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## Effects of feedback, education, and work experience on self-efficacy

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EFFECTS OF FEEDBACK, EDUCATION, AND WORK EXPERIENCE  
ON SELF-EFFICACY

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A Thesis  
Presented to the  
Faculty of  
California State University,  
San Bernardino

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In Partial Fulfillment  
of the Requirements for the degree  
Master of Science  
in  
Psychology:  
Industrial/Organizational

---

by  
Hieu Chi Pham  
September 2006

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by  
Hieu Chi Pham  
September 2006

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## ABSTRACT

According to Bandura, self-efficacy concept founder, it is developed in four ways. Two methods of self-efficacy development are social persuasion and mastery experiences. The current study examines the contextual effects of social persuasion (represented by self, client, peer and supervisor's feedback) and mastery experiences (represented by formal level of education and work experience) on specific self-efficacy outcomes and perceived advancement potential in a sample population of nurses. These specific self-efficacy outcomes include general self-efficacy, work self-efficacy, and specialty-specific self-efficacy. The following results are based on 135 returned surveys.

For general self-efficacy, self and client's feedback were significant predictors but peer and supervisor's were not. For work self-efficacy, although self feedback was a significant predictor, client, peer and supervisor's feedback were all non-significant predictors. For specialty-specific self-efficacy, client, peer, and supervisor's feedback were all significant predictors. Only self feedback was a non-significant predictor.

Formal education was a significant predictor for general self-efficacy and specialty-specific self-efficacy.

However, it was not a significant predictor for work self-efficacy. In contrast, work experience was a significant predictor for work self-efficacy but not for general self-efficacy or specialty-specific self-efficacy.

For perceived advancement potential, between feedback, education and work experience, only feedback was a significant predictor. Specifically, self, peer and supervisor's feedback were all significant predictors. Only client's feedback was a non-significant predictor for perceived advancement potential.

Overall, the results of the study suggest that these four types of feedback consistently predict significant self-efficacy outcomes. Lastly, study limitations, implications for future research, and recommendations are discussed.

## ACKNOWLEDGMENTS

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## CHAPTER ONE

### INTRODUCTION

#### Introduction

Organizations are entities that have one common, primary goal. It is the goal of survival (Davis, Savage, & Stewart, 2003). In order to survive, organizations must use their available resources judiciously. Although the specific types of resources will vary from organization to organization, one major resource that is common to all organizations is human capital. In order to survive, an organization must manage this important resource accordingly.

In exploring the topic of human capital, one important item to address is the identification of characteristics that make an employee valuable. This is a question that will inevitably have many different answers. Common responses often include characteristics such as attendance, reliability, relevant knowledge, skills, abilities, and other factors (KSAOs). In addition to these vital characteristics, employee motivation is another attribute that warrants consideration, as it is one of the essential

characteristics of an employee's makeup that determines his or her value to an organization. But what is motivation and where does it come from? Perhaps more importantly, how is motivation developed? These are important questions and they are the focus of the present study.

### Contextual Definition of Motivation

Motivation is a concept that has been widely researched. This statement is based on the fact that there were over 5,800 matches in Psych Info when motivation, as the subject matter, and peer-reviewed are used as the search limits for the years between 1995 and 2004. It is not the purpose of this study to expound upon the already well-developed concept of motivation. Instead, this study addresses one building component in motivation development, self-efficacy. Before proceeding, however, a brief review of basic background information regarding motivation is in order. Following this review, this paper will then present an in-depth examination of self-efficacy, which is the focus of this study.

Random House Webster's College Dictionary (2001) defines motive (or motivation) as, "something that causes a

life experiences are personally valuable or important to the self. Examples can include activities such as exercising or smoking cessation to maintain one's health. Finally, "intrinsic motivation" is the most autonomous type of motivation. People are intrinsically motivated to engage in activities because of its inherent rewards. In essence, people are motivated to repeat certain tasks for the challenge of it, because of personal interest, or for the fun that the task offers. These four types of motivation have been studied and validated in arenas such as healthcare, education, religion, athletics, and in the workplace (Gagne et al., 2003).

Additionally, several established work motivational theories have been developed to describe motivation in a workplace setting. Currently, there are several prominent theories describing motivation in this context. Examples of notable theories include equity (Chiu, 2000), expectancy (Tubbs & Trusty, 2001), goal-setting (Steele-Johnson, Beauregard, Hoover, & Schmidt, 2000), job characteristics (Behson, Eddy, & Lorenzet, 2001), learned needs (Langens, 2001), and Maslow's hierarchy of needs (Kiel, 1999). Although these motivational theories differ in origin and

basic framework, each can be classified into either of two common underlying structures. These structures are content-based and process-based reasoning.

The underlying base structure in the content-based category identifies the "what" factors that motivate a person. Prominent content theories include job characteristics model, learned needs, and Maslow's hierarchy of needs. In contrast, the process-based theories focus on identifying the process of "how" a person is motivated. Theories such as equity, expectancy, and goal-setting fall under the process-based classification.

Although each of these motivational theories has its own unique distinguishing characteristics, all of them appear to have one common goal. They all strive to explain the process of motivating an individual within a work-setting context. For the purpose of this study, this common goal will be referred to as self-motivation. In essence, self-motivation has the potential to moderate the outcome of an individual's motivational process regardless of the motivational theory in use.

In review, motivation is an important concept that has been investigated in-depth. Two ways of defining this

expansive concept are by utilizing the framework of self-determination theory or through established work motivational theories. Within these researched contexts, there appears to be one common building cornerstone which can affect the final motivational outcome(s), self-motivation. In examining self-motivation in a work-setting context, self-motivation is presumed to be an important pre-cursor to successful performance outcomes benefiting the employing organization. These organizational effectiveness outcomes include low levels of tardiness, absenteeism, and voluntary turnover; and high levels of operating efficiency resulting in lower operating cost (Angle & Berry, 1981). The following section will further examine the basic components that comprise the self-motivation structure.

