions	.79	.07	11.55***	.79
Psychosocial	Mentoring Functions	.90	.06	14.25***	.90
Mentoring Quality	Success in Mentorship	.87	-	-	.87
Mentoring Learning	Success in Mentorship	.87	.07	12.19***	.87
Protégé's Path (Gamma Matrix)					
Personality Difference	Mentoring Functions	-.59	.18	-3.39***	-.59
Personality Difference	Success in Mentorship	.12	.17	0.70	.12
Protégé's Path (Beta Matrix)					
Mentoring Functions	Success in Mentorship	.87	.14	6.08***	.87

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

*** Correlation is significant at the 0.001 level (2-tailed).

Direct effects, indirect effect, and total effect were illustrated in Table 4.2.

Table 4.2

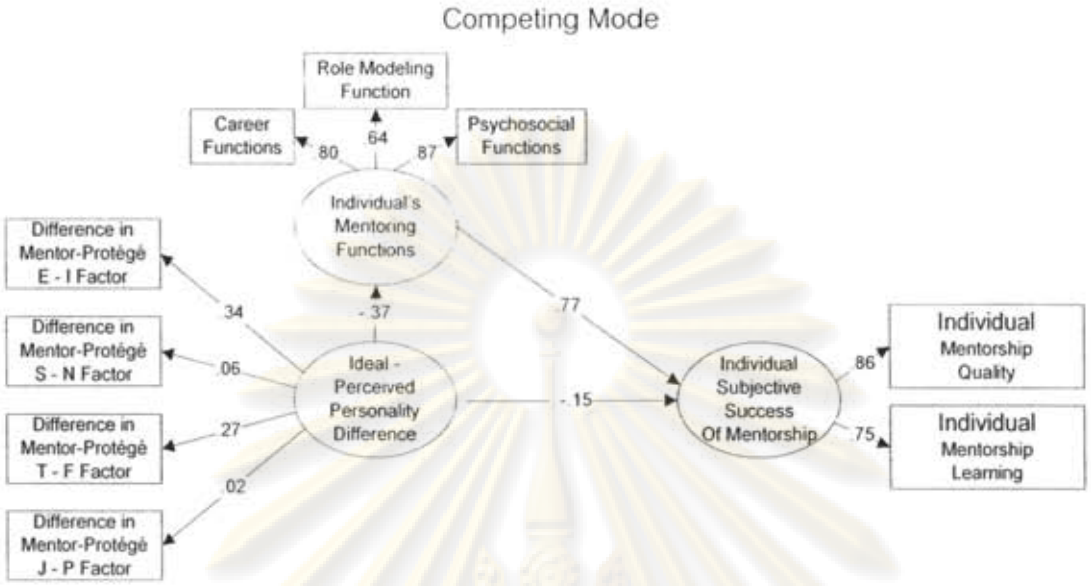
Analysis of effect paths in main model

Paths		Direct Effect	Indirect Effect	Total Effect	Correlation	Factor Score
From	To	*b* (*SE*)	*b* (*SE*)	*b* (*SE*)		Regression
Mentor's Path (KSI on ETA)						
Personality Difference	Mentoring Functions	-.39 (.13)		-.39 (.13)	-.39	
Personality Difference	Success in Mentorship	.00 (.14)	-.23 (.10)	-.23 (.15)	-.23	
Mentor's Path (ETA on ETA)						
Mentoring Functions	Success in Mentorship	.59 (.14)		.59 (.14)	.60	
Mentor's Path (ETA on Y)						
Career Related	Mentoring Functions			1.00		.97
Role Model	Mentoring Functions			.70 (.10)		-.24
Psychosocial	Mentoring Functions			.86 (.08)		.53
Mentoring Quality	Success in Mentorship			.68		.29
Mentoring Learning	Success in Mentorship			.80 (.14)		.52
Mentor's Path (KSI on Y)						
Personality Difference	Career Related			-.39 (.13)		-.23
Personality Difference	Role Model			-.27 (.10)		.06
Personality Difference	Psychosocial			-.34 (.11)		-.12
Personality Difference	Mentoring Quality			-.16 (.10)		.04
Personality Difference	Mentoring Learning			-.19 (.12)		.01
Protégé's Path (KSI on ETA)						
Personality Difference	Mentoring Functions	.59 (.18)		.59 (.18)	-.59	
Personality Difference	Success in Mentorship	.12 (.17)	-.52 (.19)	.40 (.17)	-.40	
Protégé's Path (ETA on ETA)						
Mentoring Functions	Success in Mentorship	.87 (.14)		.87 (.14)	.80	
Protégé's Path (ETA on Y)						
Career Related	Mentoring Functions			.95		.61
Role Model	Mentoring Functions			.79 (.07)		.03
Psychosocial	Mentoring Functions			.90 (.06)		.44
Mentoring Quality	Success in Mentorship			.87		.42
Mentoring Learning	Success in Mentorship			.87 (.07)		.41
Protégé's Path (KSI on Y)						
Personality Difference	Career Related			-.57 (.17)		-.34
Personality Difference	Role Model			-.47 (.14)		-.01
Personality Difference	Psychosocial			-.54 (.16)		-.27
Personality Difference	Mentoring Quality			-.35 (.15)		.13
Personality Difference	Mentoring Learning			-.35 (.15)		.03

Data from Table 4.1 provided evidence that direct effect from difference in personality (or less similarity) might not positively correlate with success in mentorship. The mentioned direct effect in protégé's part was b = +.12 but having a t - value of only 0.70. This was not significant at all. Also, mentor's direct effect from difference in personality (or less similarity) to success in mentorship was b =.00 with a t - value of 0.03, which was not significant either. Moreover, detailed analysis from Lisrel report of altered main model in Figure 3.5 showed total effect of same relationship was b = -.37, SE = .17, and t – value of -2.47*. While at the same time, indirect effect was b = -.28, SE = .12, and t – value of -2.35*. This should leave direct effect in negative sign of b = -.15. (SE =.13, t = -1.15) Even though it was not significant at p = .05, t - value of -1.15 supported that the aforementioned direct effect might not be positive value.

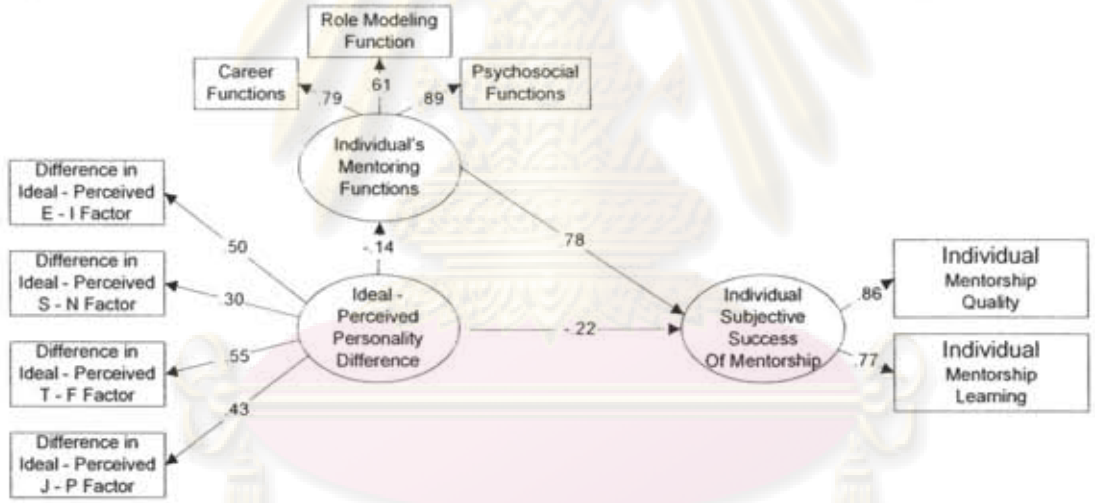
The competing model in Figure 3.6 illustrated the same evidence by having total effect of b = -.43, SE = .17, and t – value of -2.21*. While at the same time, indirect effect was b = -.28, SE = .12, and t – value of -2.35*. This should leave direct effect of b = -.22 significantly. (SE =.07, t = -3.42***) The above discussions should clarify that direct effect from difference in personality (or less similarity) might not positively correlate with success in mentorship. The question remained only how this phenomenon happened in main model.

Besides statistical explanations, research design itself might contribute to this phenomenon. The surveys in this research specified the names of both mentors and protégés in the questionnaires. Questionnaires were directed to respective respondents. The responses were returned in sealed envelopes marked with "confidential" emblem. However, for skeptical respondents, confidentiality issue might not be strongly persuasive to them. Therefore, some respondents might not regarded questionnaires as anonymous. There had a chance that responses might be inflated in favor of self-image enhancement. Then, it was suggested that future research should look into the matter of anonymity in its design to prevent bias in the responses.



Chi-Square=27.62, *df*=20, *p*-value=.11880, GFI=.98, RMSR=.028, SRMR=.028, RMSEA=.035

Figure 3.5 Main model calculating individually to compare with competing model



Chi-Square=29.02, *df*=21, *p*-value=.11349, GFI=.98, RMSR=.035, SRMR=.035, RMSEA=.034

Figure 3.6 Competing model using alternative personality measurement

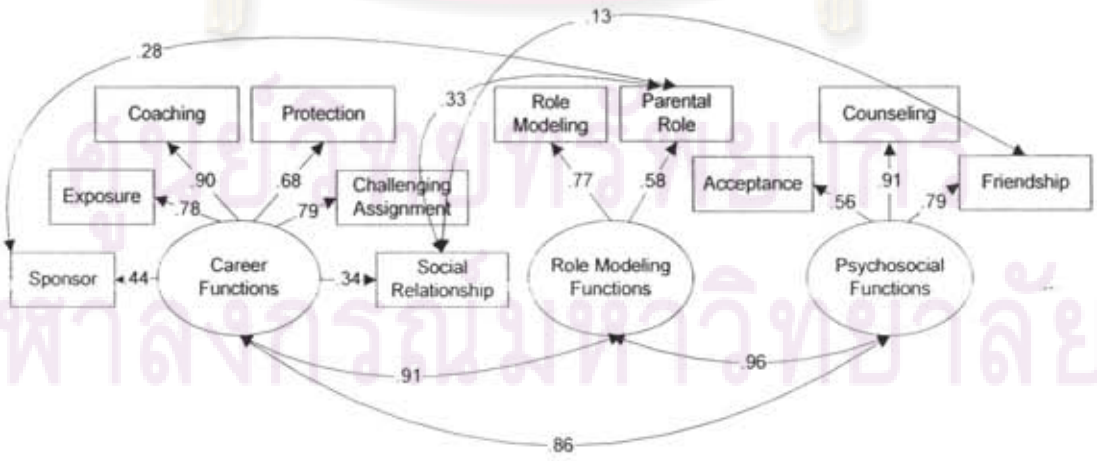
Competing model utilized alternative measurement. Each person described perceptions of ideal and existing mentoring counterparts' personalities. The differences between two personality scores determined how success mentorship was. This competing model had illustrated that mentor and protégé had pictures of ideal counterparts' personalities but they were not the same as existing perception of counterparts. MANOVA in purpose of study number five had established these differences at significance level of p =.001. This difference allowed competing model

to converge successfully in Lisrel. Finding in competing model indicated that the less difference (more similar) existing counterpart to ideal personality was, the more such individual felt directly success in mentorship. (b = -.22) Another portion of effect (b = -.14 x .78 = -.11) indirectly influenced mentoring success by mediating through mentoring functions. Comparing compete model in Figure 3.6 with comparable main model measured individually (Figure 3.5), both model were consistent, only differ in magnitude of effects.

One important point that Figure 3.5 and 3.6 illustrated was the difference in factor loadings of MBTI and alternative personality measurement scale. Even though both scales were measuring the same construct, their factor loadings were totally weighed to opposite directions. That was why MANOVA and matched pairs correlation could never establish the similarity of both methods.

Mentoring Functions

When Ragins and McFarlin (1990) added two mentoring functions, they had indicated that both factors belong to psychosocial. During that period, role model had not yet been identified as the third function. Confirmatory factor analysis in following Figure 3.1 clearly established that social relationship belonged to career function and parental role belonged to role model function.



Chi-Square=48.18, df=34, p-value=.05432, GFI=.98, RMSR=.027, SRMR=.027, RMSEA=.035

Figure 3.1 Confirmatory factor analysis of mentor role instrument

Therefore, mentoring functions in Figure 1.1 were proposed to be rearranged as per Figure 4.1.

Career functions	Role modeling function	Psychosocial functions
Sponsorship	Role modeling	Acceptance-and-confirmation
Exposure-and-visibility	Parental role	Counseling
Coaching		Friendship
Protection		
Challenging assignments		
Social relationship		

Figure 4.1 Proposed three mentoring functions with eleven elements

Mentoring Issues

Confirmatory factor analysis confirmed Allen and Eby's (2003) relationship (mentorship) quality (Cronbach's α = .906) and relationship (mentorship) learning. (Cronbach's α = .899) Internal consistencies were even higher than originally developed in 2003. This thesis confirmed that cross-sectional subjective success of mentorship could be used in lieu of objective career success in studying of mentoring in workplace.

This thesis confirmed Kram's (1985) initiation phase and cultivation phase of mentoring that difference phases of mentoring provided different levels of mentoring functions. Phase changing for this particular subject group was four months as indicated in Table 4.4. The ANOVA contrast analysis showed that Initiation phase and cultivation phase received different mentoring functions in all perspectives significantly. This earlier phase changing did not have any support whether it was more effective program implementation than average six to twelve months according to Kram. Instead, it correlated with legal probation period. Protégés were more active to approach their mentors during the first four months of employment. Once they received permanent employee status, they were less active. So did mentors, they viewed mentoring as duty rather than their own benefits.

Table 4.3

Contrast analysis of MANOVA testing the mentoring functions at difference phase

Multivariate Tests		Value	F	Hypothesis df	Error df	Sig.
MenPhase 4 Months	Pillai's Trace	.035	3.948	3	330	.009
	Wilks' Lambda	.965	3.948	3	330	.009
	Hotelling's Trace	.036	3.948	3	330	.009
	Roy's Largest Root	.036	3.948	3	330	.009

Source	Dependent Variables	Type III Sum of Square	df	Mean Square	F	Sig.
Mentoring Function	Career Related	2.203	1	2.203	8.450	.004**
	Role Model	4.390	1	4.390	11.083	.001***
	Psychosocial	.951	1	.951	3.951	.048*
Error	Career Related	86.545	332	.261		
	Role Model	131.522	332	.396		
	Psychosocial	79.928	332	.241		
Total	Career Related	88.748	333			
	Role Model	175.942	333			
	Psychosocial	80.879	333			

1) Box's M = 11.263, df = (6,231381.6), p = .085.
2) Levene's Test: Career Related F = 3.231, p = .073; Role Model F = .571, p = .450; Psychosocial F = 2.041, p = .154; df = (1/332)
3) *Correlation is significant at the 0.05 level (2-tailed).
   **Correlation is significant at the 0.01 level (2-tailed).
   *** Correlation is significant at the 0.001 level (2-tailed).

Mentors did not actively engage in mentoring efforts. The level of mentoring functions depended on protégé's effort. Some protégé realized the benefits of mentoring and continued the pursuing of mentoring but some just faded away. This particular organization set a mandatory mentoring period of one year but there was neither following up program nor evaluation of mentoring activities. The remaining mentoring pairs after twelve months were truly at their own accord which were referred as "hybrid" mentoring relationship whereby formal mentoring becoming informal-like mentoring relationship, according to Allen and Eby. (2003)

Item Analysis Issues

Literature reviews had indicated that MBTI was continuous data rather than categorical one. (Arnau et al., 2003) Therefore it better was studied as trait personality approach as demonstrated in this thesis. Using type personality approach, unfortunately, would omit valuable information containing in this 93-items questionnaire. However, MBTI employed type personality approach in its commercial application. According to its package design, commercial MBTI was meant to be used by self-administered and be quickly calculated by adding and subtracting. No statistical procedure was required. Then, applicant arrived at four letters personality type (i.e. ISTJ) out of pre-defined sixteen types. Because of its ease of use, MBTI received popularity among training and development practitioners. On the other hand, its lack of information made itself less popular among academic researchers.

Being a questionnaire of forced choice by two answers, it was more difficult to establish reliability than ordinary five-point Likert type scale. As experienced from pilot test of this thesis, MBTI required more than 60 questionnaires to establish reliability by using item response theory. It required even higher number of pilot questionnaire if researcher planned to use corrected item-total consistency method. This thesis found the numbers for items analysis between 60 and 255.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Mentoring offered a great deal of benefits to protégé, mentor, and organization. During the past two decades, a large number of organizations in the US had been implementing formal mentoring program as a personal development tool. Some organizations were successful but some doubt the effectiveness of time and resource investing in mentoring program. Without proper support from academic and researcher, little was understood regarding the psychological mechanism of mentoring. Until recently, academic and scholar had focused their effort and research on mentoring as an emerging subject matter. Nearly a half of mentoring literatures available today had just been published after the turn of millennium. Knowledge body of mentoring had been accumulating. So did finding of this thesis, it empirically confirmed that personality fit positively contributed to success of mentorship by means of mentoring functions. The effect from similarity of personality was too important to ignore since its regression coefficience with success of mentorship was over the beta of .30.

This thesis had empirically confirmed that mentoring consists of eleven functions, which could be categorized into three constructs: career related, role model, and psychosocial aspects. Nevertheless, these functions and constructs were inter-correlated to certain degree, researcher should aware an issue of multicollinearity when dealing with mentoring functions. This thesis also found that perception of personality fit by individual (competing model) was as good as personality testing instrument (MBTI) in indicating similarity of personality. It could be used to determine the success of mentorship. By coming up with a good Lisrel model, this thesis supported a cross-sectional research design by using subjective success of mentorship. This finding advocated Allen et al.'s (2004) proposition that subjective career success was equally

important for professional health comparing to objective career success. This cross sectional research design helped shorten the period of long and enduring process of objective career success measuring.

Conclusions

Above summary section had concluded mechanisms of mentoring functions, path and effects of various factors, and constructs in mentoring. With confidence, research in this thesis confirmed its proposition that personality fit indeed influenced the success of mentorship. One of interesting finding was that the influence of personality's similarity indirectly increased effectiveness of success in mentorship through level of mentoring functions. Direct effect, however, might need further qualitative research to clarify its relationship that happened in this thesis. The proposed competing model, which employed perception of personality instead of personality measurement, gave similar result as main model but with less magnitude of regression coefficiences. This thesis proposed a regrouping of Ragins and McFarlin's (1990) eleven mentoring functions into three constructs as per Figure 4.1. Social relationship belonged to career related group. Parental role belonged to role model group. This thesis confirmed followings:

1) Allen and Eby's (2003) similarity attraction paradigm,
2) Allen and Eby's finding that psychosocial function related to learning (mentorship) quality,
3) Kram's (1985) phases of mentoring provided different mentoring functions,
4) existing three constructs of mentoring functions, which were concluded by several authoritative researchers in mentoring fields,
5) Ragins and McFarlin's eleven mentoring role instrument ,and
6) formal mentoring could be implemented effectively by intervention at mentoring functions.

However, this research did not comply with following presumptions:

1) Kram's (1985) cultivation phase as having higher level of mentoring functions than initiation phase,
2) Kram's notion that mentor wanted protégé to be an image of self, and
3) MBTI could be administered as trait personality indicator as well as type indicator as its name implies.

Policy Implementations

Cross-gender mentoring had known issues of adversary effects. The organization, whereby this research was conducted, realized and tried to avoid cross gender mentoring. Descriptive data showed that one quarter of parings was cross gender pairing. Organization could either avoid future cross gender pairing and took proactive measurements for cross gender mentoring.

Mentors of current subjects group did not perceive benefits of being mentors as high as protégés' perception of their benefits. Interventions should be implemented to increase mentors' perception of benefits. They could be tangible interventions, such as monetary reward, performance evaluation, and public appraisement. Intangible interventions, such as coaching of mentoring skill, group counseling on mentors' benefits, and counseling to mid career mangers for purposive work life, also helped.

Organization of existing study could improve effectiveness of employees' performance and satisfaction by increasing level of mentoring functions since they highly translated to success of mentorship. Organization's investments included but not limited to: (1) providing central and privacy facility for mentoring, (2) instrument for distant mentoring, (3) work schedule to allow employees' free time for mentoring, (4) monetary and nonmonetary rewarding system, (5) pair matching interview and intervention, and (6) a counselor dedicated to mentoring program.

Organization could identify extremists by the personalities of E, I, S, T, and J, and exerted interventions such as group counseling, adding flexibility in their personality to improve communication and to avoid conflict with another of opposite personality trait. Thesis finding showed that employees after legal probation period reported decreasing mentoring function significantly. Organization could protect its mentoring investment by introducing evaluative mentoring program periodically. Following up programs should be extensive and enduring until cultivation phase employees report higher mentoring function level than those who were in initiation phase according to Kram's (1985) theory.

Progress of Mentoring Subject Matter

At time of writing final chapter of this thesis, *The Blackwell handbook of mentoring: A multiple perspectives approach*, edited by Tammy D. Allen and Lillian T. Eby, had just been available to public. On its forward page by Mark L. Savickas of Northeastern Ohio University - college of medicine, he noted, "At age 21, counting from Kram's 1985 book, mentoring research had reached its majority." (maturity) "The handbook signals this new status and consolidates..." (Allen & Eby, 2007 p. xix) This handbook had classified mentoring into three areas: (1) youth mentoring, (2) student-faculty mentoring, and (3) workplace mentoring.

By October 2007, there would be another handbook titled *The handbook of mentoring at work: Theory, research, and practice*, edited by Belle Rose Ragins and Kathy E. Kram, which was on pre-ordering at Amzon.com. With two academic books issuing in the same year, 2007 should be the year that mentoring subject matter caught on public attention. It was hoped that mentoring would becoming an academic subject matter by its own right by which academic institute would offer courses on mentoring. Thus, practitioners would be even more effective in conducting mentoring program.

Limitations

Just like other self-reported survey, this study also encountered common method variance whereby participants were influenced by questionnaire itself. Another limitation was generalization of findings since this study was conducted at one large insurance company. There should be repeated studies in other occupational population and different culture in order to generalizing the result. Theoretically, pilot study should be conducted in separate population who had similar qualifications. This study used the same population as a pilot testing. Since there was no alteration in actual questionnaire, pilot data was also used in actual calculation. This compromised the reliability of study to a certain degree.

Recommendations

1. Organization of participants should concern above policy implementations.
2. Future researches should be conducted in other population, occupation, and culture in order for these findings to be generalized.
3. Qualitative research was encouraged on psychological process of personality fit over success of mentorship. This also clarified direct effect path of personality fit to success of mentorship.
4. There should be a study for optimum number of MBTI's pilot study using item response theory (IRT) and corrected item-total correlation (CITC). For academic research, validity and reliability were important and were needed to establish before the actual study.
5. There should be further analysis for effect of cross gender paring over the relationship of personality fit and success of mentorship.
6. There should be another research conducting with main model but using other personality-measuring instrument such as NEO-PI five-factor model of personality.

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APPENDICES

APPENDIX A

Agreement for Using Thai Translation of MBTI Research Edition

Agreement for Including Sample Items of MBTI in Thesis

Permission for Using Relationship Quality and Learning

Permission for Using Mentor Role Instrument

Pitak Srisakolkit
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By Elise McLane
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By _____
Pitak Srisakolkit

Date November 7 2006

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Permission Number: **16238**

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By Elizabeth Lane
Authorized Representative

Date 11/11/06

I AGREE TO THE ABOVE CONDITIONS

By
Pitak Srisakolkit

Date November 7, 2006

From: Tammy Allen (PSY) (tallen@shell.cas.usf.edu)
To: pitak srisakolkit
Date: Friday, September 1, 2006 6:11:02 PM
Subject: Re: Thank you

Dear Pitak,

Yes, please feel free to use the items. The following can be used as a reference:

Allen, T. D., Eby, L. T., & Lentz, E. (2006a). Mentor and protege outcomes associated with formal mentoring programs: Closing the gap between research and practice. Journal of Applied Psychology, 91, 1204-1221.

Good luck with your research.

Best,

Tammy

On Fri, 1 Sep 2006, pitak srisakolkit wrote:

Dear Professor Tammy Allen,

Thank you for your kind response. The items are exactly what I am looking for. I would like to ask your permission to use those items in the study and cited you as a reference. I will send you a thesis copy once finished, hopefully May 2007.

Best regards,

Pitak Srisakolkit

****
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****

From: Belle Rose Ragins (Ragins@uwm.edu)
To: pitak srisakolkit
Date: Thursday, August 9, 2007 10:00:34 PM
Subject: Re: Permission to use Mentor Role Instrument

Dear Pitak

Yes - you can use the instrument - I hope it is helpful.

Please keep in mind that while the instrument assesses Kathy Kram's career development and psychosocial functioning roles -- I added additional roles (social/parent) to address cross-gender issues in mentoring relationships. That is explained in the attached article.

Best in your research

Belle

Dear Professor Ragins,

I, Pitak Srisakolkit, a graduate student of Faculty of Psychology (Industrial and Organizational Psychology) Chulalongkorn University, Bangkok, Thailand, am conducting a thesis titled "A study of mentor-protege personality fit" in English.

I would like to ask your kind permission to use 33-items Mentor Role Instrument as appeared in Ragins, B.R., and Cotton. J. L. (1999). Mentor functions and outcomes: A comparison of men and women in formal and informal mentoring relationship. *Journal of Applied Psychology,* 84(4), P.550.

I shall send you a copy of my thesis upon completion.

Thank you and best regards,
Pitak Srisakolkit
Student ID 4878299138

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"I believe that unarmed truth and unconditional love will have the final word in reality. That is why right, temporarily defeated, is stronger than evil triumphant."
---Dr. Martin Luther King, Jr.
Nobel Peace Prize Acceptance Speech, Dec. 10, 1964

"We haven't come a long way, we've come a short way. If we hadn't come a short way, no one would be calling us baby."
" Elizabeth Janeway

APPENDIX B

Sample Items of MBTI Personality Questionnaire

Sample Items From the

Myers-Briggs Type Indicator Instrument® Form M

By Katharine C. Briggs and Isabel Briggs-Myers

Your answers will help show you how you like to look at things and how you like to go about deciding things. There are no "right" and "wrong" answers to these questions. Knowing your own preferences and learning about other people's can help you understand what your strengths are, what kinds of work you might enjoy, and how people with different preferences can relate to one another and contribute to society.

Part I: Which answer comes closest to telling how you usually feel or act?

16. Are you inclined to

A. value sentiment more than logic, or

B. value logic more than sentiment?

20. Do you prefer to

A. arrange dates, parties, etc., well in advance, or

B. be free to do whatever looks like fun when the time comes?

Part II: Which word in each pair appeals to you more? Think about what the words mean, not about how they look or sound.

36. A. systematic

B. casual

58. A. sensible

B. fascinating

Part III: Which answer comes closest to describing how you usually feel or act?

59. When you start a big project that is due in a week, do you

A. take time to list the separate things to be done and the order of doing them, or

B. plunge right in?

67. At parties do you

A. do much of the talking, or

B. let others do most of the talking?

Part IV: Which word in each pair appeals to you more? Think about what words mean, not about how they look or how they sound.

79. A. imaginative

B. realistic

91. A. devoted

B. determined

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APPENDIX C

Questionnaire

Dear Participants,

I, Pitak Srisakolkit - student ID 4878299138 - a graduate student of Industrial and Organizational Psychology of Chulalongkorn University, am conducting a thesis titled "A Study of Mentor-Protégé Personality Fit." Mentoring is defined as follow:

"A mentor, usually a senior and more experiences employee than a protégé, commits to provide a protégé with work related support and psychosocial support in order for a protégé to progress in work status."

I do hope that the information from this study will be of beneficial and increase effectiveness of mentoring process. The questionnaire includes names of both mentor and protégé in order to correctly analyze the compatibility of personality and perceived mentorship effectiveness. Questionnaire will be treated confidentially for the benefit of educational purpose. I would like to thank all of you for the participation.

Pitak Srisakolkit - Mobile phone 089-921-8646

Questionnaire consists of four sections whereby sections one to three ask your own opinion. Section four is your opinion toward mentoring counterpart whose name appeared on questionnaire.

Your name _____as ☐a mentor ☐a protégé

Your mentoring counterpart's name_____as ☐a mentor ☐a protégé

Age _____years Gender ☐male ☐female

Duration of mentorship whit above counterpart_____year(s)_____month(s)

During the past 3 months, both of you have discussed the mentoring by average

_____times per month; and by average each session last_____ hour(s)_____minute(s)

Section One and Two

The Myers-Briggs Type Inventory, which is the copyright protected material, does not displayed here. The sample items of the questionnaire are displayed in Appendix B of this thesis.

Section Three Please indicate your opinion toward each sentence by marking an X in an appropriate box, for example:

Your opinion toward the sentence		Strongly Disagree	Disagree	Both side Equally	Agree	Strongly Agree
If you strongly disagree	Please mark an X in this box	X				
If you disagree	Please mark an X in this box		X			
If both side equally	Please mark an X in this box			X		
If you agree	Please mark an X in this box				X	
If you strongly agree	Please mark an X in this box					X

Your opinion

Your personality traits		Strongly Disagree	Disagree	Both Side Equally	Agree	Strongly Agree
MBTI (M) Item 12 (B)	PR = .75*					
MBTI (M) Item 4 (B)	PR = .72*					
MBTI (M) Item 5 (B)	PR = .69*					
MBTI (M) Item 24 (A)	PR = .61					
MBTI (M) Item 16 (B)	PR = .54					
MBTI (M) Item 6 (A)	PR = .75*					
MBTI (M) Item 7 (B)	PR = .71*					
MBTI (M) Item 2 (A)	PR = .76*					

Your opinion

Your ideal counterpart's personality		Strongly Disagree	Disagree	Both Side Equally	Agree	Strongly Agree
MBTI (M) Item 12 (B)	PR = .75*					
MBTI (M) Item 4 (B)	PR = .72*					
MBTI (M) Item 5 (B)	PR = .69*					
MBTI (M) Item 24 (A)	PR = .61					
MBTI (M) Item 16 (B)	PR = .54					
MBTI (M) Item 6 (A)	PR = .75*					
MBTI (M) Item 7 (B)	PR = .71*					
MBTI (M) Item 2 (A)	PR = .76*					

Your name _____ as ☐a mentor ☐a protégé

Your mentoring counterpart's name _____ as ☐a mentor ☐a protégé

Your opinion toward focal counterpart whose name appears on this questionnaire

Your counterpart's personality		Strongly Disagree	Disagree	Both Side Equally	Agree	Strongly Agree
MBTI (M) Item 12 (B)	PR = .75*					
MBTI (M) Item 4 (B)	PR = .72*					
MBTI (M) Item 5 (B)	PR = .69*					
MBTI (M) Item 24 (A)	PR = .61					
MBTI (M) Item 16 (B)	PR = .54					
MBTI (M) Item 6 (A)	PR = .75*					
MBTI (M) Item 7 (B)	PR = .71*					
MBTI (M) Item 2 (A)	PR = .76*					

Your opinion toward focal counterpart whose name appears on this questionnaire

Relationship Quality	Strongly Disagree	Disagree	Both Side Equally	Agree	Strongly Agree
1) The mentoring relationship between my protégé and I was very effective					
2) I am very satisfied with the mentoring relationship my protégé and I developed					
3) I was effectively utilized as a mentor by my protégé					
4) My protégé and I enjoyed a high-quality relationship					
5) Both my protégé and I benefited from the mentoring relationship					

Your opinion toward focal counterpart whose name appears on this questionnaire

Relationship Learning	Strongly Disagree	Disagree	Both Side Equally	Agree	Strongly Agree
1) I learned a lot from my protégé					
2) My protégé gave me a new perspective on many things					
3) My protégé and I were "co-learners" in the mentoring relationship					
4) There was reciprocal learning that took place between my protégé and I					
5) My protégé shared a lot of information with me that helped my own professional development					

Your opinion toward focal counterpart whose name appears on this questionnaire

Mentor	Strongly Disagree	Disagree	Both Side Equally	Agree	Strongly Agree
1. helps protégé attain desirable positions					
2. helps protégé be more visible in the organization					
3. helps protégé learn about other parts of the organization					
4. protects protégé from those who may be out to get protégé					
5. gives protégé tasks that require protégé to learn new skills.					
6. serves as a role-model for protégé					
7. accepts protégé as a competent professional					
8. serves as a sounding board for protégé to develop and understand self					
9. is someone protégé can confide in					
10. Mentor and protégé frequently get together informally after work by both					
11. Mentor is like a father/mother to protégé					
12. uses mentor influence to support protégé's advancement in the organization					
13. creates opportunities for protégé to impress important people in the organization					
14. gives protégé advice on how to attain recognition in the organization					
15. "runs interference" for protégé in the organization					
16. provides protégé with challenging assignments					
17. is someone protégé identify with					
18. sees protégé as being competent					
19. guides protégé professional development					
20. provides support and encouragement					
21. Mentor and protégé frequently socialize one-on-one outside the work setting					
22. reminds protégé of one of protégé's parents					
23. uses mentor influence in the organization for protégé benefit					
24. brings protégé's accomplishments to the attention of important people in the organization					
25. suggests specific strategies for achieving career aspirations					
26. shields protégé from damaging contact with important people in the organization					
27. assigns protégé tasks that push protégé into developing new skills					
28. represents who protégé want to be					
29. thinks highly of protégé					
30. guides protégé personal development					
31. is someone protégé can trust					
32. Mentor and protégé frequently have one-on-one, informal social interactions					
33. treats protégé like a son/daughter					

APPENDIX D

Items Analysis of Questionnaire

Appendix D1

High-low Groups *t* – test and CITC for MBTI: Extraversion-Introversion Factor

MBTI Extraversion - Introversion questions	Direction	Item analysis using high-low groups						CITC	
		High group (n = 92)		Low group (n = 111)				21 items	
		M	*SD*	*M*	*SD*	*t*	*p*	(n=334)	Result
EI4 MBTI # 4	E-I	.93	.357	-.06	1.00	9.765	.000***	.496	pass
EI8 MBTI # 8	E-I	1.00	.000	.51	.862	5.946	.000***	.387	pass
EI14 MBTI # 14	E-I	.57	.829	-.69	.724	11.547	.000***	.422	pass
EI19 MBTI # 19	E-I	.91	.410	.33	.947	5.824	.000***	.213	pass
EI23 MBTI # 23	E-I	.98	.209	.28	.965	7.428	.000***	.469	pass
EI30 MBTI # 62	E-I	-.33	.951	-.84	.548	4.572	.000***	.199	pass
EI35 MBTI # 67	E-I	.26	.971	-.86	.520	9.920	.000***	.409	pass
EI45 MBTI # 77	E-I	.26	.971	-.71	.706	8.014	.000***	.357	pass
EI54 MBTI # 35	E-I	.98	.209	.80	.600	2.984	.002**	.237	pass
IE12 MBTI # 12	I-E	.67	.743	-.53	.851	10.773	.000***	.416	pass
IE18 MBTI # 18	I-E	.54	.844	-.46	.892	8.170	.000***	.330	pass
IE22 MBTI # 22	I-E	.46	.895	-.69	.724	9.931	.000***	.385	pass
IE26 MBTI # 26	I-E	.91	.410	-.05	1.00	9.199	.000***	.374	pass
IE28 MBTI # 60	I-E	.74	.677	-.59	.814	12.654	.000***	.460	pass
IE34 MBTI # 66	I-E	.70	.722	-.66	.757	12.947	.000***	.478	pass
IE40 MBTI # 72	I-E	.70	.722	-.44	.901	9.977	.000***	.413	pass
IE47 MBTI # 27	I-E	.70	.722	-.66	.757	12.947	.000***	.487	pass
IE55 MBTI # 35	I-E	.76	.652	-.78	.624	17.200	.000***	.549	pass
IE62 MBTI # 42	I-E	.59	.814	-.71	.706	12.012	.000***	.452	pass
IE68 MBTI # 48	I-E	.96	.293	-.03	1.00	9.826	.000***	.463	pass
IE74 MBTI # 54	I-E	.85	.533	-.03	1.00	7.929	.000***	.403	pass
Cronbach's α								.834	

Remark $^{*}p < .05$. $^{**}p < .01$. $^{***}p \leq .001$.