#### Self-Efficacy as a Motivational Construct

Lasane and Jones (1999) described three sub-factors that comprise the structure of self-motivation. These sub-factors included internalization, locus of control and self-efficacy. When individuals assimilate certain beliefs and values into their own self-concept, the final outcomes

are commonly known as internalization. Locus of control refers to the degree to which individuals believe that outcomes from an action are caused by their own inputs or, rather, by outside forces. Individuals that have an external locus of control, also known as "externals", look to destiny, fate, luck, chance or any other random factors to explain life's outcomes. In contrast, individuals that have an internal locus of control, also known as "internals", believe that their own actions will result in explainable consequences. Finally, Lasane and Jones' study defined self-efficacy as "the beliefs in one's capabilities to mobilize the motivation, cognitive resources and course of action needed to meet given situational demands" (p. 34). Essentially, Lasane and Jones suggested that the motivation behind people's decision to perform a task is partly dependent on their degree of internalization, locus of control, as well as how confident they felt about performing that task.

As presented by Lasane and Jones, all three components described above are integral parts to the construct of self-motivation. Each of the three components is unique and could conceivably be analyzed at length in its own separate

study. However, investigating all three components in depth is not the primary goal of this study. In regard to internalization and locus of control, these elements deal primarily with personality and stable trait-like characteristics. In contrast, self-confidence has been documented as trainable and malleable characteristics (Eden & Aviram, 1993). Boardman and Robert (2000) stated that a person will choose to repeat a task if he or she felt comfortable in performing that task, in other words, feeling confident in performing a specific task. In addition, self-confidence can be developed via a number of different methods and examining these methods in-depth is the focus of this study. However, before proceeding, a basic description of the essential characteristics of self-confidence is presented in order to provide an important foundation upon which this study is built.

#### Definition of Self-Efficacy

In describing the idea of self-confidence in performing a specific task, Albert Bandura coined the term self-efficacy. Considered the founder of this concept, Bandura (1986) defined perceived self-efficacy as,



"...people's judgments of their capabilities to organize and execute course of action required to attain designated types of performances. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses" (p. 391). In his 1997 book entitled "Self-efficacy: The Exercise of Control", Bandura goes on to further describe the concept of self-efficacy, stating that general efficacy is a process in which cognitive, social, emotional, and behavioral sub-skills are organized and effectively coordinated to serve countless purposes. This does not mean that all individuals possessing similar sub-skills have an equal level of self-efficacy. The reason for this is that people often fail to perform optimally even though they have acquired the knowledge of what to do as well as the basic skills to perform certain task(s). In essence, self-efficacy is not concerned with the number of skills an individual possesses, rather it is more concerned with what an individual believes he or she can accomplish under a variety of circumstances. Hence, individuals with identical skills, or the same individual under a different setting, may perform inadequately, satisfactorily, or exceptionally depending on the fluctuations in their belief

in their own perceived personal efficacy. It is then obvious that self-efficacy, in any context, is an essential pre-cursor for successful outcome(s). However, for a concept to be accepted in the scientific community, its validity must be definitively and repeatedly demonstrated. One way to demonstrate a concept's validity is to apply it to real world applications and/or situations and then examine the subsequent outcome(s). Because self-efficacy has been hypothesized to exist in a variety of settings, proof must be given to support this premise. Contained within the next section of this study are a few examples of published, real world applications of self-efficacy.

#### Contextual Examples of Self-Efficacy

The general topic of self-efficacy has been explored extensively in research and applications. Many past studies have supported the idea that Bandura's self-efficacy theory can be generalized across tasks and domains (Lin, Gorrell, & Taylor, 2002; Tucker & McCarthy, 2001). For example, McDonald and Siegall (1992) examined the effects of technical self-efficacy on the attitudes and performance of telecommunication field service technicians, whose jobs

underwent a major technological change. The authors concluded that there was a positive correlation between technical self-efficacy and satisfaction, commitment, work quality, and work quantity. McDonald and Siegall also reported that technical self-efficacy was negatively correlated with absenteeism and tardiness behaviors. May, Schwoerer, Reed, and Potter (1997) investigated the relationship between ergonomic workstation designs and self-efficacy. The authors reported that self-efficacy moderated the relationship between workstation designs and job satisfaction, somatic complaints, and persistent pain. May et al. concluded that employees with low self-efficacy are more influenced by physical job conditions when compared to employees that have comparatively higher self-efficacy. Boardman and Robert (2000) cited many published sources that reported how self-efficacy positively influenced a wide variety of health-related behaviors. Examples of these behaviors included activities that promote physical fitness, weight management, smoking cessation, maintenance of aftercare treatment for substance abusers, and AIDS prevention program. Tucker and McCarthy (2000) hypothesized that pre-graduate business students who

gained mastery experiences in public presentation skills, in the form of working in a service-learning project, demonstrated enhanced perceived self-efficacy in communication. They concluded that participants reported significantly higher level of communication self-efficacy after participating in this service-learning project. Lastly, Stajkovic and Luthans (1998) concluded that self-efficacy can positively affect work-related performance in a wide variety of settings including employment search, learning task-related achievement, sales, research productivity, adjusting to sophisticated technology, dealing with career-related events, new skill acquisition, simulated supervisory performance, naval performance at sea, and adapting to a new organizational setting.

It is evident that self-efficacy has been extensively explored and studied in both the academic and practitioner arenas. Additionally, past research has illustrated that self-efficacy is an important personal characteristic to consider due to its critical role in the motivational process. In turn, organizations that employ these individuals will reap the benefits of employing self-efficacious individuals. Since the focus of this study is

based in a work-setting environment, the following sections will review documented personal and organizational benefits of self-efficacy in the context of organizations that employ self-efficacious individuals.