Underscored *t* is computed based on equal variances not assumed.

21 item is a correlation of each particular item with the rest of 20 items.

Critical *r* (300, .05, 1-tailed) = .095.

These remarks were also applied for Appendices D1 to D3 in the same fashion.

High-low Groups *t* – test and CITC for MBTI: Sensing – Intuition Factor

MBTI Sensing - Intuition questions	Direction	Item analysis using high-low groups				*t*	*p*	CITC		
		High group (*n* = 93)		Low group (*n* = 95)				26 items (*n*=334)	24 items (*n*=334)	Result
		M	*SD*	*M*	*SD*					
SN3 MBTI # 3	S-N	.83	.564	.37	.935	4.092	.000***	.157	.161	pass
SN13 MBTI # 13	S-N	.46	.801	-.49	.874	7.435	.000***	.291	.289	pass
SN29 MBTI # 61	S-N	.68	.740	-.16	.993	6.552	.000***	.188	.192	pass
SN41 MBTI # 73	S-N	.10	1.001	-.54	.884	4.679	.000***	.120	.123	pass
SN52 MBTI # 32	S-N	.83	.564	.09	1.001	6.205	.000***	.283	.290	pass
SN60 MBTI # 40	S-N	.66	.759	-.01	1.005	5.137	.000***	.138	.128	pass
SN67 MBTI # 47	S-N	.81	.595	.54	.848	2.528	.006**	.159	.155	pass
SN73 MBTI # 52	S-N	.16	.992	-.77	.43	7.605	.000***	.275	.274	pass
SN78 MBTI # 58	S-N	.98	.207	.89	.449	1.648	.051	.045		no
SN82 MBTI # 82	S-N	.33	.948	-.77	.643	9.305	.000***	.315	.316	pass
SN86 MBTI # 86	S-N	.20	.984	-.81	.589	8.557	.000***	.305	.317	pass
SN90 MBTI # 90	S-N	.83	.564	.54	.848	2.777	.003**	.100		no
SN93 MBTI # 93	S-N	.70	.719	-.56	.834	11.071	.000***	.382	.375	pass
NS5 MBTI # 5	N-S	.89	.454	.45	.896	4.258	.000***	.200	.199	pass
NS15 MBTI # 15	N-S	.27	.968	-.73	.691	8.096	.000***	.294	.297	pass
NS24 MBTI # 24	N-S	.66	.759	-.14	.996	6.147	.000***	.210	.210	pass
NS31 MBTI # 63	N-S	.14	.996	-.49	.874	4.641	.000***	.165	.168	pass
NS42 MBTI # 73	N-S	.74	.674	-.26	.970	8.265	.000***	.263	.185	pass
NS49 MBTI # 29	N-S	.87	.494	.37	.935	4.623	.000***	.132	.210	pass
NS57 MBTI # 37	N-S	.61	.794	-.07	1.003	5.210	.000***	.257	.232	pass
NS64 MBTI # 44	N-S	.87	.494	.28	.964	5.269	.000***	.219	.274	pass
NS70 MBTI # 50	N-S	.81	.595	.05	1.004	6.280	.000***	.284	.277	pass
NS75 MBTI # 55	N-S	.96	.292	.45	.896	5.209	.000***	.291	.292	pass
NS79 MBTI # 79	N-S	.76	.649	.20	.985	4.640	.000***	.242	.225	pass
NS83 MBTI # 83	N-S	-.05	1.004	-.66	.752	4.702	.000***	.183	.179	pass
NS87 MBTI # 87	N-S	-.01	1.005	-.75	.668	5.904	.000***	.208	.220	pass
Cronbach's α								.681	.682	

High-low Groups *t* – test and CITC for MBTI: Thinking – Feeling Factor

MBTI Thinking - Feeling questions	Direction	Item analysis using high-low groups						CITC		
		High group (n = 111)		Low group (n = 98)				24 items (n=334)	22 items (n=334)	Result
		M	*SD*	*M*	*SD*	*t*	*p*			
TF37 MBTI # 69	T-F	.15	.993	-.49	.876	4.973	.000***	.216	.218	pass
TF46 MBTI # 78	T-F	.35	.940	-.43	.908	6.093	.000***	.247	.266	pass
TF51 MBTI # 31	T-F	.66	.757	-.57	.825	11.173	.000***	.452	.462	pass
TF59 MBTI # 39	T-F	.62	.787	.08	1.002	4.293	.000***	.196	.180	pass
TF66 MBTI # 46	T-F	.23	.979	-.10	1.000	2.388	.009**	.089		no
TF72 MBTI # 52	T-F	.78	.624	-.80	.609	18.480	.000***	.560	.567	pass
TF77 MBTI # 57	T-F	.98	.190	.10	1.000	8.576	.000***	.491	.493	pass
TF81 MBTI # 81	T-F	.86	.520	-.04	1.004	7.949	.000***	.360	.353	pass
TF85 MBTI # 85	T-F	.98	.190	.10	1.000	8.576	.000***	.492	.499	pass
TF89 MBTI # 89	T-F	.86	.520	.06	1.003	7.051	.000***	.344	.340	pass
TF92 MBTI # 92	T-F	.59	.814	-.59	.810	10.456	.000***	.392	.396	pass
FT06 MBTI # 6	F-T	.68	.741	-.10	1.000	6.320	.000***	.261	.258	pass
FT16 MBTI # 16	F-T	.87	.488	.20	.984	6.107	.000***	.349	.352	pass
FT32 MBTI # 64	F-T	-.14	.995	-.94	.346	7.977	.000***	.296	.305	pass
FT43 MBTI # 75	F-T	.91	.417	.78	.635	1.784	.038*	.052		no
FT50 MBTI # 30	F-T	.60	.801	-.73	.682	13.046	.000***	.442	.431	pass
FT58 MBTI # 38	F-T	.93	.374	.06	1.003	8.070	.000***	.516	.516	pass
FT65 MBTI # 45	F-T	.66	.757	-.55	.839	10.951	.000***	.423	.436	pass
FT71 MBTI # 51	F-T	.82	.575	-.53	.852	13.250	.000***	.489	.486	pass
FT76 MBTI # 56	F-T	.96	.267	.27	.969	6.909	.000***	.396	.402	pass
FT80 MBTI # 80	F-T	-.03	1.004	-.80	.609	6.780	.000***	.261	.266	pass
FT84 MBTI # 84	F-T	.71	.706	-.55	.839	11.691	.000***	.465	.454	pass
FT88 MBTI # 88	F-T	.93	.374	-.33	.950	12.258	.000***	.496	.345	pass
FT91 MBTI # 91	F-T	.75	.667	-.37	.935	9.808	.000***	.421	.238	pass
Cronbach's α								.820	.829	

High-low Groups *t* – test and CITC for MBTI: Judging – Perceiving Factor

MBTI Judging - Perceiving questions	Direction	Item analysis using high-low groups						CITC	
		High group (*n* =112)		Low group (*n* = 102)				22 items (*n*=334)	Result
		M	*SD*	*M*	*SD*	*t*	*p*		
JP01 MBTI # 1	J-P	1.00	.000	.76	.648	3.670	.000***	.296	pass
JP09 MBTI # 9	J-P	.95	.324	.20	.985	7.337	.000***	.365	pass
JP10 MBTI # 19	J-P	.96	.266	.43	.907	5.717	.000***	.321	pass
JP20 MBTI # 20	J-P	.61	.798	-.02	1.005	5.020	.000***	.235	pass
JP27 MBTI # 59	J-P	.93	.373	.18	.989	7.226	.000***	.295	pass
JP36 MBTI # 68	J-P	.88	.486	.45	.897	4.240	.000***	.224	pass
JP38 MBTI # 70	J-P	.09	1.000	-.73	.692	6.980	.000***	.265	pass
JP48 MBTI # 28	J-P	1.00	.000	-.12	.998	11.311	.000***	.663	pass
JP56 MBTI # 36	J-P	.73	.684	-.69	.731	14.661	.000***	.505	pass
JP63 MBTI # 43	J-P	.71	.703	-.59	.813	12.483	.000***	.473	pass
JP69 MBTI # 49	J-P	1.00	.000	-.02	1.005	10.249	.000***	.555	pass
PJ02 MBTI # 2	P-J	.89	.452	.16	.992	6.868	.000***	.426	pass
PJ07 MBTI # 7	P-J	.89	.452	-.24	.977	10.670	.000***	.513	pass
PJ11 MBTI # 11	P-J	.55	.837	-.67	.749	11.258	.000***	.386	pass
PJ17 MBTI # 17	P-J	.50	.870	-.71	.712	11.137	.000***	.453	pass
PJ21 MBTI # 21	P-J	-.02	1.004	-.88	.473	8.169	.000***	.338	pass
PJ25 MBTI # 25	P-J	.82	.573	-.02	1.005	7.426	.000***	.294	pass
PJ33 MBTI # 65	P-J	.64	.769	-.71	.712	13.271	.000***	.452	pass
PJ39 MBTI # 71	P-J	.98	.189	.47	.887	5.710	.000***	.321	pass
PJ44 MBTI # 76	P-J	.93	.373	-.18	.989	10.617	.000***	.464	pass
PJ53 MBTI # 33	P-J	.82	.573	.10	1.000	6.410	.000***	.264	pass
PJ61 MBTI # 41	P-J	1.00	.000	-.14	.995	11.538	.000***	.600	pass
Cronbach's α								.834	

Appendix D2

High-low Groups *t* – test and CITC for Subjective Success in Mentorship

Mentorship quality questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (*n* = 215)		Low group (*n* = 119)				5 items (*n* =334)	Result
	M	*SD*	*M*	*SD*				
1) The mentoring relationship between my protégé and I was very effective	4.20	.420	3.24	.713	13.339	.000***	.788	pass
2) I am very satisfied with the mentoring relationship my protégé and	4.22	.428	3.33	.749	12.000	.000***	.776	pass
3) I was effectively utilized as a mentor by my protégé	4.16	.450	3.22	.761	12.392	.000***	.700	pass
4) My protégé and I enjoyed a high-quality relationship	4.23	.431	3.30	.658	13.786	.000***	.809	pass
5) Both my protégé and I benefited from the mentoring relationship	4.20	.420	3.44	.709	10.679	.000***	.758	pass
Cronbach's alpha α							.906	

Mentorship learning questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (*n* = 178)		Low group (*n* = 94)				5 items (*n* = 334)	Result
	M	*SD*	*M*	*SD*				
1) I learned a lot from my protégé	4.21	.459	3.12	.716	13.385	.000***	.717	pass
2) My protégé gave me a new perspective on many things	4.21	.450	2.91	.713	16.043	.000***	.764	pass
3) My protégé and I were "co-learners" in the mentoring relationship	4.19	.408	2.87	.707	16.677	.000***	.764	pass
4) There was reciprocal learning that took place between my protégé and I	4.15	.385	3.01	.680	14.975	.000***	.748	pass
5) My protégé shared a lot of information with me that helped my own professional	4.34	.497	2.80	.727	18.380	.000***	.770	pass
Cronbach's alpha α							.899	

Appendix D3

High-low Groups *t* – test and CITC for Mentor Role Instrument

Mentoring function Sponsor questionnaire Items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (*n* = 102)		Low group (*n* = 131)				3 items (*n* = 334)	Result
	M	*SD*	*M*	*SD*				
1) My mentor helps me attain desirable positions.	3.68	.647	2.08	.771	17.211	.000***	.385	pass
2) My mentor uses his/her influence to support my advancement in the organization.	3.24	.648	1.53	.531	21.498	.000***	.653	pass
3) My mentor uses his/her influence in the organization for my benefit.	3.06	.657	1.44	.542	20.657	.000***	.604	pass
Cronbach's alpha α							.718	

Mentoring function Exposure questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (*n* = 125)		Low group (*n* = 142)				3 items (*n*= 334)	Result
	M	*SD*	*M*	*SD*				
1) My mentor helps me be more visible in the organization.	4.24	.465	3.27	.755	12.743	.000***	.518	pass
2) My mentor creates opportunities for me to impress important people in the organization	4.16	.429	2.79	.761	18.407	.000***	.648	pass
3) My mentor brings my accomplishments to the attention of important people in the organization.	4.09	.402	2.62	.769	19.869	.000***	.583	pass
Cronbach's alpha α							.751	

Mentoring function Coach questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (*n* = 167)		Low group (*n* = 95)				3 items (*n* = 334)	Result
	M	*SD*	*M*	*SD*				
1) My mentor helps me learn about other parts of the organization.	4.25	.432	3.34	.794	10.323	.000***	.504	pass
2) My mentor gives me advice on how to attain recognition in the organization.	4.00	.439	2.58	.723	17.414	.000***	.496	pass
3) My mentor suggests specific strategies for achieving career.	4.17	.425	2.98	.825	13.159	.000***	.547	pass
Cronbach's alpha α							.696	

High-low Groups *t* – test and CITC for Mentor Role Instrument

Mentoring function Protect questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (n = 106)		Low group (n = 93)				3 items (n = 334)	Result
	M	*SD*	*M*	*SD*				
1) My mentor protects me from those who may be out to get me.	4.19	.439	2.78	.806	14.968	.000***	.448	pass
2) My mentor "runs interference" for me in the organization.	4.15	.360	2.77	.739	16.345	.000***	.538	pass
3) My mentor shields me from damaging contact with important people in the organization.	4.05	.423	2.35	.789	18.485	.000***	.456	pass
Cronbach's alpha α							.665	

Mentoring function Challenge questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (n = 185)		Low group (n = 106)				3 items (n = 334)	Result
	M	*SD*	*M*	*SD*				
1) My mentor gives me tasks that require me to learn new skills.	4.39	.490	3.30	.830	12.374	.000***	.664	pass
2) My mentor provides me with challenging assignments.	4.06	.412	2.70	.604	20.694	.000***	.764	pass
3) My mentor assigns me tasks that push me into developing new skills.	4.12	.400	2.66	.742	18.746	.000***	.754	pass
Cronbach's alpha α							.854	

Mentoring function Role Model questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (n = 187)		Low group (n = 147)				3 items (n = 334)	Result
	M	*SD*	*M*	*SD*				
1) My mentor serves as a role-model for me.	4.40	.502	3.55	.621	13.482	.000***	.643	pass
2) My mentor is someone I identify with.	4.20	.429	3.21	.761	14.146	.000***	.693	pass
3) My mentor represents who I want to be.	4.15	.463	2.99	.667	17.904	.000***	.674	pass
Cronbach's alpha α							.816	

High-low Groups *t* – test and CITC for Mentor Role Instrument

Mentoring function Acceptance questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (n = 93)		Low group (n = 95)				3 items (n= 334)	Result
	M	*SD*	*M*	*SD*				
1) My mentor accepts me as a competent professional.	4.17	.503	2.80	.576	17.384	.000***	.492	pass
2) My mentor sees me as being competent.	4.20	.431	2.96	.524	17.781	.000***	.642	pass
3) My mentor thinks highly of me.	4.05	.426	2.68	.588	18.305	.000***	.425	pass
Cronbach's alpha α							.696	

Mentoring function Counseling questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (n = 159)		Low group (n = 95)				3 items (n = 334)	Result
	M	*SD*	*M*	*SD*				
1) My mentor serves as a sounding board for me to develop and understand myself.	4.41	.518	3.63	.700	9.390	.000***	.341	pass
2) My mentor guides my professional development.	4.17	.409	3.08	.794	12.376	.000***	.524	pass
3) My mentor guides my personal development.	3.98	.428	2.39	.704	19.944	.000***	.479	pass
Cronbach's alpha α							.630	

Mentoring function Friendship questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (n = 170)		Low group (n = 90)				3 items (n = 334)	Result
	M	*SD*	*M*	*SD*				
1) My mentor is someone I can confide in.	4.14	.532	2.67	.793	13.085	.000***	.440	pass
2) My mentor provides support and encouragement.	4.45	.511	3.34	.810	9.397	.000***	.510	pass
3) My mentor is someone I can trust.	4.16	.495	3.00	.618	14.869	.000***	.524	pass
Cronbach's alpha α							.674	

High-low Groups *t* – test and CITC for Mentor Role Instrument

Mentoring function Social Relation questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (n = 134)		Low group (n = 129)				3 items (n = 334)	Result
	M	*SD*	*M*	*SD*				
1) My mentor and I frequently get together informally after work by ourselves.	3.43	.642	1.71	.533	13.085	.000***	.779	pass
2) My mentor and I frequently socialize one-on-one outside the work setting.	3.34	.602	1.59	.525	9.397	.000***	.810	pass
3) My mentor and I frequently have one-on-one, informal social interactions.	3.42	.629	1.70	.553	14.869	.000***	.744	pass
Cronbach's alpha α							.886	

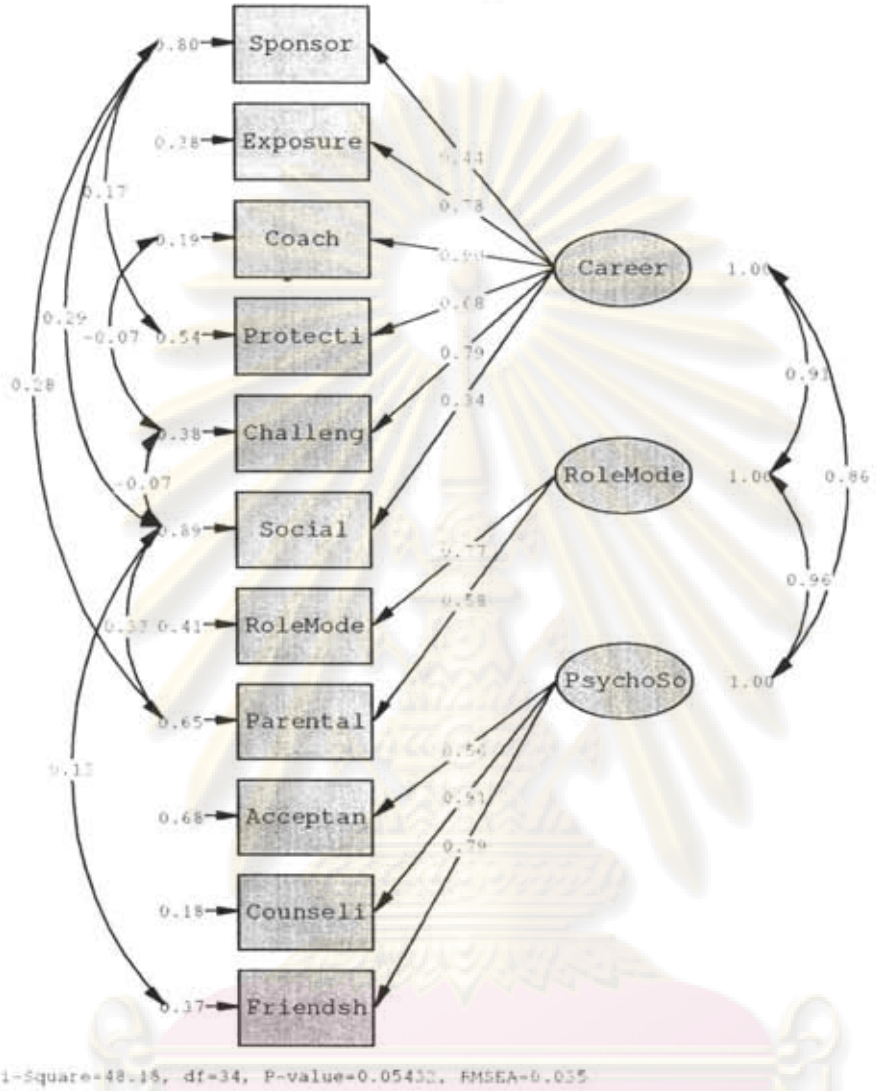
Mentoring function Parental Role questionnaire items	Item analysis using high-low groups				*t*	*p*	CITC	
	High group (n = 134)		Low group (n = 115)				3 items (n = 334)	Result
	M	*SD*	*M*	*SD*				
1) My mentor is like a father/mother to me.	3.25	.565	1.62	.601	23.319	.000***	.723	pass
2) My mentor reminds me of one of my parents.	3.34	.716	1.58	.621	20.777	.000***	.642	pass
3) My mentor treats me like a son/daughter.	3.40	.650	1.57	.622	22.650	.000***	.693	pass
Cronbach's alpha α							.828	

APPENDIX E

Lisrel Path Diagrams, Syntaxes, and Statistic

Appendix E1

CFA Mentoring Function



TI Change Mentoring Function
DA NI=11 NO=334 MA=KM
LA
Sponsor Exposure1 Coach Protection Challenge Social RoleModel Parental Acceptance Counseling Friendship
KM FI='C:\KM2.txt' SY
ME FI='C:\ME2.txt' SY
SD FI='C:\SD2.txt' SY
SE
1 2 3 4 5 6 7 8 9 10 11 /
MO NX=11 NK=3 TD=SY
LK
Career RoleModel PsychoSocial
FR LX(1,1) LX(2,1) LX(3,1) LX(4,1) LX(5,1) LX(6,1) LX(7,2) LX(8,2) LX(9,3) LX(10,3) LX(11,3)
FR TD(8,6) TD(8,1) TD(6,1) TD(4,1) TD(5,3) TD(11,6) TD(6,5)
PD
OU PC RS EF FS SS PT MI AD=OFF

CFA Mentoring Function

Goodness of Fit Statistics

Degrees of Freedom = 34
Minimum Fit Function Chi-Square = 49.39 (P = 0.043)
Normal Theory Weighted Least Squares Chi-Square = 48.18 (P = 0.054)
Estimated Non-centrality Parameter (NCP) = 14.18
90 Percent Confidence Interval for NCP = (0.0 ; 36.66)

Minimum Fit Function Value = 0.15
Population Discrepancy Function Value (F0) = 0.043
90 Percent Confidence Interval for F0 = (0.0 ; 0.11)
Root Mean Square Error of Approximation (RMSEA) = 0.035
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.057)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.86

Expected Cross-Validation Index (ECVI) = 0.34
90 Percent Confidence Interval for ECVI = (0.29 ; 0.40)
ECVI for Saturated Model = 0.40
ECVI for Independence Model = 12.58

Chi-Square for Independence Model with 55 Degrees of Freedom = 4168.63
Independence AIC = 4190.63
Model AIC = 112.18
Saturated AIC = 132.00
Independence CAIC = 4243.55
Model CAIC = 266.14
Saturated CAIC = 449.54

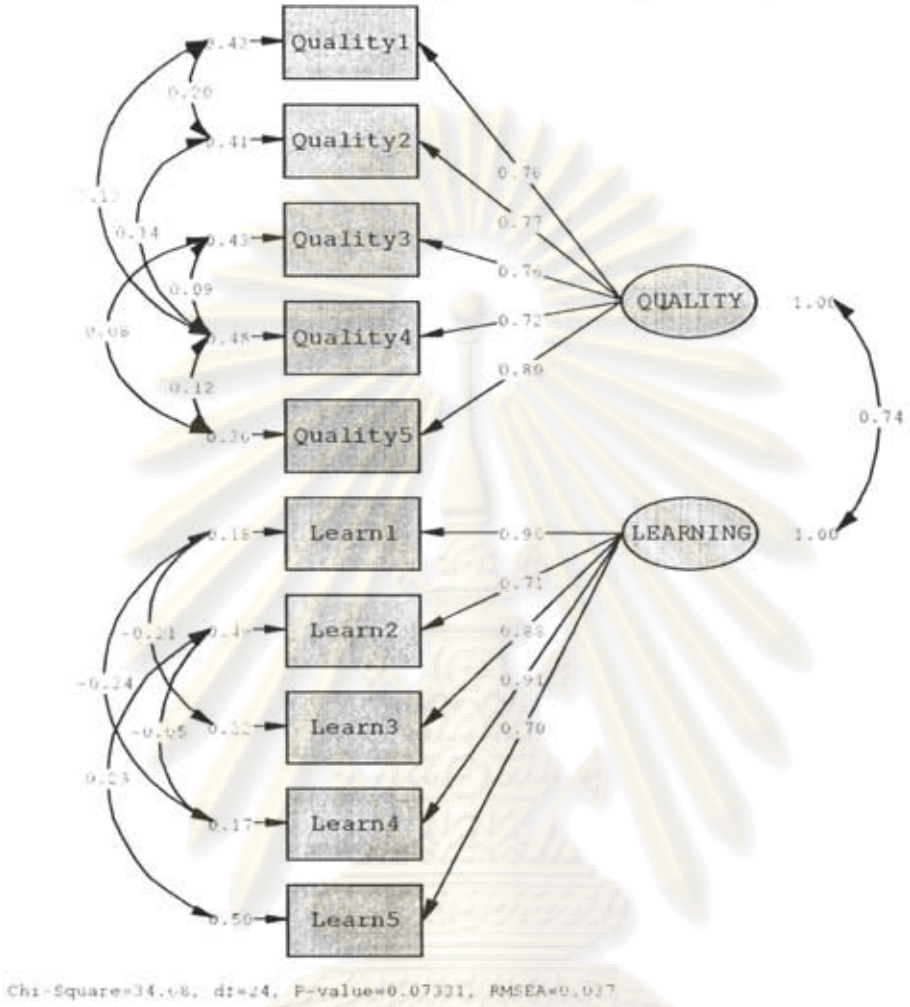
Normed Fit Index (NFI) = 0.99
Non-Normed Fit Index (NNFI) = 0.99
Parsimony Normed Fit Index (PNFI) = 0.61
Comparative Fit Index (CFI) = 1.00
Incremental Fit Index (IFI) = 1.00
Relative Fit Index (RFI) = 0.98

Critical N (CN) = 378.95

Root Mean Square Residual (RMR) = 0.027
Standardized RMR = 0.027
Goodness of Fit Index (GFI) = 0.97
Adjusted Goodness of Fit Index (AGFI) = 0.95
Parsimony Goodness of Fit Index (PGFI) = 0.50

Appendix E2

CFA Mentorship Quality and Mentorship Learning




```
TI CFA Mentorship Quality and Mentorship Learning
DA NI=10 NO=334 MA=KM
LA
Quality1 Quality2 Quality3 Quality4 Quality5 Learn1 Learn2 Learn3 Learn4 Learn5
 KM FI='C:\KM3.txt' SY
 ME FI='C:\ME3.txt' SY
 SD FI='C:\SD3.txt' SY
SE
 1 2 3 4 5 6 7 8 9 10 /
MO NX=10 NK=2 TD=SY
LK
QUALITY LEARNING
FR  LX(1,1) LX(2,1) LX(3,1) LX(4,1) LX(5,1) LX(6,2) LX(7,2) LX(8,2) LX(9,2) LX(10,2)
FR TD(2,1) TD(5,3) TD(10,7) TD(4,1) TD(4,2) TD(5,4)
FR TD(8,6) TD(9,6) TD(4,3) TD(9,7)
PD
OU PC RS EF FS SS PT MI AD=OFF
```

CFA Mentorship Quality and Mentorship Learning

Goodness of Fit Statistics

Degrees of Freedom = 24
Minimum Fit Function Chi-Square = 36.46 (P = 0.050)
Normal Theory Weighted Least Squares Chi-Square = 34.68 (P = 0.073)
Estimated Non-centrality Parameter (NCP) = 10.68
90 Percent Confidence Interval for NCP = (0.0 ; 30.46)

Minimum Fit Function Value = 0.11
Population Discrepancy Function Value (F0) = 0.032
90 Percent Confidence Interval for F0 = (0.0 ; 0.091)
Root Mean Square Error of Approximation (RMSEA) = 0.037
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.062)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.79

Expected Cross-Validation Index (ECVI) = 0.29
90 Percent Confidence Interval for ECVI = (0.26 ; 0.35)
ECVI for Saturated Model = 0.33
ECVI for Independence Model = 14.53

Chi-Square for Independence Model with 45 Degrees of Freedom = 4819.61
Independence AIC = 4839.61
Model AIC = 96.68
Saturated AIC = 110.00
Independence CAIC = 4887.72
Model CAIC = 245.82
Saturated CAIC = 374.61

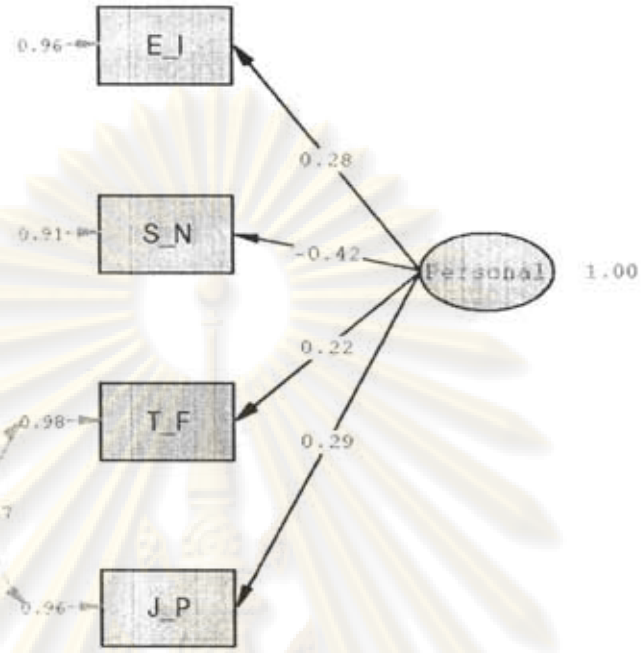
Normed Fit Index (NFI) = 0.99
Non-Normed Fit Index (NNFI) = 1.00
Parsimony Normed Fit Index (PNFI) = 0.53
Comparative Fit Index (CFI) = 1.00
Incremental Fit Index (IFI) = 1.00
Relative Fit Index (RFI) = 0.99

Critical N (CN) = 393.58

Root Mean Square Residual (RMR) = 0.023
Standardized RMR = 0.023
Goodness of Fit Index (GFI) = 0.98
Adjusted Goodness of Fit Index (AGFI) = 0.95
Parsimony Goodness of Fit Index (PGFI) = 0.43

Appendix E3

Multi Group Mentor and Protégé Personality



Chi-Square=9.43, df=11, P-value=0.58192, RMSEA=0.000

```
Mentor
TI Multi Group Mentor and Protege Personality
DA NI=4 NO=167 NG=2 MA=KM
LA
E_I S_N T_F J_P
KM FI='C:\KM7.txt' SY
ME FI='C:\ME7.txt' SY
SD FI='C:\SD7.txt' SY
SE
 1 2 3 4 /
MO NX=4 NK=1 TD=SY
LK
Personality
FR LX(1,1) LX(2,1) LX(3,1) LX(4,1) TD(4,3)
PD
OU AD=OFF
Protege
DA NI=4 NO=167 NG=2 MA=KM
LA
E_I S_N T_F J_P
KM FI='C:\KM8.txt' SY
ME FI='C:\ME8.txt' SY
SD FI='C:\SD8.txt' SY
SE
 1 2 3 4 /
MO NX=4 NK=1 PH=IN TD=IN
LK
Personality
OU PC RS EF FS SS PT MI AD=OFF
```

Multi Group Mentor and Protégé Personality

Global Goodness of Fit Statistics

Degrees of Freedom = 11
Minimum Fit Function Chi-Square = 9.93 (P = 0.54)
Normal Theory Weighted Least Squares Chi-Square = 9.43 (P = 0.58)
Estimated Non-centrality Parameter (NCP) = 0.0
90 Percent Confidence Interval for NCP = (0.0 ; 9.50)

Minimum Fit Function Value = 0.030
Population Discrepancy Function Value (F0) = 0.0
90 Percent Confidence Interval for F0 = (0.0 ; 0.029)
Root Mean Square Error of Approximation (RMSEA) = 0.0
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.072)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.84

Expected Cross-Validation Index (ECVI) = 0.087
90 Percent Confidence Interval for ECVI = (0.087 ; 0.12)
ECVI for Saturated Model = 0.060
ECVI for Independence Model = 0.25

Chi-Square for Independence Model with 12 Degrees of Freedom = 73.59
Independence AIC = 89.59
Model AIC = 27.43
Saturated AIC = 40.00
Independence CAIC = 128.08
Model CAIC = 70.73
Saturated CAIC = 136.22

Normed Fit Index (NFI) = 0.87
Non-Normed Fit Index (NNFI) = 1.02
Parsimony Normed Fit Index (PNFI) = 0.79
Comparative Fit Index (CFI) = 1.00
Incremental Fit Index (IFI) = 1.02
Relative Fit Index (RFI) = 0.85

Critical N (CN) = 827.51

Group Goodness of Fit Statistics

Contribution to Chi-Square = 4.59
Percentage Contribution to Chi-Square = 46.17

Root Mean Square Residual (RMR) = 0.056
Standardized RMR = 0.060
Goodness of Fit Index (GFI) = 0.99

Appendix E4

Main Model

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference
DA NI=14 NO=156 MA=KM
LA
DIF_EI DIF_SN DIF_TF DIF_JP M_Career M_RoleModel M_Psychosoci M_Quality
M_Learning P_Career
P_RoleModel P_Psychosoci P_Quality P_Learning
KM FI='C:\KM11.txt' SY
ME FI='C:\ME11.txt' SY
SD FI='C:\SD11.txt' SY
SE
5 6 7 8 9 10 11 12 13 14 1 2 3 4 /
MO NX=4 NY=10 NK=1 NE=4 BE=FU GA=FI PS=SY TE=SY TD=SY
LE
M_Functi M_Succes P_Functi P_Succes
LK
Personal
ST 1.0 LY(1,1)
FR LY(2,1) LY(3,1) LY(4,2) LY(5,2) LY(6,3) LY(7,3) LY(8,3) LY(9,4) LY(10,4)
FR LX(1,1) LX(2,1) LX(3,1) LX(4,1) BE(2,1) BE(4,3) GA(1,1) GA(2,1) GA(3,1) GA(4,1)
FR TD(4,3) TD(4,2) TE(3,1) TE(8,6) TE(4,3) TE(9,8)
PD
OU PC RS EF FS SS PT MI AD=OFF