#### Personal Benefits of Self-Efficacy Within an Organizational Setting

It has been documented that there is a significant relationship between self-efficacy and various personal outcomes (Bandura, 1997; Church, Teresa, Rosebrook, & Szendre, 1992; Lent, Brown, & Larkin, 1986). Examples included grades (Lent, Brown, & Larkin, 1986), choice of college majors (Church et al., 1992), and a range of perceived career options (Bandura, 1997; Church et al., 1992; Lent, Brown, & Larkin, 1986). Additionally, once a career option has been chosen, high personal efficacy will contribute to a high job performance (Bandura, 1997). In turn, additional benefits stemming from a job well done may include such tangible rewards as a good salary, increased job security, preferred social status within the work environment, flexibility and autonomy within the job, chance to learn new competencies leading to additional

organizational opportunities, and chance for career advancement opportunities (Bandura, 1997).

#### Organizational Benefits in Employing Self-Efficacious Employees

Within an organizational setting, recent studies have described some of the benefits of heightened self-efficacy. Some examples included acceptable employee attendance habits, employees being more job-focused (McDonald & Siegall, 1992), employees improving their work performance and producing work of a higher quality (McDonald & Siegall, 1992; Schwoerer & May, 1996; Staples, Hulland, & Higgins, 1999), higher employee organizational commitment (McDonald & Siegall, 1992), and employees reporting an overall higher job satisfaction (Greenglass & Burke, 2000; McDonald & Siegall, 1992). Lastly, Cunningham, Woodward, Shannon, MacIntosh, Lendrum, Rosenbloom, and Brown (2002) reported that self-efficacy exerted a mediating effect on readiness for employee and organizational change.

These are only a few examples of the benefits of a workforce that is comprised of employees displaying a high level of self-efficacy. Clearly, personal self-efficacy is

important as related to described outcomes. Consequently, one can conclude that self-efficacy, in its various forms, plays an important part in the overall success of an organization. Based on published findings, it is then understandable that organizations would strive to hire and retain self-efficacious workers. Given that self-efficacy is a valuable and malleable characteristic over time, understanding the process that leads to its development is critical.

#### Methods of Self-Efficacy Development

Research has identified that a person's self-efficacy belief is developed by any of four primary methods. These four methods include: (1) examining a person's physiological and affective states, (2) vicarious experiences or modeling, (3) social persuasion, and (4) mastery experiences (Bandura, 1997; Chin & Kameoka, 2002; Ott, Greening, Palardy, Holderby, & DeBell, 2000; Prieto & Myers, 2000; Staples et al., 1999; Tucker & McCarthy, 2001).

One of the accepted methods of developing personal self-efficacy is by examining a person's physiological and

affective states (Bandura, 1997; Chin & Kameoka, 2002; Ott et al., 2000; Prieto & Myers, 2000; Staples et al., 1999; Tucker & McCarthy, 2001). Bandura (1997) further elaborated that people partly rely on somatic information conveyed by physiological and emotional states to judge their capabilities. In other words, people will interpret their emotional cues as predictors of good or poor performances. This method of self-efficacy development is especially relevant in domains that deal in physical abilities, health functioning, and in handling stress (Bandura, 1997).

Another way of self-efficacy development is through vicarious experiences, also known as modeling (Bandura, 1997; Chin & Kameoka, 2002; Ott et al., 2000; Prieto & Myers, 2000; Staples et al., 1999; Tucker & McCarthy, 2001). Not all people will have the opportunity to develop self-efficacy through enactive mastery experiences. An alternative way of gaining experience is through vicarious experiences. People can observe associates such as classmates, workmates, or playmates in similar situations to gauge their own confidence in performing like tasks in comparable situations. Furthermore, for activities that do not have absolute measures of competency, this is an



essential method of self-efficacy development. For example, a student comparing his or her test scores to his or her classmates' to judge personal performance (Bandura, 1997). In essence, this method builds self-efficacy through observation and social comparison.

The third method of self-efficacy development is commonly known as social persuasion (Bandura, 1997; Chin & Kameoka, 2002; Colwell & Gay, 1997; Ott et al., 2000; Prieto & Myers, 2000; Staples et al., 1999; Tucker & McCarthy, 2001). Bandura (1997) stated that "social persuasion serves as a further means of strengthening people's beliefs that they possess the capabilities to achieve what they seek" (p. 101). Additionally, research has found that people receiving positive encouragement are more apt to put forth a greater effort in order to attain success, especially if the positive encouragement is coming from significant others (Chin & Kameoka, 2002; Colwell & Gay, 1997; Schunk, 2003; Tucker & McCarthy, 2001).

The last and most important method of personal self-efficacy development is through enactive mastery experiences (Bandura, 1997; Chin & Kameoka, 2002; Ott et al., 2000; Prieto & Myers, 2000; Staples et al., 1999;

Tucker & McCarthy, 2001). Acquiring mastery experiences is the most important method of self-efficacy development because it offers definitive evidence of whether or not an individual has what it takes to succeed (Bandura, 1997). It is through these successful mastery experiences that a person's belief in his or her abilities is strengthened and subsequently reinforced (Tucker & McCarthy, 2001).

As alluded to earlier in this paper, the current study is based within a health care provider setting. Although all four methods of self-efficacy development are important in developing personal self-efficacy, two methods are most essential for self-efficacy development in this context. They are social persuasion and mastery experiences. The primary reasons these two methods are deemed fundamental to this study are due to the characteristics of the sample participant population of nurses. First, in order to be employed, all nurses must possess a minimum educational degree although the degree of formal education attained is varied (mastery experiences). Secondly, nurses working in this area are required to have periodic evaluations from their supervisor (social persuasion). Finally, it has been documented that there are many desired personal outcomes

for motivation. These outcomes can be loosely placed into four unique categories which include activities performed to avoid punishments or to obtain rewards, in maintaining self-esteem, actions taken to correspond with personal values, and for personal enjoyment (Gagne et al., 2003). Since this study is based in a work environment, there are several personal outcomes that are especially pertinent to this population sample. These outcomes include financial compensation, job security, and perceived advancement potential. Nurses are traditionally financially compensated according to a well-defined wage range, which results in a fairly uniform salary pattern. Currently, there is a well-documented nationwide shortage of nurses (Heinz, 2004). Consequently, as long as an RN is able to perform at a minimum level, there are many employment options available. Therefore, job security is not an issue for most nurses. Even though there is little variability for salary and job security, one factor that could have the potential for great variability is perceived advancement potential for nurses that excel in their performance. Therefore, an additional and pertinent personal outcome chosen for

analysis in this study is the participants' perceived advancement potential.

#### Social Persuasion (Hypothesis 1)

Social persuasion is one of four primary methods of self-efficacy development in individuals. This method of self-efficacy development is primarily delivered to an individual in the form of an oral or written evaluative feedback by significant others (Bandura, 1997). Research has provided additional support for this premise from Bandura. For example, Chin and Kameoka (2002) conducted a self-efficacy study involving a sample of Hispanic inner-city adolescents. The authors examined three self-efficacy development methods which were mastery experiences, modeling and social persuasion. Chin and Kameoka concluded that social persuasion, in the form of positive encouragement from parents, teachers, and peers, most strongly predicted both educational and occupational expectations. Ott et al. (2000) monitored adolescent participants for adherence to a prescribed medical treatment modality for diabetics. The authors defined their social persuasion parameters as parental support in the

form of planning activities around treatment schedules and positive verbal encouragement. Although Ott et al. reported that negative feedback undermined self-efficacy, they also reported non-significant findings for supportive parental behaviors and treatment adherence. Rosen (2000) conducted a study measuring perceived self-efficacy in associate and baccalaureate-degree nursing students preparing for a career in the specialty area of Community Health Nursing. Although it was not one of the primary findings, Rosen reported that social persuasion, in the form of feedback from professors, practicing nurses and fellow students, was positively related to self-efficacy and was influential in increasing the students' perceived self-efficacy. Schunk (2003) investigated the relationship between positive feedback on reading and writing skills in a group of junior high school students. Schunk reported that participants who received supplemental positive feedback from their instructors, along with goal-setting, displayed a significant improvement in both reading and writing skills when compared to students who did not receive the added positive feedback from their instructors. In summary, even though each of these studies occurred in a different

context, all of them relied on some form of positive feedback as the operational definition for social persuasion.

Aside from being an important method of self-efficacy development, another reason that social persuasion was chosen as one of the methods to be examined for this study is due to the uniqueness of the sample population. The population sample for this study was drawn from a pool of nurses working in an in-patient setting within a hospital. In this environment, it is a legal requirement to provide documented feedback, scheduled and unscheduled, to new and current nursing employees. These types of feedback can range from informal verbal counseling, documented verbal counseling, and written evaluations. Written evaluations can be in the form of initial evaluations for new hires, three or six-month probationary evaluations, or in the form of annual evaluations.

Before proceeding further, an explanation of operational definitions for out-patient and in-patient population is in order. Within the Nursing profession, there are basically two types of patient population. They include out-patients and in-patients. Essentially, out-

patients are patients who are not expected to be admitted for medical observation overnight. Examples include patients who have clinic appointments, those who are seen in a physician's office, and those patients who visit the Emergency Department for various physical or mental complaints that do not require overnight admission. In contrast, the in-patient population can include laboring patients, patients who have just delivered a new baby, small babies or children with chronic or long-term medical ailments, adult patients with acute or chronic medical conditions requiring medical treatment and observation, and patients who have had elective or necessary surgical procedures with potential post-operative complication risks requiring medical observation.

Although there have been ample published studies providing support for social persuasion and how it builds self-efficacy, there does not seem to be an abundance of studies investigating this concept within a hospital work-setting context involving nurses. Since self-efficacy development is an important question that is not commonly examined within this specific population, findings of this study might provide additional, supportive evidence for

self-efficacy development in another context. Hence, it will be enlightening to conduct a study to further validate this concept in a specific work-setting context. Therefore, it is proposed that:

Hypothesis 1: There will be a positive relationship between feedback and perceived self-efficacy and perceived advancement potential. Participants that have received positive feedback will display a higher level of self-efficacy when compared to participants who have received comparatively less positive feedback or negative feedback. In addition, participants that have received positive feedback will display a higher perceived advancement potential when compared to participants who have received comparatively less positive feedback or negative feedback.

#### Overview of Mastery Experiences

In contrast to social persuasion, the process of acquiring mastery experiences does not rely on feedback from other individuals. Rather, it relies on past successful personal experiences. According to Bandura (1997), out of the four self-efficacy development methods,



mastery experiences is the single most important technique in addition to being the most often documented method of self-efficacy development (Ott et al., 2000; Tucker & McCarthy, 2001). As stated previously, success in mastery experiences is the single most important predictor of self-efficacy because they provide definitive evidence of whether or not an individual has what it takes to perform a specific task (Bandura, 1997; Boardman & Robert, 2000; Prieto & Myers, 2000). It is then apparent that the concept of mastery experiences is crucial in the development of self-efficacy.

Past research on mastery experiences is extensive and has covered this concept in many specific contexts since these experiences occur in a wide variety of settings and encompassing a wide variety of tasks (Boardman & Robert, 2000; May et al., 1997; McDonald & Siegall, 1992; Tucker & McCarthy, 2000). Clearly, there are many different ways that an individual can attain mastery experiences. Subsequently, different mastery experiences may not contribute equally to self-efficacy development. Within the scope of this study, it is impossible to examine all these different studies in their specific contexts and assess

relative self-efficacy relationships. However, it is one of the goals of this study to examine two specific examples of mastery experiences and their relative contributions to self-efficacy development. They are formal education and/or training; and actual work experience.

Rationale for Choosing Formal Education and/or  
Training; and Actual Work Experience as  
Mastery Experiences in Self-Efficacy  
Development

Aside from being the most important method of self-efficacy development (Bandura, 1997; Ott et al., 2000; Tucker & McCarthy, 2001), there are a few additional reasons of why this method of self-efficacy development was chosen for this study. As mentioned previously, the participants' pool is drawn from nurses who are currently employed within a hospital's in-patient setting, which is also commonly referred to as an acute care setting. In reviewing past research on this topic, it appears that there are few available published studies examining this specific method of self-efficacy development within this specific context. In examining mastery experiences within the context of the current national nursing shortage,

findings from this study might identify relevant issues associated with methods of self-efficacy development in nurses.