Main Model

```
                                  DATE:  9/ 1/2007
                                  TIME: 12:50
                            LISREL 8.80 (STUDENT EDITION)
                                    BY
                            Karl G. Jöreskog and Dag Sörbom
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DA NI=14 NO=156 MA=KM
LA
DIF-EI DIF-SN DIF-TF DIF-JP M-Career M-RoleModel M-Psychosoci M-Quality M-Learning P-Career
P-RoleModel P-Psychosoci P-Quality P-Learning
KM FI='C:$$KM11.txt' SY
ME FI='C:$$ME11.txt' SY
SD FI='C:$$SD11.txt' SY
SE
5 6 7 8 9 10 11 12 13 14 1 2 3 4 /
MO NX=4 NY=10 NK=1 NE=4 BE=FU GA=FI PS=SY TE=SY TD=SY
LE
M-Functi M-Succes P-Functi P-Succes
LK
Personal
ST 1.0 LY(1,1)
FR LY(2,1) LY(3,1) LY(4,2) LY(5,2) LY(6,3) LY(7,3) LY(8,3) LY(9,4) LY(10,4)
FR LX(1,1) LX(2,1) LX(3,1) LX(4,1) BE(2,1) BE(4,3) GA(1,1) GA(2,1) GA(3,1) GA(4,1)
FR TD(4,3) TD(4,2) TE(3,1) TE(8,6) TE(4,3) TE(9,8)
PD
OU PC RS EF FS SS PT MI AD=OFF
                          Number of Input Variables 14
                          Number of Y - Variables   10
                          Number of X - Variables    4
                          Number of ETA - Variables  4
                          Number of KSI - Variables  1
                          Number of Observations   156
```

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Covariance Matrix

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
M Career	1.00					
M RoleMo	0.72	1.00				
M Psycho	0.63	0.62	1.00			
M Qualit	0.41	0.30	0.52	1.00		
M Learni	0.47	0.33	0.46	0.56	1.00	
P Career	0.31	0.18	0.17	0.10	0.07	1.00
P RoleMo	0.29	0.27	0.18	0.10	0.12	0.76
P Psycho	0.14	0.06	0.06	0.06	0.04	0.76
P Qualit	0.09	-0.14	- -	0.05	0.05	0.65
P Learni	0.10	- -	0.06	- -	0.02	0.64
DIF EI	-0.15	-0.06	-0.05	-0.13	-0.18	-0.16
DIF SN	-0.12	-0.06	0.03	0.03	0.06	-0.13
DIF TF	-0.09	- -	0.03	-0.11	-0.06	-0.13
DIF JP	- -	-0.02	0.02	-0.04	-0.05	- -

Covariance Matrix (continued)

	P RoleMo	P Psycho	P Qualit	P Learni	DIF EI	DIF SN
P RoleMo	1.00					
P Psycho	0.71	1.00				
P Qualit	0.53	0.73	1.00			
P Learni	0.54	0.67	0.77	1.00		
DIF EI	-0.19	-0.12	-0.11	-0.11	1.00	
DIF SN	-0.10	-0.03	-0.01	- -	0.02	1.00
DIF TF	-0.11	-0.12	-0.14	-0.13	0.08	0.05
DIF JP	- -	0.02	-0.03	0.02	-0.02	0.17

Covariance Matrix (continued)

	DIF TF	DIF JP
DIF TF	1.00	
DIF JP	0.37	1.00

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Parameter Specifications

LAMBDA-Y

	M Functi	M Succes	P Functi	P Succes
M Career	0	0	0	0
M RoleMo	1	0	0	0
M Psycho	2	0	0	0
M Qualit	0	0	0	0
M Learni	0	3	0	0
P Career	0	0	0	0
P RoleMo	0	0	4	0
P Psycho	0	0	5	0
P Qualit	0	0	0	0
P Learni	0	0	0	6

LAMBDA-X

	Personal
DIF EI	7
DIF SN	8
DIF TF	9
DIF JP	10

BETA

	M Functi	M Succes	P Functi	P Succes
M Functi	0	0	0	0
M Succes	11	0	0	0
P Functi	0	0	0	0
P Succes	0	0	12	0

GAMMA

	Personal
M Functi	13
M Succes	14
P Functi	15
P Succes	16

PSI

M Functi	M Succes	P Functi	P Succes
17	18	19	20

THETA-EPS

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
M Career	21					
M RoleMo	0	22				
M Psycho	23	0	24			
M Qualit	0	0	25	26		
M Learni	0	0	0	0	27	
P Career	0	0	0	0	0	28
P RoleMo	0	0	0	0	0	0
P Psycho	0	0	0	0	0	30
P Qualit	0	0	0	0	0	0
P Learni	0	0	0	0	0	0

THETA-EPS (continued)

	P RoleMo	P Psycho	P Qualit	P Learni
P RoleMo	29			
P Psycho	0	31		
P Qualit	0	32	33	
P Learni	0	0	0	34

THETA-DELTA

	DIF EI	DIF SN	DIF TF	DIF JP
DIF EI	35			
DIF SN	0	36		
DIF TF	0	0	37	
DIF JP	0	38	39	40

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Initial Estimates (TSLS)

LAMBDA-Y

	M Functi	M Succes	P Functi	P Succes
M Career	1.00	- -	- -	- -
M RoleMo	0.93	- -	- -	- -
M Psycho	0.88	- -	- -	- -
M Qualit	- -	1.00	- -	- -
M Learni	- -	1.00	- -	- -
P Career	- -	- -	1.00	- -
P RoleMo	- -	- -	0.93	- -
P Psycho	- -	- -	0.95	- -
P Qualit	- -	- -	- -	1.00
P Learni	- -	- -	- -	1.00

LAMBDA-X

	Personal
DIF EI	0.26
DIF SN	0.05
DIF TF	0.15
DIF JP	0.14

BETA

	M Functi	M Succes	P Functi	P Succes
M Functi	- -	- -	- -	- -
M Succes	0.53	- -	- -	- -
P Functi	- -	- -	- -	- -
P Succes	- -	- -	0.78	- -

GAMMA

	Personal
M Functi	-0.08
M Succes	-0.10
P Functi	-0.17
P Succes	0.00

Covariance Matrix of ETA and KSI

	M Functi	M Succes	P Functi	P Succes	Personal
M Functi	0.77				
M Succes	0.41	0.56			
P Functi	0.01	0.02	0.81		
P Succes	0.01	0.02	0.63	0.77	
Personal	-0.08	-0.15	-0.17	-0.13	1.00

PHI

Personal
1.00

PSI Note: This matrix is diagonal.

M Functi	M Succes	P Functi	P Succes
0.76	0.32	0.79	0.28

Squared Multiple Correlations for Structural Equations

M Functi	M Succes	P Functi	P Succes
0.01	0.42	0.03	0.64

Squared Multiple Correlations for Reduced Form

M Functi	M Succes	P Functi	P Succes
0.01	0.04	0.03	0.02

Reduced Form

	Personal
M Functi	-0.08
M Succes	-0.15
P Functi	-0.17
P Succes	-0.13

THETA-EPS

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
M Career	0.23					
M RoleMo	- -	0.34				
M Psycho	-0.04	- -	0.41			
M Qualit	- -	- -	0.15	0.44		
M Learni	- -	- -	- -	- -	0.44	
P Career	- -	- -	- -	- -	- -	0.19
P RoleMo	- -	- -	- -	- -	- -	- -
P Psycho	- -	- -	- -	- -	- -	-0.02
P Qualit	- -	- -	- -	- -	- -	- -
P Learni	- -	- -	- -	- -	- -	- -

THETA-EPS (continued)

	P RoleMo	P Psycho	P Qualit	P Learni
P RoleMo	0.30			
P Psycho	- -	0.26		
P Qualit	- -	0.13	0.23	
P Learni	- -	- -	- -	0.23

THETA-DELTA

	DIF EI	DIF SN	DIF TF	DIF JP
DIF EI	0.93			
DIF SN	- -	1.00		
DIF TF	- -	- -	0.98	
DIF JP	- -	0.16	0.35	0.98

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Number of Iterations = 2

LISREL Estimates (Maximum Likelihood)

LAMBDA-Y

	M Functi	M Succes	P Functi	P Succes
M Career	1.00	- -	- -	- -
M RoleMo	0.70	- -	- -	- -

	(0.10)			
	7.05			
M Psycho	0.86	- -	- -	- -
	(0.08)			
	10.27			
M Qualit	- -	0.68	- -	- -
M Learni	- -	0.80	- -	- -
		(0.14)		
		5.64		
P Career	- -	- -	0.95	- -
P RoleMo	- -	- -	0.79	- -
			(0.07)	
			11.55	
P Psycho	- -	- -	0.90	- -
			(0.06)	
			14.25	
P Qualit	- -	- -	- -	0.87
P Learni	- -	- -	- -	0.87
				(0.07)
				12.19

LAMBDA-X

	Personal
DIF EI	0.26
	(0.12)
	2.20
DIF SN	0.18
	(0.12)
	1.53
DIF TF	0.19
	(0.12)
	1.59
DIF JP	-0.04
	(0.12)
	-0.31

BETA

	M Functi	M Succes	P Functi	P Succes
M Functi	- -	- -	- -	- -
M Succes	0.59	- -	- -	- -
	(0.14)			
	4.13			
P Functi	- -	- -	- -	- -
P Succes	- -	- -	0.87	- -
			(0.14)	
			6.08	

GAMMA

	Personal
M Functi	-0.39
	(0.13)
	-3.01
M Succes	0.00
	(0.14)
	0.03
P Functi	-0.59
	(0.18)
	-3.39
P Succes	0.12
	(0.17)
	0.70

Covariance Matrix of ETA and KSI

	M Functi	M Succes	P Functi	P Succes	Personal
M Functi	1.04				
M Succes	0.61	1.00			
P Functi	0.23	0.14	1.00		
P Succes	0.16	0.09	0.80	1.00	
Personal	-0.39	-0.23	-0.59	-0.40	1.00

PHI

Personal
1.00

PSI

Note: This matrix is diagonal.

M Functi	M Succes	P Functi	P Succes
0.88	0.64	0.65	0.35
(0.18)	(0.17)	(0.21)	(0.08)
4.93	3.84	3.05	4.53

Squared Multiple Correlations for Structural Equations

M Functi	M Succes	P Functi	P Succes
0.15	0.36	0.35	0.65

Squared Multiple Correlations for Reduced Form

M Functi	M Succes	P Functi	P Succes
0.15	0.05	0.35	0.16

Reduced Form

	Personal
M Functi	-0.39
	(0.13)
	-3.01
M Succes	-0.23
	(0.15)
	-1.54
P Functi	-0.59
	(0.18)
	-3.39
P Succes	-0.40
	(0.17)
	-2.30

THETA-EPS

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
M Career	-0.04					
	(0.12)					
	-0.29					
M RoleMo	- -	0.50				
		(0.08)				
		6.20				
M Psycho	-0.26	- -	0.24			
	(0.10)		(0.11)			
	-2.53		2.14			
M Qualit	- -	- -	0.13	0.52		
			(0.05)	(0.09)		
			2.53	5.78		
M Learni	- -	- -	- -	- -	0.36	
					(0.10)	
					3.45	
P Career	- -	- -	- -	- -	- -	0.09
						(0.06)
						1.72
P RoleMo	- -	- -	- -	- -	- -	- -
P Psycho	- -	- -	- -	- -	- -	-0.10

						(0.05)
						-2.19
P Qualit	- -	- -	- -	- -	- -	- -
P Learni	- -	- -	- -	- -	- -	- -

THETA-EPS (continued)

	P RoleMo	P Psycho	P Qualit	P Learni
P RoleMo	0.37			
	(0.05)			
	6.78			
P Psycho	- -	0.18		
		(0.06)		
		3.03		
P Qualit	- -	0.08	0.23	
		(0.03)	(0.05)	
		2.42	4.55	
P Learni	- -	- -	- -	0.24
				(0.05)
				4.65

Squared Multiple Correlations for Y - Variables

M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
1.04	0.50	0.76	0.49	0.64	0.91

Squared Multiple Correlations for Y - Variables (continued)

P RoleMo	P Psycho	P Qualit	P Learni
0.63	0.82	0.76	0.76

THETA-DELTA

	DIF EI	DIF SN	DIF TF	DIF JP
DIF EI	0.93			
	(0.12)			
	8.05			
DIF SN	- -	0.97		
		(0.11)		
		8.47		
DIF TF	- -	- -	0.96	
			(0.11)	
			8.44	
DIF JP	- -	0.17	0.37	1.00
		(0.08)	(0.08)	(0.11)
		2.24	4.43	8.82

Squared Multiple Correlations for X - Variables

DIF EI	DIF SN	DIF TF	DIF JP
0.07	0.03	0.04	0.00

Goodness of Fit Statistics

Degrees of Freedom = 65
Minimum Fit Function Chi-Square = 84.21 (P = 0.055)
Normal Theory Weighted Least Squares Chi-Square = 81.17 (P = 0.085)
Estimated Non-centrality Parameter (NCP) = 16.17
90 Percent Confidence Interval for NCP = (0.0 ; 43.27)

Minimum Fit Function Value = 0.54
Population Discrepancy Function Value (F0) = 0.10
90 Percent Confidence Interval for F0 = (0.0 ; 0.28)
Root Mean Square Error of Approximation (RMSEA) = 0.040
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.066)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.71

Expected Cross-Validation Index (ECVI) = 1.04
90 Percent Confidence Interval for ECVI = (0.94 ; 1.21)
ECVI for Saturated Model = 1.35
ECVI for Independence Model = 8.48

Chi-Square for Independence Model with 91 Degrees of Freedom = 1286.93
Independence AIC = 1314.93
Model AIC = 161.17
Saturated AIC = 210.00
Independence CAIC = 1371.63
Model CAIC = 323.16
Saturated CAIC = 635.23

Normed Fit Index (NFI) = 0.93
Non-Normed Fit Index (NNFI) = 0.98
Parsimony Normed Fit Index (PNFI) = 0.67
Comparative Fit Index (CFI) = 0.98
Incremental Fit Index (IFI) = 0.98
Relative Fit Index (RFI) = 0.91

Critical N (CN) = 174.81

Root Mean Square Residual (RMR) = 0.052
Standardized RMR = 0.052
Goodness of Fit Index (GFI) = 0.93
Adjusted Goodness of Fit Index (AGFI) = 0.89
Parsimony Goodness of Fit Index (PGFI) = 0.58

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Fitted Covariance Matrix

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
M Career	1.00					
M RoleMo	0.72	1.00				
M Psycho	0.63	0.62	1.00			
M Qualit	0.42	0.29	0.49	0.99		
M Learni	0.49	0.34	0.42	0.55	1.00	
P Career	0.22	0.16	0.19	0.09	0.10	1.00
P RoleMo	0.19	0.13	0.16	0.07	0.09	0.76
P Psycho	0.21	0.15	0.18	0.08	0.10	0.76
P Qualit	0.14	0.10	0.12	0.05	0.06	0.66
P Learni	0.14	0.10	0.12	0.06	0.06	0.67
DIF EI	-0.10	-0.07	-0.09	-0.04	-0.05	-0.15
DIF SN	-0.07	-0.05	-0.06	-0.03	-0.03	-0.10
DIF TF	-0.07	-0.05	-0.06	-0.03	-0.03	-0.11
DIF JP	0.01	0.01	0.01	0.01	0.01	0.02

Fitted Covariance Matrix (continued)

	P RoleMo	P Psycho	P Qualit	P Learni	DIF EI	DIF SN
P RoleMo	1.00					
P Psycho	0.72	1.00				
P Qualit	0.55	0.71	0.99			
P Learni	0.56	0.63	0.76	1.00		
DIF EI	-0.12	-0.14	-0.09	-0.09	1.00	
DIF SN	-0.09	-0.10	-0.06	-0.06	0.05	1.00
DIF TF	-0.09	-0.10	-0.07	-0.07	0.05	0.03
DIF JP	0.02	0.02	0.01	0.01	-0.01	0.16

Fitted Covariance Matrix (continued)

	DIF TF	DIF JP
DIF TF	1.00	
DIF JP	0.37	1.00

Fitted Residuals

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
M Career	0.00					
M RoleMo	0.00	0.00				
M Psycho	0.00	0.00	0.00			
M Qualit	-0.01	0.01	0.03	0.01		
M Learni	-0.02	-0.01	0.04	0.01	0.00	
P Career	0.09	0.02	-0.02	0.01	-0.03	0.00
P RoleMo	0.10	0.14	0.02	0.03	0.03	0.00
P Psycho	-0.07	-0.09	-0.12	-0.02	-0.06	0.00
P Qualit	-0.05	-0.24	-0.12	0.00	-0.01	-0.01
P Learni	-0.04	-0.10	-0.06	-0.06	-0.04	-0.03
DIF EI	-0.05	0.01	0.04	-0.09	-0.13	-0.01
DIF SN	-0.05	-0.01	0.09	0.06	0.09	-0.03
DIF TF	-0.02	0.05	0.09	-0.08	-0.03	-0.02
DIF JP	-0.01	-0.03	0.01	-0.05	-0.06	-0.02

Fitted Residuals (continued)