Regarding formal education and/or training and its relationship to self-efficacy development, there is a lack of published studies within the specified nursing context. One explanation for this shortage in documented studies might be the fact that most professions have standardized educational requirement(s) for employment. Depending on the profession, these uniform requirements can vary from certificate of training, a diploma degree, a bachelor's degree, a master's degree, or a PhD. Since types of formal education requirement for any position is generally uniform in most organizations, there may be less of a need for studying the relationship between levels of formal education and/or training and self-efficacy. Although this is the case for most professions, there are some exceptions to the rule. One notable exception to this rule is the Nursing profession.

Within the Nursing profession, there are many sub-specialty areas that a nurse could choose to work in. Within these specialty areas, there are established

positions that require standardized educational requirements such as Dean of School of Nursing, Chief Nursing Officer, and Department Director, etc. Although this is the case, within one general sub-category of Nursing, there is a wide range of educational requirements that allows nurses to be employed in this area. More specifically, this statement refers to the nurses that are employed in areas that give direct, hands-on patient care in an acute care setting.

Within this paper, direct or hands-on patient care refers to nurses working on any in-patient nursing specialty units that deal physically and directly with the patients. Generally, these specialty areas provide care for patients that are seen or admitted overnight in a hospital. Briefly, some examples include patients who are seen in the Emergency Department for various physical or mental complaints, laboring patients, small babies or children with medical ailments, patients with acute or chronic medical conditions requiring medical treatment and observation, and patients who have had or are scheduled for elective or necessary surgical procedures.

Although all these nurses are required to have, at minimum, an active state Registered Nurse license, nurses in these areas will often possess varying levels of formal education along with their nursing license. Some have earned a two-year Associate Nursing degree or ADN (Rosen, 2000). Some have obtained a three-year Nursing degree. Still, others employed in the same role have attained a Bachelor in the Science of Nursing or BSN degree (Rosen, 2000). In some rare instances, an employee may have achieved a Master's degree in Nursing (MSN). Subsequently, the sample pool drawn from the in-patient nursing population is comprised of a unique collection of individuals who represent a wide array of formal educational levels. These formal educational differences could prove to be a significant factor in the overall development of self-efficacy in nurses which, in turn, might result in a significant differential performance among these nurses.

Finally, in comparing factors of mastery experiences of formal education and work experience, it is postulated that actual work experience is closely identified with the formal education factor. Along this line of reasoning, work

experience can be viewed as informal education, in essence, a form of on-the-job training. Therefore, examining this factor in comparison with formal education and/or training within the same study would provide additional valuable contextual insight into the relationship between education and self-efficacy.

Mastery Experiences: Educational Factor  
(Hypothesis 2a)

Bandura (1997) states that "as children master cognitive skills, they develop a growing sense of their intellectual efficacy" (p. 174). He also went on to address training, which is an applied format of education. Bandura hypothesized that with on-the-job training, people learn and retain new skills by practicing and experiencing success with these new skills. Subsequently, training plays a pivotal part in the growth of occupational self-efficacy.

Past empirical studies have supported Bandura's concept that formal education and/or advanced training is a significant contributor in developing a person's sense of self-efficacy. For example, Colwell and Gay (1997) conducted a study involving participants at Texas All Well,

a Seaside-type school health promotion conference, for a three-year period. The authors reported that participants' self-efficacy, as related to personal health behaviors and knowledge, increased during these conference session periods. Eden and Aviram (1993) conducted a self-efficacy study in which the participants were short-term unemployed individuals. The authors reported that the job search training sessions, which ran for 2 ½ weeks, were positively associated with recorded self-efficacy levels post-training. Eden and Aviram also reported that those participants who reported an increase in self-efficacy post-training were more likely to be re-employed. Garcia, Metha, Perfect, and McWhirter (1997) conducted a study involving senior counselors who were enrolled in a peer counseling training program. Post-training, the authors wrote that the participants reported increased self-efficacy, which they attributed to the training program. Prieto and Myers (2000) conducted a study examining the effects of training and supervision in psychology graduate teaching assistants. The authors concluded that formal training has a significantly positive effect on the graduate teaching assistants' sense of self-efficacy toward

teaching. In 2002, Lin et al. conducted a study involving pre-service teachers. The authors reported that other studies have found that pre-service teachers' self-efficacy beliefs could be strengthened due to the acquisition of knowledge through educational training programs. At the conclusion of their own study, Lin et al. concluded that pre-service teacher participants had higher efficacy belief scores at the end of the teacher education training programs when compared to efficacy belief scores at the beginning of the training programs. Lastly, Vrugt, Oort, and Zeeberg (2002) conducted a self-efficacy study utilizing "beginning" and "advanced" secondary school students. The authors reported that task orientations positively contributed to perceived self-efficacy for the advanced students but not for the beginning students. Vrugt, Oort, and Zeeberg also reported that self-efficacy positively contributed to personal goals which, in turn, contributed to academic achievement for both groups.

In brief, assuming that all other factors being equal, the idea that formal education builds self-efficacy has been demonstrated to be true in different domains. In essence, the more formal education that a person has



attained in a subject matter, perceived self-efficacy for this individual should be comparatively higher when measured against other individuals within the same domain. Since one of the goals of this study is to examine self-efficacy in the nursing context, it is proposed that:

Hypothesis 2a: There will be a relationship between formal education and perceived self-efficacy and perceived advancement potential for participants performing the same essential job functions.

Specifically, participants who have attained a higher level of formal education will display a higher level of self-efficacy when compared to participants who have successfully completed comparatively fewer years of formal education. In addition, participants that have attained a higher level of formal education will display a higher perceived advancement potential when compared to participants who have attained a comparatively lower level of formal education.

Mastery Experiences: Work Experience Factor  
(Hypothesis 2b)

Another prominent example of mastery experiences is work experience. Research has supported the general concept that the longer an individual works at particular tasks and is successful in performing them, the more confident that person would feel in performing those tasks. For example, Lin et al. (2002) reported that research has confirmed the general concept that teachers' sense of self-efficacy becomes more salient with gained experience. Using this finding as background information, they conducted a study involving pre-service teachers. At the conclusion of their study, Lin et al. concluded that pre-service teacher participants had higher efficacy belief scores at the end of the teacher education training programs when compared to efficacy belief scores at the beginning of the training programs. Prieto and Myers (2000) conducted a study examining training and supervision and their relative effects on self-efficacy on graduate teaching assistants. The authors reported that graduate teaching assistants who received formal training displayed a greater sense of self-efficacy when compared to those who did not receive the

same amount of formal training. Prieto and Myers also reported that past research has supported the idea that teaching experience increased graduate teaching assistants' sense of self-efficacy in regard to obtaining and employing effective teaching behaviors. Yeung and Watkins (2000) conducted a study to primarily examine teaching efficacy of student teachers who received training in Far East colleges from these student teachers' own perspective. The authors reported observed growth in professional maturity in the participants as the course of training progressed. This maturity allowed these participants to devote significant attention to their pupils' learning needs and assisted the participants in developing a perception of self-competence in a teaching relationship with their pupils. Lastly, Yeung and Watkins cited past research as well as their own findings in supporting the theory that participants' sense of teaching self-efficacy increased as their teaching experience accumulated.

Research has supported the idea that work experience, as a form of mastery experiences, is essential for self-efficacy development in various contexts. In recognizing the fact that there is a well-known shortage of nurses

across the country, an important question must be addressed. Is it a viable option to train the nurses on-the-job, in developing them into fully functioning nurses, by increasing their perceived self-efficacy? Given previous theory and research, it is proposed that:

Hypothesis 2b: There will be a relationship between work experience and perceived self-efficacy and perceived advancement potential within the same specific job setting. Participants that have accumulated greater work experience will display a higher level of self-efficacy when compared to participants who have accumulated comparatively less work experience. In addition, participants that have accumulated greater work experience will display a higher perceived advancement potential when compared to participants who have accumulated comparatively less work experience.

#### Comparison of Methods of Self-Efficacy Development (Hypothesis 3)

It has been well-documented that there is a present nursing shortage within these United States (Heinz, 2004).

In response to this current crisis, there has been a nationwide growth in nursing training programs whose primary goals are to educate and prime these nursing students for their life's work. Despite these institutions' best efforts, some of these nurses might not be adequately prepared when they finally arrive at the actual work environment. Although all will have the licensure to practice, some will lack the self-confidence to perform essential job duties at the start of the new job. Inevitably, all will continue to learn essential occupational skills while on the job. Otherwise, they will be unable to function competently in their work environment. One way to ease the transition for these nurses is to accelerate the building of their personal self-efficacy. In order to expedite this process, it is important to determine the self-efficacy development methods that are most effective in building self-confidence in these nurses.

With past research providing ample support for social persuasion and mastery experiences as proven methods of self-efficacy development, the present study seeks to answer a comparison question with the third hypothesis. The

comparison is between the two methods of self-efficacy development, social persuasion and mastery experiences, in three ways (feedback, formal education, and actual work experience). Although it would be ideal to employ all three ways of self-efficacy development concurrently, sometimes, this might not be possible. Hence, the current study will seek to rank the most to the least influential way of self-efficacy development among the three. Specifically, it is proposed that:

Hypothesis 3: There will be three factors that are differentially important in the prediction of self-efficacy and perceived advancement potential. Work experience will be the most influential factor, followed by formal education, with social persuasion (in the form of positive feedback) being the least influential among these three factors.

## CHAPTER TWO

### METHODS

#### Participants

According to Tabachnick and Fidell (2001), the power analysis for a sequential regression study with six independent variables (IVs) should have a minimum of 98 cases (where N is equal or greater than 50 cases plus the number of IVs multiplied by eight). A total of 135 surveys were collected from participating nurses, who were recruited from a Southern California hospital. The participants for this study included only Registered Nurses that currently work or have had experience in hands-on patient care units. Examples included Adult Critical Care, Birthing Center, Detention Care, Emergency Department, General Medicine, General Surgery, Neonatal Intensive Care, Newborn, Obstetrics, Operating Room, Pediatrics Critical Care, Pediatrics, Post Anesthesia Care, Progressive Care, Surgical Specialties, and Surgical Spine units.

Data from collected questionnaires were analyzed to answer four hypotheses for this study. The participant population was comprised of 82% females (110 out of 135

participants) and 18% males (25 out of 135 participants). The average age was 45 with the age range between 23 and 71. Ethnicity options included Asian-American (30%), Black or African-American (12%), Hispanic-American (8%), White or Caucasian of non-Hispanic descent (49%) and a write-in option for "Other" (1%). For this option, some responses included Asian, Asian-Pacific, Burmese, Caucasian-Hispanic, Filipino, Pacific Islander, and non-specified. Of these write-in responses, most were re-coded into their correct category. For example, "Asian" and "Filipino" were recoded as Asian-American. There were two responses that did not fit into any of the listed categories and they were coded as "other" response (one percent of the sample population).

Respondents were asked to choose a home unit from four options, of which three were categorized based upon the type of patient population. The areas of specialty included general care units (31%), well-maternal care units (13%), and critical care units (52%). For those respondents that did not fit into one of the three categories, there was a fourth option to mark "Other" and a line to write in their home unit. "Other" units included conscious sedation monitoring, float nurses (nurses that are qualified to work



in most areas of hospital), nursing administration, and same day surgery. There were five questionnaires that belonged in this category and they were all coded as "other" in this study (four percent of the sample population).