	P RoleMo	P Psycho	P Qualit	P Learni	DIF EI	DIF SN
P RoleMo	0.00					
P Psycho	-0.01	0.00				
P Qualit	-0.02	0.02	0.01			
P Learni	-0.02	0.04	0.01	0.00		
DIF EI	-0.07	0.02	-0.02	-0.02	0.00	
DIF SN	-0.01	0.07	0.05	0.06	-0.03	0.00
DIF TF	-0.02	-0.02	-0.07	-0.06	0.03	0.02
DIF JP	-0.02	0.00	-0.04	0.01	-0.01	0.01

Fitted Residuals (continued)

	DIF TF	DIF JP
DIF TF	0.00	
DIF JP	0.00	0.00

Summary Statistics for Fitted Residuals

Smallest Fitted Residual =	-0.24
Median Fitted Residual =	0.00
Largest Fitted Residual =	0.14

Stemleaf Plot

```
 -2|5
 -2|0
 -1|8
 -1|6
 -1|4
 -1|2|2
 -1|0|8
 - |8|6|9|8|0
 - |6|5|2|6|4|0
 - |4|1|8|7|5|9|7|6|5|3
 - |2|1|8|5|0|8|7|5|5|5|4|3|2|1|1|1
 - |0|9|9|8|7|6|6|5|5|5|3|2|2|0|0|9|9|5|1|0|0|0|0|0|0|0|0|0
   |0|1|2|3|3|4|4|6|7|7|9|1|2|2|2|3|4|6
   |2|1|0|0|1|5|6|7|1|2|7|8|9
   |4|1|1|3|8
   |6|1|3|7
   |8|1|7|1|3|3
  |1|0|1|4
  |1|2|1
  |1|4|0
```

Standardized Residuals

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
M Career	- -					
M RoleMo	-0.03	- -				
M Psycho	0.67	0.19	0.59			
M Qualit	-1.11	0.23	1.18	1.24		
M Learni	-1.27	-0.46	1.09	1.24	- -	
P Career	2.48	0.43	-0.43	0.20	-0.79	- -
P RoleMo	2.03	2.16	0.34	0.40	0.57	0.49
P Psycho	-1.76	-1.45	-2.30	-0.43	-1.22	0.52
P Qualit	-0.95	-3.60	-2.01	-0.07	-0.22	-1.34
P Learni	-0.76	-1.46	-0.98	-0.80	-0.68	-1.91
DIF EI	-0.88	0.18	0.63	-1.22	-1.87	-0.32
DIF SN	-0.81	-0.15	1.38	0.78	1.26	-0.67
DIF TF	-0.27	0.73	1.42	-1.07	-0.34	-0.58
DIF JP	-0.22	-0.41	0.11	-0.59	-0.74	-0.47

Standardized Residuals (continued)

	P RoleMo	P Psycho	P Qualit	P Learni	DIF EI	DIF SN
P RoleMo	- -					
P Psycho	-0.69	-0.26				
P Qualit	-1.24	1.61	2.23			
P Learni	-0.82	1.94	2.08	- -		
DIF EI	-1.25	0.49	-0.32	-0.30	- -	
DIF SN	-0.26	1.44	0.82	0.97	-0.39	- -
DIF TF	-0.39	-0.41	-1.16	-0.99	0.44	0.22
DIF JP	-0.30	0.00	-0.63	0.10	-0.14	0.22

Standardized Residuals (continued)

	DIF TF	DIF JP
DIF TF	- -	
DIF JP	0.22	0.22

Summary Statistics for Standardized Residuals

Smallest Standardized Residual =	-3.60
Median Standardized Residual =	-0.14
Largest Standardized Residual =	2.48

Stemleaf Plot

```
 - |3|6
 - |3|
 - |2|
 - |2|3|0
 - |1|9|9|8|5|5
 - |1|3|3|2|2|2|2|1|1|0|0|0
 - |0|9|8|8|8|8|7|7|7|6|6|5|5
 - |0|4|4|4|4|4|3|3|3|3|3|3|3|2|2|1|1|0|0|0|0|0|0|0|0|0|0|0|0|0
   |0|1|1|2|2|2|2|2|2|3|4|4|4
   |0|5|5|5|6|6|6|7|7|8|8
   |1|0|1|2|2|2|3|4|4|4
   |1|6|9
   |2|1|0|1|2|2
   |2|1|5
```

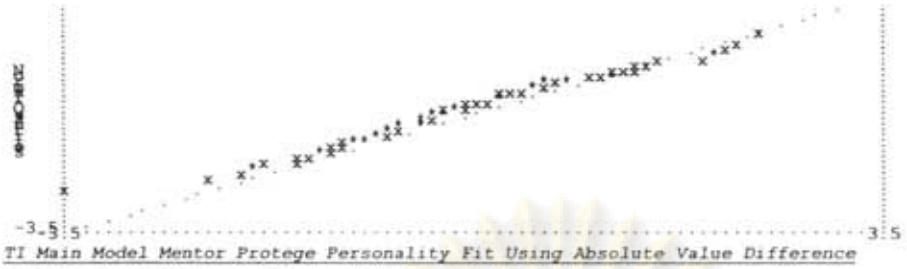
Largest Negative Standardized Residuals

Residual for	P Qualit	and	M RoleMo	-3.60

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Qplot of Standardized Residuals

```
  3.5+                                                                  :  :
```



TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Modification Indices and Expected Change

Modification Indices for LAMBDA-Y

	M Functi	M Succes	P Functi	P Succes
M Career	- -	1.11	1.74	3.17
M RoleMo	- -	0.08	0.00	4.38
M Psycho	- -	1.55	1.62	0.20
M Qualit	1.18	- -	0.30	0.00
M Learni	1.28	- -	1.08	0.10
P Career	3.79	0.11	- -	1.82
P RoleMo	7.15	2.41	- -	3.17
P Psycho	8.90	3.40	- -	4.97
P Qualit	0.00	0.61	0.10	- -
P Learni	0.26	0.96	0.10	- -

Expected Change for LAMBDA-Y

	M Functi	M Succes	P Functi	P Succes
M Career	- -	-0.14	0.09	0.11
M RoleMo	- -	-0.06	0.00	-0.12
M Psycho	- -	0.15	-0.08	-0.03
M Qualit	22.74	- -	0.04	0.00
M Learni	-24.76	- -	-0.08	-0.02
P Career	0.09	0.02	- -	-0.20
P RoleMo	0.07	0.09	- -	-0.50
P Psycho	-0.14	-0.10	- -	0.33
P Qualit	0.00	0.04	0.32	- -
P Learni	-0.02	-0.06	-0.32	- -

Standardized Expected Change for LAMBDA-Y

	M Functi	M Succes	P Functi	P Succes
M Career	- -	-0.14	0.09	0.11
M RoleMo	- -	-0.06	0.00	-0.12
M Psycho	- -	0.15	-0.08	-0.03
M Qualit	23.14	- -	0.04	0.00
M Learni	-25.24	- -	-0.08	-0.02
P Career	0.09	0.02	- -	-0.20
P RoleMo	0.07	0.09	- -	-0.50
P Psycho	-0.14	-0.10	- -	0.33
P Qualit	0.00	0.04	0.32	- -
P Learni	-0.02	-0.06	-0.32	- -

No Non-Zero Modification Indices for LAMBDA-X

Modification Indices for BETA

	M Functi	M Succes	P Functi	P Succes
M Functi	- -	- -	0.03	0.33
M Succes	- -	- -	0.93	0.11
P Functi	0.03	0.94	- -	- -
P Succes	0.48	0.03	- -	- -

Expected Change for BETA

	M Functi	M Succes	P Functi	P Succes
M Functi	- -	- -	-0.06	-0.09
M Succes	- -	- -	-0.18	-0.04
P Functi	-0.04	-0.17	- -	- -
P Succes	-0.06	-0.01	- -	- -

Standardized Expected Change for BETA

	M Functi	M Succes	P Functi	P Succes
M Functi	- -	- -	-0.06	-0.09
M Succes	- -	- -	-0.18	-0.04
P Functi	-0.04	-0.17	- -	- -
P Succes	-0.06	-0.01	- -	- -

No Non-Zero Modification Indices for GAMMA
No Non-Zero Modification Indices for PHI

Modification Indices for PSI

	M Functi	M Succes	P Functi	P Succes
M Functi	- -			
M Succes	- -	- -		
P Functi	0.03	0.93	- -	
P Succes	0.48	0.05	- -	- -

Expected Change for PSI

	M Functi	M Succes	P Functi	P Succes
M Functi	- -			
M Succes	- -	- -		
P Functi	-0.04	-0.12	- -	
P Succes	-0.05	0.01	- -	- -

Standardized Expected Change for PSI

	M Functi	M Succes	P Functi	P Succes
M Functi	- -			
M Succes	- -	- -		
P Functi	-0.04	-0.12	- -	
P Succes	-0.05	0.01	- -	- -

Modification Indices for THETA-EPS

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
M Career	- -					
M RoleMo	0.00	- -				
M Psycho	- -	0.00	- -			
M Qualit	0.34	0.10	- -	- -		
M Learni	0.20	0.19	1.53	- -	- -	
P Career	4.37	0.24	0.01	0.11	2.60	- -
P RoleMo	0.48	6.43	0.17	0.07	0.78	0.24
P Psycho	4.73	1.28	0.35	0.24	0.01	- -
P Qualit	6.72	19.66	0.00	0.17	0.35	0.16
P Learni	2.15	1.35	0.75	1.21	0.02	1.57

Modification Indices for THETA-EPS (continued)

	P RoleMo	P Psycho	P Qualit	P Learni
P RoleMo	- -			
P Psycho	0.24	- -		
P Qualit	0.22	- -	- -	
P Learni	0.01	3.57	- -	- -

Expected Change for THETA-EPS

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
M Career	- -					
M RoleMo	0.00	- -				
M Psycho	- -	0.00	- -			
M Qualit	-0.04	0.02	- -	- -		
M Learni	-0.05	-0.07	0.08	- -	- -	
P Career	0.04	-0.01	0.00	0.01	-0.06	- -
P RoleMo	-0.02	0.08	-0.01	-0.01	0.03	0.03
P Psycho	-0.06	0.03	-0.02	0.02	0.00	- -
P Qualit	0.07	0.13	0.00	0.01	- -	0.02
P Learni	-0.04	0.04	0.03	-0.04	0.01	-0.05

Expected Change for THETA-EPS (continued)

	P RoleMo	P Psycho	P Qualit	P Learni
P RoleMo	- -			
P Psycho	-0.03	- -		
P Qualit	-0.02	- -	- -	
P Learni	0.00	0.09	- -	- -

Modification Indices for THETA-DELTA-EPS

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
DIF EI	0.18	0.13	1.23	0.34	2.33	0.28
DIF SN	3.33	0.01	2.07	0.00	1.93	1.66
DIF TF	1.47	0.59	2.84	1.94	0.17	0.16
DIF JP	0.93	0.68	0.04	0.01	0.35	0.05

Modification Indices for THETA-DELTA-EPS (continued)

	P RoleMo	P Psycho	P Qualit	P Learni
DIF EI	1.67	0.91	0.22	0.00
DIF SN	0.12	1.34	0.02	0.43
DIF TF	0.01	0.01	0.17	0.40
DIF JP	0.04	0.14	0.63	0.71

Expected Change for THETA-DELTA-EPS

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
DIF EI	-0.02	0.02	0.06	-0.04	-0.10	0.02
DIF SN	-0.09	0.01	0.08	0.00	0.09	-0.06
DIF TF	-0.06	0.04	0.09	-0.06	0.02	0.02
DIF JP	0.05	-0.04	-0.01	0.00	-0.05	-0.01

Expected Change for THETA-DELTA-EPS (continued)

	P RoleMo	P Psycho	P Qualit	P Learni
DIF EI	-0.06	0.04	-0.02	0.00
DIF SN	-0.02	0.05	0.01	0.03
DIF TF	0.00	0.00	-0.02	-0.03
DIF JP	-0.01	0.02	-0.03	0.04

Modification Indices for THETA-DELTA

	DIF EI	DIF SN	DIF TF	DIF JP
DIF EI	- -			
DIF SN	0.11	- -		
DIF TF	0.27	0.05	- -	
DIF JP	0.07	- -	- -	- -

Expected Change for THETA-DELTA

	DIF EI	DIF SN	DIF TF	DIF JP
DIF EI	- -			
DIF SN	-0.03	- -		
DIF TF	0.04	0.02	- -	
DIF JP	-0.02	- -	- -	- -

Maximum Modification Index is 19.66 for Element (9, 2) of THETA-EPS

Covariance Matrix of Parameter Estimates

	LY 2 1	LY 3 1	LY 5 2	LY 7 3	LY 8 3	LY 10 4
LY 2 1	0.01					
LY 3 1	0.00	0.01				
LY 5 2	0.00	0.00	0.02			
LY 7 3	0.00	0.00	0.00	0.00		
LY 8 3	0.00	0.00	0.00	0.00	0.00	
LY 10 4	0.00	0.00	0.00	0.00	0.00	0.01
LX 1 1	0.00	0.00	0.00	0.00	0.00	0.00
LX 2 1	0.00	0.00	0.00	0.00	0.00	0.00
LX 3 1	0.00	0.00	0.00	0.00	0.00	0.00
LX 4 1	0.00	0.00	0.00	0.00	0.00	0.00
BE 2 1	0.01	0.00	-0.01	0.00	0.00	0.00
BE 4 3	0.00	0.00	0.00	0.00	0.00	0.00
GA 1 1	0.00	0.00	0.00	0.00	0.00	0.00
GA 2 1	0.00	0.00	0.00	0.00	0.00	0.00
GA 3 1	0.00	0.00	0.00	0.00	0.00	0.00
GA 4 1	0.00	0.00	0.00	0.00	0.00	0.00
PS 1 1	-0.01	0.00	0.00	0.00	0.00	0.00
PS 2 2	0.00	0.00	-0.01	0.00	0.00	0.00
PS 3 3	0.00	0.00	0.00	0.00	0.00	0.00
PS 4 4	0.00	0.00	0.00	0.00	0.00	0.00
TE 1 1	0.01	0.00	0.00	0.00	0.00	0.00
TE 2 2	0.00	0.00	0.00	0.00	0.00	0.00
TE 3 1	0.01	0.00	0.00	0.00	0.00	0.00
TE 3 3	0.01	0.00	0.00	0.00	0.00	0.00
TE 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TE 4 4	0.00	0.00	0.01	0.00	0.00	0.00
TE 5 5	0.00	0.00	-0.01	0.00	0.00	0.00
TE 6 6	0.00	0.00	0.00	0.00	0.00	0.00
TE 7 7	0.00	0.00	0.00	0.00	0.00	0.00
TE 8 6	0.00	0.00	0.00	0.00	0.00	0.00
TE 8 8	0.00	0.00	0.00	0.00	0.00	0.00
TE 9 8	0.00	0.00	0.00	0.00	0.00	0.00
TE 9 9	0.00	0.00	0.00	0.00	0.00	0.00
TE 10 10	0.00	0.00	0.00	0.00	0.00	0.00
TD 1 1	0.00	0.00	0.00	0.00	0.00	0.00
TD 2 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 3 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 4	0.00	0.00	0.00	0.00	0.00	0.00

Covariance Matrix of Parameter Estimates (continued)

	LX 1 1	LX 2 1	LX 3 1	LX 4 1	BE 2 1	BE 4 3

LX 1 1	0.01					
LX 2 1	0.00	0.01				
LX 3 1	0.00	0.00	0.01			
LX 4 1	0.00	0.00	0.00	0.01		
BE 2 1	0.00	0.00	0.00	0.00	0.02	
BE 4 3	0.00	0.00	0.00	0.00	0.00	0.02
GA 1 1	0.00	0.00	0.00	0.00	0.00	0.00
GA 2 1	0.00	0.00	0.00	0.00	0.01	0.00
GA 3 1	0.00	0.00	0.00	0.00	0.00	-0.01
GA 4 1	0.00	0.00	0.00	0.00	0.00	0.02
PS 1 1	0.00	0.00	0.00	0.00	-0.01	0.00
PS 2 2	0.00	0.00	0.00	0.00	0.00	0.00
PS 3 3	0.01	0.00	0.00	0.00	0.00	-0.01
PS 4 4	0.00	0.00	0.00	0.00	0.00	0.00
TE 1 1	0.00	0.00	0.00	0.00	0.01	0.00
TE 2 2	0.00	0.00	0.00	0.00	-0.01	0.00
TE 3 1	0.00	0.00	0.00	0.00	0.01	0.00
TE 3 3	0.00	0.00	0.00	0.00	-0.01	0.00
TE 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TE 4 4	0.00	0.00	0.00	0.00	0.00	0.00
TE 5 5	0.00	0.00	0.00	0.00	0.00	0.00
TE 6 6	0.00	0.00	0.00	0.00	0.00	0.00
TE 7 7	0.00	0.00	0.00	0.00	0.00	0.00
TE 8 6	0.00	0.00	0.00	0.00	0.00	0.00
TE 8 8	0.00	0.00	0.00	0.00	0.00	0.00
TE 9 8	0.00	0.00	0.00	0.00	0.00	0.00
TE 9 9	0.00	0.00	0.00	0.00	0.00	0.00
TE 10 10	0.00	0.00	0.00	0.00	0.00	0.00
TD 1 1	0.00	0.00	0.00	0.00	0.00	0.00
TD 2 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 3 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 4	0.00	0.00	0.00	0.00	0.00	0.00

Covariance Matrix of Parameter Estimates (continued)