Another key demographic characteristic included in this questionnaire inquired about the formal level of nursing education that each participant had completed. The participants were able to choose from four distinct options. The levels of education breakdown for the participants were as follows: Registered Nurses (RNs) with a two-year nursing degree was 47% (64 out of 135 respondents), RNs with a three-year nursing degree was 11% (15 out of 135 respondents), RNs with a four-year nursing degree 36% (49 out of 135 respondents) and RNs with a Master's degree 5% (7 out of 135 respondents).

All participants were informed that there were no foreseeable risks or direct benefits associated with the participation in the present study. The only incentive offered to participants in this study was an opportunity to enter into a drawing to win two tickets to a Southern California amusement park. All participants were treated in

accordance with the ethical standards of the American Psychological Association (1992).

#### Procedure

As one item on the agenda for regularly scheduled unit meetings, potential and eligible nurses were invited to voluntarily participate in this study. Next was a brief introduction of the researcher. The participants were then informed that although this study was going to be conducted by a current hospital employee, this was not a commissioned study initiated by the hospital administrative staff. The sole purpose of the current study was to gather research information for a master's thesis. All potential participants were informed that the current study was designed to primarily measure job attitude(s) and job experiences within the parameters of performing essential job duties via a printed questionnaire packet. Participants who agreed to participate were then asked to read and sign an informed consent. The participants were assured that their individual responses were completely anonymous and therefore confidential. Post data analysis, completed surveys were stored in a secured location for a period of

seven years per the American Psychological Association. All questionnaires were handed out to qualified participants during a thirteen-week period in 2005.

In completing the questionnaires, there were essentially two parts to this study. First, the participants filled out the demographics pages, completing basic personal and professional information. This type of information was used to describe the sample population. Secondly, the participants then answered a 29-item questionnaire, designed to gather information about the participant's self-efficacy and perceived organizational advancement potential as related to feedback, education, and work experience. See Appendix A for copy of research questionnaire.

The manner of how the questionnaires were completed (time of day, location, room temperature, etc.) was at the participants' discretion. The participants were instructed to deposit the completed questionnaire packet (in a provided envelope) in a locked box labeled "Education Drop Box" located outside room A1031 within the Nursing Office suite (room A1035) at Riverside County Regional Medical Center. Note: Some questionnaires were taken directly to

the researcher's office (room A1033) or were sent to the researcher via inter-departmental mail. Finally, as compensation for taking part in this study, all interested and eligible participants were able to enter themselves into a drawing for two adult tickets to a Southern California amusement park of their choice.

### Measures

The first scale used in this study was adapted from Chen, Gulley, and Eden (2001). It was an eight-item scale designed to measure general self-efficacy as operationalized by Bandura (1986). Responses were given on a six-point, Likert-type response scale ranging from 1 (strongly agree) to 6 (strongly disagree). Sample statements included, "In general, I think that I can obtain outcomes that are important to me", and "I will be able to achieve most of the goals that I have set for myself". The scale reliability (alpha) was reported at .86.

The second scale used in this study, work self-efficacy scale, was developed by Riggs, Warka, Babasa, Betancourt, and Hooker in 1994. It was a ten-item scale designed to measure personal self-efficacy, in a work

environment, as operationalized by Bandura (1986). The reason that the authors developed this scale was to simplify the process of measuring task-specific measures for each study. Responses were given on a six-point, Likert-type response scale ranging from 1 (strongly agree) to 6 (strongly disagree). Sample statements included, "I have confidence in my ability to do my job", and "I have all the skills needed to perform my job very well". The scale reliability (alpha) was reported at .86.

The third scale used in this study was adapted from Heilman, Block, and Lucas (1992). It was a four-item advancement scale designed to measure an individual's perception of his or her advancement potential. Responses were given on a six-point, Likert-type response scale ranging from 1 (strongly agree) to 6 (strongly disagree). Sample statements included, "my future career with this organization looks bright", and "I will be promoted to a higher position sometime during my career with this organization". The scale reliability (alpha) was reported at .76.

The fourth scale utilized in this study is a three-item, four part feedback instrument (total of 12 questions)

developed by the author of this study. It was developed specifically for this study to assess the quality of feedback, from each of four main sources an individual received while performing his or her job. These sources included self, client, peer, and supervisor's feedback. It had a six-point, Likert-type response scale ranging from 1 (strongly agree) to 6 (strongly disagree). Sample statements included, "in general, my past required evaluations (in the form of initial, six-month, and annual evaluations) given to me by my unit management staff are of a positive nature", and "my peers do not mind covering my patient assignments when I go on break because they know that I have met all of my patients' immediate needs before I leave for a break." The calculated scale reliability (alpha) were as follows: for self feedback, it was .68; for client feedback, it was .78; for peer feedback, it was .67; and for supervisor's feedback, it was .60.

The fifth and final scale included on the questionnaire is an author-developed instrument designed to measure specialty-specific nursing self-efficacy. It was a nine-item scale broken down into three subscales with each subscale representing a nursing specialty module comprising

of similar types of in-patient population. The three modules were: general care units, well maternal-child care units, and critical care units. There were three statements assessing self-efficacy for each module. It had a six-point, Likert-type response scale ranging from 1 (strongly agree) to 6 (strongly disagree). A sample statement for the general care module was, "I can consistently perform a bedside blood sugar check on all my patient(s) accurately and follow through with the results accordingly". A sample statement for the critical care module was, "I am consistently able to recognize life-threatening arrhythmias accurately and intervene appropriately to ensure the best possible outcome for my patient(s)." During the data analysis process, it was discovered that many participants responded to statements pertaining to their specific module (as the minimum) as well as any other statements in the other two specialty modules that applied to them. Because these responses ranged anywhere from three to nine items, which did not fall into any discernible or uniform pattern, the alpha coefficient for this scale could not be computed.