	GA 1 1	GA 2 1	GA 3 1	GA 4 1	PS 1 1	PS 2 2
GA 1 1	0.02					
GA 2 1	0.00	0.01				
GA 3 1	-0.01	0.00	0.03			
GA 4 1	0.00	0.00	-0.01	0.03		
PS 1 1	0.01	0.00	-0.01	0.00	0.03	
PS 2 2	0.00	0.00	0.00	0.00	0.01	0.03
PS 3 3	-0.01	0.00	0.03	-0.01	-0.01	0.00
PS 4 4	0.00	0.01	0.00	0.00	0.00	0.00
TE 1 1	0.00	0.00	0.00	0.00	-0.02	-0.01
TE 2 2	0.00	0.00	0.00	0.00	0.01	0.00
TE 3 1	0.00	0.00	0.00	0.00	-0.01	-0.01
TE 3 3	0.00	0.00	0.00	0.00	-0.01	-0.01
TE 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TE 4 4	0.00	0.00	0.00	0.00	0.00	-0.01
TE 5 5	0.00	0.00	0.00	0.00	0.00	0.00
TE 6 6	0.00	0.00	0.00	0.00	0.00	0.00
TE 7 7	0.00	0.00	0.00	0.00	0.00	0.00
TE 8 6	0.00	0.00	0.00	0.00	0.00	0.00
TE 8 8	0.00	0.00	0.00	0.00	0.00	0.00
TE 9 8	0.00	0.00	0.00	0.00	0.00	0.00
TE 9 9	0.00	0.00	0.00	0.00	0.00	0.00
TE 10 10	0.00	0.00	0.00	0.00	0.00	0.00
TD 1 1	0.00	0.00	0.00	0.00	0.00	0.00
TD 2 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 3 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 4	0.00	0.00	0.00	0.00	0.00	0.00

Covariance Matrix of Parameter Estimates (continued)

	PS 3 3	PS 4 4	TE 1 1	TE 2 2	TE 3 1	TE 3 3
PS 3 3	0.04					
PS 4 4	0.00	0.01				
TE 1 1	0.00	0.00	0.02			
TE 2 2	0.00	0.00	-0.01	0.01		
TE 3 1	0.00	0.00	0.01	-0.01	0.01	
TE 3 3	0.00	0.00	0.01	-0.01	0.01	0.01
TE 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TE 4 4	0.00	0.00	0.00	0.00	0.00	0.00
TE 5 5	0.00	0.00	0.00	0.00	0.00	0.00
TE 6 6	0.00	0.00	0.00	0.00	0.00	0.00
TE 7 7	0.00	0.00	0.00	0.00	0.00	0.00
TE 8 6	0.00	0.00	0.00	0.00	0.00	0.00
TE 8 8	0.00	0.00	0.00	0.00	0.00	0.00
TE 9 8	0.00	0.00	0.00	0.00	0.00	0.00
TE 9 9	0.00	0.00	0.00	0.00	0.00	0.00
TE 10 10	0.00	0.00	0.00	0.00	0.00	0.00
TD 1 1	0.00	0.00	0.00	0.00	0.00	0.00
TD 2 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 3 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 4	0.00	0.00	0.00	0.00	0.00	0.00

Covariance Matrix of Parameter Estimates (continued)

	TE 4 3	TE 4 4	TE 5 5	TE 6 6	TE 7 7	TE 8 6
TE 4 3	0.00					
TE 4 4	0.00	0.01				
TE 5 5	0.00	0.00	0.01			
TE 6 6	0.00	0.00	0.00	0.00		
TE 7 7	0.00	0.00	0.00	0.00	0.00	
TE 8 6	0.00	0.00	0.00	0.00	0.00	0.00
TE 8 8	0.00	0.00	0.00	0.00	0.00	0.00
TE 9 8	0.00	0.00	0.00	0.00	0.00	0.00
TE 9 9	0.00	0.00	0.00	0.00	0.00	0.00
TE 10 10	0.00	0.00	0.00	0.00	0.00	0.00
TD 1 1	0.00	0.00	0.00	0.00	0.00	0.00
TD 2 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 3 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 4	0.00	0.00	0.00	0.00	0.00	0.00

Covariance Matrix of Parameter Estimates (continued)

	TE 8 8	TE 9 8	TE 9 9	TE 10 10	TD 1 1	TD 2 2
TE 8 8	0.00					
TE 9 8	0.00	0.00				
TE 9 9	0.00	0.00	0.00			
TE 10 10	0.00	0.00	0.00	0.00		

TD 1 1	0.00	0.00	0.00	0.00	0.01	
TD 2 2	0.00	0.00	0.00	0.00	0.00	0.01
TD 3 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 4	0.00	0.00	0.00	0.00	0.00	0.00

Covariance Matrix of Parameter Estimates (continued)

	TD 3 3	TD 4 2	TD 4 3	TD 4 4
TD 3 3	0.01			
TD 4 2	0.00	0.01		
TD 4 3	0.00	0.00	0.01	
TD 4 4	0.00	0.00	0.00	0.01

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Correlation Matrix of Parameter Estimates

	LY 2 1	LY 3 1	LY 5 2	LY 7 3	LY 8 3	LY 10 4
LY 2 1	1.00					
LY 3 1	0.23	1.00				
LY 5 2	0.01	-0.18	1.00			
LY 7 3	0.00	0.00	0.00	1.00		
LY 8 3	0.00	0.00	0.00	0.32	1.00	
LY 10 4	0.00	0.00	0.00	0.01	-0.19	1.00
LX 1 1	0.00	0.00	0.00	0.00	0.00	0.00
LX 2 1	0.00	0.00	0.00	- 0.00	0.00	0.00
LX 3 1	0.00	0.00	0.00	0.00	0.00	0.00
LX 4 1	0.00	0.00	0.00	0.00	0.00	0.00
BE 2 1	0.52	0.26	-0.48	0.00	0.00	0.00
BE 4 3	0.00	0.00	0.00	0.35	0.26	-0.25
GA 1 1	-0.03	0.09	0.00	0.00	0.00	0.00
GA 2 1	0.23	0.00	0.00	0.00	0.00	0.00
GA 3 1	0.00	0.00	0.00	0.04	0.09	-0.01
GA 4 1	0.00	0.00	0.00	0.14	0.00	-0.02
PS 1 1	-0.58	-0.31	-0.01	0.00	0.00	0.00
PS 2 2	-0.28	0.13	-0.63	0.00	0.00	0.00
PS 3 3	0.00	0.00	0.00	-0.21	-0.17	0.00
PS 4 4	0.00	0.00	0.00	-0.30	0.07	-0.34
TE 1 1	0.84	0.23	0.01	0.00	0.00	0.00
TE 2 2	-0.60	-0.02	-0.02	0.00	0.00	0.00
TE 3 1	0.78	-0.11	0.04	0.00	0.00	0.00
TE 3 3	0.56	-0.37	0.11	0.00	0.00	0.00
TE 4 3	0.04	-0.18	0.28	0.00	0.00	0.00
TE 4 4	0.01	-0.10	0.53	0.00	0.00	0.00
TE 5 5	0.00	0.09	-0.66	0.00	0.00	0.00
TE 6 6	0.00	0.00	0.00	0.60	0.25	0.00
TE 7 7	0.00	0.00	0.00	-0.39	0.00	-0.02
TE 8 6	0.00	0.00	0.00	0.56	-0.06	0.04
TE 8 8	0.00	0.00	0.00	0.35	-0.30	0.11
TE 9 8	0.00	0.00	0.00	0.01	-0.17	0.24
TE 9 9	0.00	0.00	0.00	0.01	-0.11	0.19
TE 10 10	0.00	0.00	0.00	0.00	0.07	-0.50
TD 1 1	0.00	0.00	0.00	0.00	0.00	0.00
TD 2 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 3 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 4	0.00	0.00	0.00	0.00	0.00	0.00

Correlation Matrix of Parameter Estimates (continued)

	LX 1 1	LX 2 1	LX 3 1	LX 4 1	BE 2 1	BE 4 3
LX 1 1	1.00					
LX 2 1	0.03	1.00				
LX 3 1	0.04	0.02	1.00			
LX 4 1	-0.01	0.15	0.35	1.00		
BE 2 1	0.00	0.00	0.00	0.00	1.00	
BE 4 3	-0.10	-0.07	-0.07	0.02	0.00	1.00
GA 1 1	-0.09	-0.06	-0.07	0.02	0.01	0.21
GA 2 1	0.00	0.00	0.00	0.00	0.50	0.00
GA 3 1	0.20	0.14	0.14	-0.04	0.00	-0.25
GA 4 1	-0.09	-0.06	-0.06	0.02	0.00	0.81
PS 1 1	-0.04	-0.03	-0.03	0.01	-0.41	0.12
PS 2 2	0.00	0.00	0.00	0.00	0.16	0.00
PS 3 3	0.22	0.15	0.16	-0.04	0.00	-0.41
PS 4 4	0.02	0.02	0.02	0.00	0.00	-0.32
TE 1 1	0.00	0.00	0.00	0.00	0.61	0.00
TE 2 2	0.00	0.00	0.00	0.00	-0.48	0.00
TE 3 1	0.00	0.00	0.00	0.00	0.56	0.00
TE 3 3	0.00	0.00	0.00	0.00	0.35	0.00
TE 4 3	0.00	0.00	0.00	0.00	-0.16	0.00
TE 4 4	0.00	0.00	0.00	0.00	-0.26	0.00
TE 5 5	0.00	0.00	0.00	0.00	0.31	0.00
TE 6 6	0.00	0.00	0.00	0.00	0.00	0.45
TE 7 7	0.00	0.00	0.00	0.00	0.00	-0.28
TE 8 6	0.00	0.00	0.00	0.00	0.00	0.42
TE 8 8	0.00	0.00	0.00	0.00	0.00	0.24
TE 9 8	0.00	0.00	0.00	0.00	0.00	-0.09
TE 9 9	0.00	0.00	0.00	0.00	0.00	-0.13
TE 10 10	0.00	0.00	0.00	0.00	0.00	0.12
TD 1 1	-0.30	-0.01	-0.01	0.00	0.00	0.05
TD 2 2	-0.01	-0.20	-0.01	-0.03	0.00	0.03
TD 3 3	-0.01	-0.01	-0.21	-0.07	0.00	0.03
TD 4 2	0.01	0.07	0.01	-0.12	0.00	-0.02
TD 4 3	0.00	0.01	0.01	-0.12	0.00	-0.01
TD 4 4	0.00	0.02	0.03	0.05	0.00	0.00

Correlation Matrix of Parameter Estimates (continued)

	GA 1 1	GA 2 1	GA 3 1	GA 4 1	PS 1 1	PS 2 2
GA 1 1	1.00					
GA 2 1	0.08	1.00				
GA 3 1	-0.44	0.01	1.00			
GA 4 1	0.20	0.00	-0.23	1.00		
PS 1 1	0.40	-0.14	-0.27	0.12	1.00	
PS 2 2	0.02	-0.07	0.00	0.00	0.22	1.00
PS 3 3	-0.46	0.01	0.78	-0.28	-0.27	0.00
PS 4 4	-0.05	0.00	0.05	-0.36	-0.03	0.00
TE 1 1	-0.02	0.26	0.00	0.00	-0.70	-0.31
TE 2 2	0.03	-0.22	0.00	0.00	0.53	0.27
TE 3 1	-0.05	0.27	0.00	0.00	-0.61	-0.35
TE 3 3	-0.07	0.22	0.00	0.00	-0.40	-0.32
TE 4 3	-0.01	0.00	0.00	0.00	-0.03	-0.13
TE 4 4	0.00	0.00	0.00	0.00	-0.01	-0.38
TE 5 5	0.00	0.00	0.00	0.00	0.00	0.19
TE 6 6	0.00	0.00	0.03	0.20	0.00	0.00
TE 7 7	0.00	0.00	0.00	-0.15	0.00	0.00
TE 8 6	0.00	0.00	0.00	0.23	0.00	0.00
TE 8 8	0.00	0.00	-0.02	0.17	0.00	0.00

TE 9 8	0.00	0.00	-0.01	-0.01	0.00	0.00
TE 9 9	0.00	0.00	0.00	-0.01	0.00	0.00
TE 10 10	0.00	0.00	0.00	0.01	0.00	0.00
TD 1 1	0.04	0.00	-0.12	0.06	0.02	0.00
TD 2 2	0.02	0.00	-0.06	0.02	0.01	0.00
TD 3 3	0.02	0.00	-0.06	0.03	0.01	0.00
TD 4 2	-0.02	0.00	0.05	-0.02	-0.01	0.00
TD 4 3	-0.01	0.00	0.03	-0.01	-0.01	0.00
TD 4 4	0.00	0.00	0.00	0.00	0.00	0.00

Correlation Matrix of Parameter Estimates (continued)

	PS 3 3	PS 4 4	TE 1 1	TE 2 2	TE 3 1	TE 3 3
PS 3 3	1.00					
PS 4 4	0.16	1.00				
TE 1 1	0.00	0.00	1.00			
TE 2 2	0.00	0.00	-0.74	1.00		
TE 3 1	0.00	0.00	0.65	-0.76	1.00	
TE 3 3	0.00	0.00	0.56	-0.60	0.77	1.00
TE 4 3	0.00	0.00	0.03	-0.06	0.12	0.34
TE 4 4	0.00	0.00	0.01	-0.02	0.03	0.11
TE 5 5	0.00	0.00	0.00	0.00	0.00	-0.05
TE 6 6	-0.25	-0.42	0.00	0.00	0.00	0.00
TE 7 7	0.15	0.31	0.00	0.00	0.00	0.00
TE 8 6	-0.22	-0.49	0.00	0.00	0.00	0.00
TE 8 8	-0.12	-0.38	0.00	0.00	0.00	0.00
TE 9 8	-0.01	-0.03	0.00	0.00	0.00	0.00
TE 9 9	0.00	-0.27	0.00	0.00	0.00	0.00
TE 10 10	0.00	0.07	0.00	0.00	0.00	0.00
TD 1 1	-0.12	-0.01	0.00	0.00	0.00	0.00
TD 2 2	-0.06	-0.01	0.00	0.00	0.00	0.00
TD 3 3	-0.06	-0.01	0.00	0.00	0.00	0.00
TD 4 2	0.05	0.01	0.00	0.00	0.00	0.00
TD 4 3	0.03	0.00	0.00	0.00	0.00	0.00
TD 4 4	0.00	0.00	0.00	0.00	0.00	0.00

Correlation Matrix of Parameter Estimates (continued)

	TE 4 3	TE 4 4	TE 5 5	TE 6 6	TE 7 7	TE 8 6
TE 4 3	1.00					
TE 4 4	0.48	1.00				
TE 5 5	-0.28	-0.34	1.00			
TE 6 6	0.00	0.00	0.00	1.00		
TE 7 7	0.00	0.00	0.00	-0.53	1.00	
TE 8 6	0.00	0.00	0.00	0.70	-0.59	1.00
TE 8 8	0.00	0.00	0.00	0.39	-0.45	0.69
TE 9 8	0.00	0.00	0.00	0.00	-0.05	0.16
TE 9 9	0.00	0.00	0.00	0.00	-0.02	0.04
TE 10 10	0.00	0.00	0.00	0.00	0.00	0.00
TD 1 1	0.00	0.00	0.00	0.00	0.00	0.00
TD 2 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 3 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 2	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 4	0.00	0.00	0.00	0.00	0.00	0.00

Correlation Matrix of Parameter Estimates (continued)

	TE 8 8	TE 9 8	TE 9 9	TE 10 10	TD 1 1	TD 2 2
TE 8 8	1.00					
TE 9 8	0.45	1.00				
TE 9 9	0.16	0.51	1.00			
TE 10 10	-0.06	-0.26	-0.47	1.00		
TD 1 1	0.00	0.00	0.00	0.00	1.00	
TD 2 2	0.00	0.00	0.00	0.00	0.00	1.00
TD 3 3	0.00	0.00	0.00	0.00	0.01	0.00
TD 4 2	0.00	0.00	0.00	0.00	0.00	0.22
TD 4 3	0.00	0.00	0.00	0.00	0.00	0.00
TD 4 4	0.00	0.00	0.00	0.00	0.00	0.02

Correlation Matrix of Parameter Estimates (continued)

	TD 3 3	TD 4 2	TD 4 3	TD 4 4
TD 3 3	1.00			
TD 4 2	0.00	1.00		
TD 4 3	0.48	0.04	1.00	
TD 4 4	0.13	0.21	0.48	1.00

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Factor Scores Regressions

ETA

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
M Functi	0.97	-0.24	0.53	-0.16	-0.04	-0.03
M Succes	0.23	-0.02	0.03	0.29	0.52	0.00
P Functi	0.00	0.00	0.00	0.00	0.00	0.61
P Succes	0.00	0.00	0.00	0.00	0.00	0.18

ETA (continued)

	P RoleMo	P Psycho	P Qualit	P Learni	DIF EI	DIF SN
M Functi	0.00	-0.02	0.01	0.00	0.01	0.01
M Succes	0.00	0.00	0.00	0.00	0.00	0.00
P Functi	0.03	0.44	-0.09	0.07	0.00	0.00
P Succes	0.04	0.00	0.42	0.41	0.00	0.00

ETA (continued)

	DIF TF	DIF JP
M Functi	0.01	-0.01
M Succes	0.00	0.00
P Functi	0.00	0.00
P Succes	0.00	0.00

KSI

	M Career	M RoleMo	M Psycho	M Qualit	M Learni	P Career
Personal	-0.23	0.06	-0.12	0.04	0.01	-0.34

KSI (continued)

	P RoleMo	P Psycho	P Qualit	P Learni	DIF EI	DIF SN
Personal	-0.01	-0.27	0.13	0.03	0.14	0.11

KSI (continued)

	DIF TF	DIF JP
Personal	0.13	-0.09

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Standardized Solution

LAMBDA-Y

	M Functi	M Succes	P Functi	P Succes
M Career	1.02	- -	- -	- -
M RoleMo	0.71	- -	- -	- -

M Psycho	0.87	- -	- -	- -
M Qualit	- -	0.68	- -	- -
M Learni	- -	0.80	- -	- -
P Career	- -	- -	0.95	- -
P RoleMo	- -	- -	0.79	- -
P Psycho	- -	- -	0.90	- -
P Qualit	- -	- -	- -	0.87
P Learni	- -	- -	- -	0.87

LAMBDA-X

	Personal
DIF EI	0.26
DIF SN	0.18
DIF TF	0.19
DIF JP	-0.04

BETA

	M Functi	M Succes	P Functi	P Succes
M Functi	- -	- -	- -	- -
M Succes	0.61	- -	- -	- -
P Functi	- -	- -	- -	- -
P Succes	- -	- -	0.87	- -

GAMMA

	Personal
M Functi	-0.39
M Succes	0.00
P Functi	-0.59
P Succes	0.12

Correlation Matrix of ETA and KSI

	M Functi	M Succes	P Functi	P Succes	Personal
M Functi	1.00				
M Succes	0.60	1.00			
P Functi	0.23	0.14	1.00		
P Succes	0.16	0.09	0.80	1.00	
Personal	-0.39	-0.23	-0.59	-0.40	1.00

PSI

Note: This matrix is diagonal.

M Functi	M Succes	P Functi	P Succes
0.65	0.61	0.65	0.35

Regression Matrix ETA on KSI (Standardized)

	Personal
M Functi	-0.39
M Succes	-0.23
P Functi	-0.59
P Succes	-0.40

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Total and Indirect Effects

Total Effects of KSI on ETA

	Personal
M Functi	-0.39
	(0.13)
	-3.01
M Succes	-0.23
	(0.15)
	-1.54
P Functi	-0.59
	(0.18)
	-3.29
P Succes	-0.40
	(0.17)
	-2.30

Indirect Effects of KSI on ETA

	Personal
M Functi	- -
M Succes	-0.23
	(0.10)
	-2.44
P Functi	- -
P Succes	-0.52
	(0.19)
	-2.69

Total Effects of ETA on ETA

	M Functi	M Succes	P Functi	P Succes
M Functi	- -	- -	- -	- -
M Succes	0.59	- -	- -	- -
	(0.14)			
	4.13			
P Functi	- -	- -	- -	- -
P Succes	- -	- -	0.87	- -
			(0.14)	
			6.08	

Largest Eigenvalue of B*B' (Stability Index) is 0.758

Total Effects of ETA on Y (continued)

	M Functi	M Succes	P Functi	P Succes
M Career	1.00	- -	- -	- -
M RoleMo	0.70	- -	- -	- -
	(0.10)			
	7.05			
M Psycho	0.86	- -	- -	- -
	(0.08)			
	10.27			
M Qualit	0.41	0.68	- -	- -
	(0.10)			
	4.13			
M Learni	0.48	0.80	- -	- -
	(0.10)	(0.14)		
	4.56	5.94		
P Career	- -	- -	0.95	- -
P RoleMo	- -	- -	0.79	- -
			(0.07)	
			11.55	
P Psycho	- -	- -	0.90	- -
			(0.06)	
			14.25	
P Qualit	- -	- -	0.76	0.87
			(0.12)	
			6.08	
P Learni	- -	- -	0.76	0.87
			(0.12)	(0.07)
			6.08	12.19

Indirect Effects of ETA on Y

	M Functi	M Succes	P Functi	P Succes
M Career	- -	- -	- -	- -
M RoleMo	- -	- -	- -	- -
M Psycho	- -	- -	- -	- -
M Qualit	0.41	- -	- -	- -
	(0.10)			
	4.13			
M Learni	0.48	- -	- -	- -
	(0.10)			
	4.56			
P Career	- -	- -	- -	- -
P RoleMo	- -	- -	- -	- -
P Psycho	- -	- -	- -	- -
P Qualit	- -	- -	0.76	- -
			(0.12)	
			6.08	
P Learni	- -	- -	0.76	- -
			(0.12)	
			6.08	

Total Effects of KSI on Y

	Personal
M Career	-0.39
	(0.13)
	-3.01
M RoleMo	-0.27
	(0.10)
	-2.73
M Psycho	-0.34
	(0.11)
	-2.96
M Qualit	-0.16
	(0.10)
	-1.54
M Learni	-0.19
	(0.12)
	-1.56
P Career	-0.57
	(0.17)
	-3.35
P RoleMo	-0.47
	(0.14)
	-3.26
P Psycho	-0.54
	(0.16)
	-3.37
P Qualit	-0.35
	(0.16)
	-2.20
P Learni	-0.35
	(0.15)
	-2.30

TI Main Model Mentor Protege Personality Fit Using Absolute Value Difference

Standardized Total and Indirect Effects

Standardized Total Effects of KSI on ETA

	Personal
M Functi	-0.39
M Succes	-0.23
P Functi	-0.59
P Succes	-0.40

Standardized Indirect Effects of KSI on ETA

	Personal
M Functi	- -
M Succes	-0.23
P Functi	- -
P Succes	-0.52

Standardized Total Effects of ETA on ETA

	M Functi	M Succes	P Functi	P Succes
M Functi	- -	- -	- -	- -
M Succes	0.61	- -	- -	- -
P Functi	- -	- -	- -	- -
P Succes	- -	- -	0.87	- -

Standardized Total Effects of ETA on Y (continued)

	M Functi	M Succes	P Functi	P Succes
M Career	1.02	- -	- -	- -
M RoleMo	0.71	- -	- -	- -
M Psycho	0.87	- -	- -	- -
M Qualit	0.41	0.68	- -	- -
M Learni	0.49	0.80	- -	- -
P Career	- -	- -	0.95	- -
P RoleMo	- -	- -	0.79	- -
P Psycho	- -	- -	0.90	- -
P Qualit	- -	- -	0.76	0.87
P Learni	- -	- -	0.76	0.87

Standardized Indirect Effects of ETA on Y

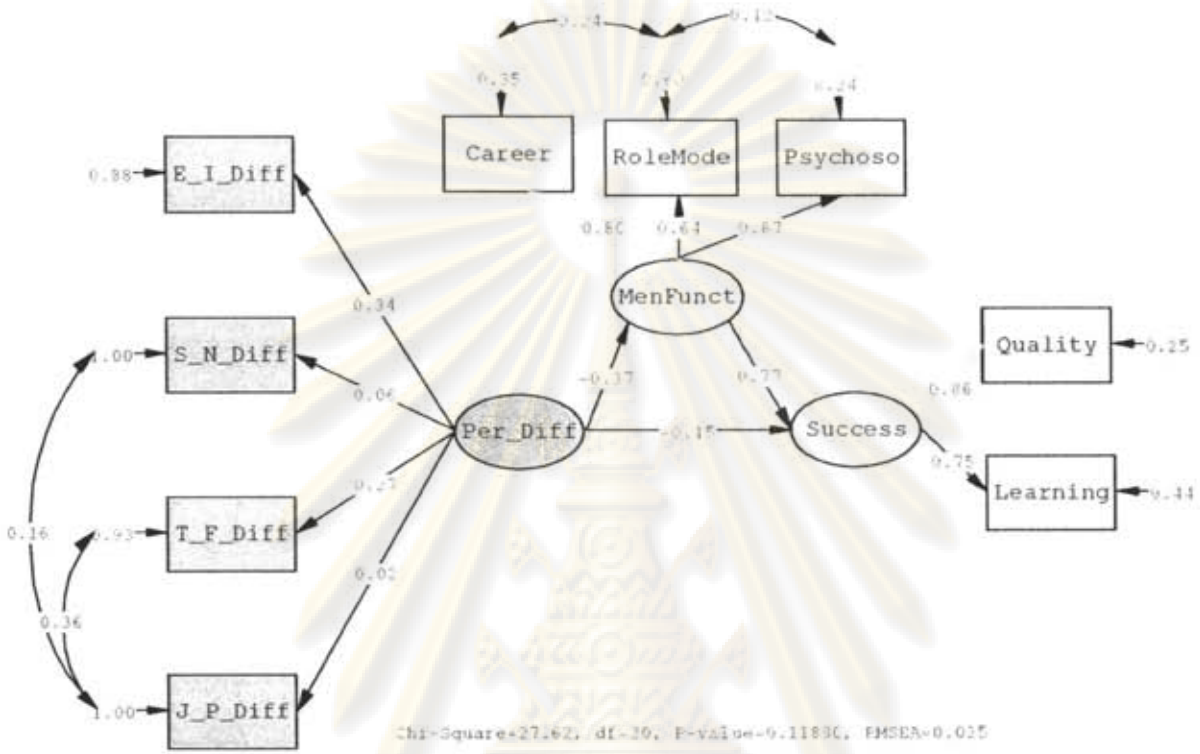
	M Functi	M Succes	P Functi	P Succes
M Career	- -	- -	- -	- -
M RoleMo	- -	- -	- -	- -
M Psycho	- -	- -	- -	- -
M Qualit	0.41	- -	- -	- -
M Learni	0.49	- -	- -	- -
P Career	- -	- -	- -	- -
P RoleMo	- -	- -	- -	- -
P Psycho	- -	- -	- -	- -
P Qualit	- -	- -	0.76	- -
P Learni	- -	- -	0.76	- -

Standardized Total Effects of KSI on Y

	Personal
M Career	-0.39
M RoleMo	-0.27
M Psycho	-0.34
M Qualit	-0.16
M Learni	-0.19
P Career	-0.57
P RoleMo	-0.47
P Psycho	-0.54
P Qualit	-0.35
P Learni	-0.35

Time used: 0.016 Seconds

Appendix E5
Main Model Calculate on Individual




```
TI Main Model Measures on Individual
DA NI=9 NO=312 MA=KM
LA
E_I_Diff S_N_Diff T_F_Diff J_P_Diff Career RoleModel Psychosocial Quality Learning
KM FI='C:\KM14.txt' SY
ME FI='C:\ME14.txt' SY
SD FI='C:\SD14.txt' SY
SE
 5 6 7 8 9 1 2 3 4 /
MO NX=4 NY=5 NK=1 NE=2  BE=FU GA=FI PS=SY TE=SY TD=SY
LE
MenFunction Success
LK
Per_Diff
FR  LY(1,1) LY(2,1) LY(3,1) LY(4,2) LY(5,2) LX(4,1) LX(2,1) LX(3,1) LX(1,1)
FR  BE(2,1) GA (1,1) GA (2,1) TD(4,3) TE(2,1) TE(3,2) TD(4,2)
PD
OU PC RS EF FS SS PT MI AD=OFF
```

Main Model Calculate on Individual

Goodness of Fit Statistics

Degrees of Freedom = 20
Minimum Fit Function Chi-Square = 28.12 (P = 0.11)
Normal Theory Weighted Least Squares Chi-Square = 27.62 (P = 0.12)
Estimated Non-centrality Parameter (NCP) = 7.62
90 Percent Confidence Interval for NCP = (0.0 ; 25.57)

Minimum Fit Function Value = 0.090
Population Discrepancy Function Value (F0) = 0.024
90 Percent Confidence Interval for F0 = (0.0 ; 0.082)
Root Mean Square Error of Approximation (RMSEA) = 0.035
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.064)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.77

Expected Cross-Validation Index (ECVI) = 0.25
90 Percent Confidence Interval for ECVI = (0.23 ; 0.31)
ECVI for Saturated Model = 0.29
ECVI for Independence Model = 3.92

Chi-Square for Independence Model with 36 Degrees of Freedom = 1201.92
Independence AIC = 1219.92
Model AIC = 77.62
Saturated AIC = 90.00
Independence CAIC = 1262.61
Model CAIC = 196.19
Saturated CAIC = 303.44

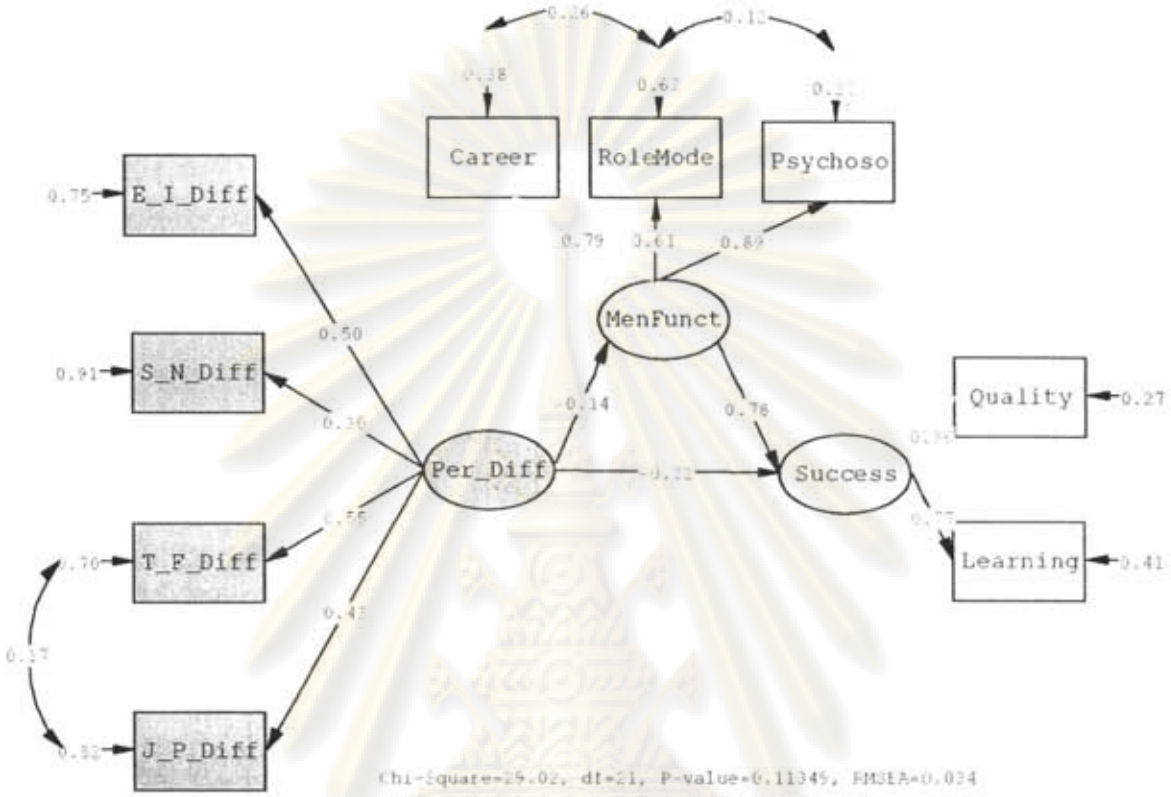
Normed Fit Index (NFI) = 0.98
Non-Normed Fit Index (NNFI) = 0.99
Parsimony Normed Fit Index (PNFI) = 0.54
Comparative Fit Index (CFI) = 0.99
Incremental Fit Index (IFI) = 0.99
Relative Fit Index (RFI) = 0.96

Critical N (CN) = 416.43

Root Mean Square Residual (RMR) = 0.028
Standardized RMR = 0.028
Goodness of Fit Index (GFI) = 0.98
Adjusted Goodness of Fit Index (AGFI) = 0.96
Parsimony Goodness of Fit Index (PGFI) = 0.44

Appendix E6

Competing Model



TI Competing Model Absolute Ideal-Perceive

DA NI=9 NO=334 MA=KM

LA

E_I_Diff S_N_Diff T_F_Diff J_P_Diff Career RoleModel Psychosocial Quality Learning

KM FI='C:\KM12.txt' SY

ME FI='C:\ME12.txt' SY

SD FI='C:\SD12.txt' SY

SE

5 6 7 8 9 1 2 3 4 /

MO NX=4 NY=5 NK=1 NE=2 BE=FU GA=FI PS=SY TE=SY TD=SY

LE

MenFunction Success

LK

Per_Diff

FR LY(1,1) LY(2,1) LY(3,1) LY(4,2)LY(5,2) LX(1,1) LX(2,1) LX(3,1) LX(4,1) GA(1,1) GA(2,1)

FR BE(2,1) TD(4,3) TE(2,1) TE(3,2)

PD

OU PC RS EF FS SS PT MI AD=OFF

VITA

Mister Pitak Srisakolkit

Date and Place of Birth

November 27, 1959, Bangkok, Thailand

Education

2005 - 2007 MA in Psychology (Industrial and Organizational Psychology), Chulalongkorn University

1984 - 1986 MBA in Marketing, University of North Texas, Denton, Texas, USA

1978 - 1983 BSc in Pharmacy, Chulalongkorn University

Work Experiences

1996 - present Prestige Gift & Premium Co., Ltd. - General Manager
Milk Plus (milk fast foods restaurants franchise)

1993 - 1996 WendiThai Co., Ltd. - General Manager
Wendy's (hamburger fast foods restaurants franchise)

1990 - 1992 American Express (Thai) Co., Ltd. - Manager
Credit card company

1986 - 1990 Diethelm & Co., Ltd. - OTC Brand Manager
Pharmaceutical products distributors

1984 - 1986 Dairy Queen, Denton, Texas, USA - Store Supervisor
Hamburger and ice cream fast foods restaurants

1982 - 1983 Essex Thailand Co., (Schering USA) - Bangkok medical representative
Pharmaceutical products company