Next, in expounding upon formal education level and work experience descriptive statistics as reported in the

demographics section, operational definitions of level of formal education and work experience are described in detail in the following sections. Level of education was operationalized into four categories which captured the level of formal nursing education for all participants ranging from less to more education. The first category included all nurses who have obtained an Associate Degree in Nursing (ADN) or a two-year degree equivalent. The second category included all nurses who have earned a three-year degree in Nursing. The third category included nurses who have attained a Bachelor in the Science of Nursing (BSN) or an equivalent four-year degree. The fourth category included nurses who have achieved a Master in Nursing (MSN) degree. In addition to being able to practice in any of the aforementioned nursing specialties, all participants in this study were registered with the State of California and were licensed.

Finally, work experience was measured on a continuum by obtaining responses from participants about their cumulative years and months of overall experience in the field of Nursing as well as requiring participants to



include years and months of nursing experience in their current area of specialty.

## CHAPTER THREE

### RESULTS

There were a total of 428 questionnaires distributed to qualified participants. A total of 138 questionnaires were returned. By visual examination, three questionnaires were discarded due to missing demographics and/or much missing data. Subsequently, data from a total of 135 questionnaires were used to draw conclusions about the four hypotheses in this study.

Prior to analysis, all the independent variables (self feedback, clients' feedback, peers' feedback, supervisors' feedback, formal level of registered nurse education, and cumulative months of work experience as a registered nurse) and the dependent variables (general self-efficacy, work self-efficacy, specialty-specific work self-efficacy, and perceived advancement potential) were examined through various SPSS options for accuracy of data entry, missing values, and fit between their distributions and the assumptions of multivariate analysis. Of these 135 cases, there were no extreme skewness or kurtosis and therefore, no transformations were done. However, one case was deleted

due to the discovery of an outlier with a standardized score of greater than +3 for the clients' feedback scale. In examining the remaining 134 cases by looking at the standardized scores, there were no other identified univariate outliers. Lastly, SPSS was used to calculate the Mahalanobis distance for the six independent variables. The critical value for  $df = 6$  was 22.458. There were no cases that exceeded this critical value.

Means, standard deviations, and bivariate correlations for all study variables are presented in Table 1. In order to test the four study hypotheses, a series of sequential regression analyses were conducted. Four separate analyses were conducted to examine the impact of feedback, education, and work experience on self-efficacy and perceived advancement potential. Note: There were three self-efficacy outcomes which included general, work, and specialty-specific self-efficacy.

For each analysis, predictor variables were entered in three steps. In the first step, four variables representing different facets of feedback were entered. They included supervisor, peer, client, and self feedback. In the second step, formal level of registered nurse education was

entered. In the third step, cumulative months of work experience in current classification was entered. The order of entry was intended to allow for the examination of formal education and work experience on the three types of self-efficacy and on perceived advancement potential, after controlling for feedback. Regression results for each of the self-efficacy outcomes are presented in tables 2 through 4. Regression results for perceived advancement potential are presented in table 5.

The first analysis examined general self-efficacy (GSE). In step 1, with the four levels of feedback (representing social persuasion) in the equation, step 1 was significant,  $R^2 = .33$ ,  $F(4, 128) = 15.93$ ,  $p < .05$ . Although there were four types of feedback examined, the results indicated that only client's feedback had a significant effect on general self-efficacy. In step 2, with level of formal registered nurse education added to the four levels of feedback in the equation, step 2 was significant, step  $R^2 = .03$ ,  $F_{inc.}(1, 127) = 4.52$ ,  $p < .05$ . Addition of level of formal registered nurse education in step 2 resulted in a significant increment in  $R^2$ . In step 3, with cumulative months of registered nurse

experience added to level of formal registered nurse education and the four levels of feedback in the equation, step 3 was not significant, step  $R^2 = .01$ ,  $F$  inc. (1, 126) = 1.86,  $p > .05$ . In step 3, client's feedback and level of formal registered nurse education were significant predictors of GSE. However, addition of cumulative months of registered nurse experience in step 3 did not improve  $R^2$ . In summary, feedback explained 33% of the variance in general self-efficacy. Adding level of formal education explained an additional 3% of the variance. Finally, adding work experience explained an additional 1% of the variance for a cumulative total of 37% for the overall model,  $R^2 = .37$ ,  $F$  (1, 126) = 1.86,  $p > .05$ .

The second analysis inspected work-specific self-efficacy (WSSE). In step 1, with the four levels of feedback (representing social persuasion) in the equation, step 1 was significant,  $R^2 = .42$ ,  $F$  (4, 128) = 23.30,  $p < .05$ . Although there were four types of feedback examined, the results indicated that only self feedback had a significant effect on work-specific self-efficacy. In step 2, with level of formal registered nurse education added to the four levels of feedback in the equation, step 2 was not

significant, step  $R^2 = .01$ ,  $F$  inc. (1, 127) = 1.34,  $p > .05$ . Addition of level of formal registered nurse education in step 2 did not improve  $R^2$ . In step 3, with cumulative months of registered nurse experience added to level of formal registered nurse education and the four levels of feedback in the equation, step 3 was significant, step  $R^2 = .02$ ,  $F$  inc. (1, 126) = 5.89,  $p < .05$ . In step 3, self feedback and cumulative months of registered nurse experience were significant predictors of WSSE. In summary, feedback explained 42% of the variance in work-specific self-efficacy. Adding level of formal education did not explain any additional variance. Finally, adding work experience explained an additional 3% of the variance for a cumulative total of 45% for the overall model,  $R^2 = .45$ ,  $F$  (1, 126) = 5.89,  $p < .05$ .

The third analysis investigated specialty-specific self-efficacy in nursing (SSSE). In step 1, with the four levels of feedback (representing social persuasion) in the equation, step 1 was significant,  $R^2 = .31$ ,  $F$  (4, 127) = 14.40,  $p < .05$ . The results indicated that client, peer, and supervisor's feedback all had significant effects on specialty-specific self-efficacy. Interestingly enough,

only self feedback did not have an effect on specialty-specific self-efficacy. In step 2, with level of formal registered nurse education added to the four levels of feedback in the equation, step 2 was significant, step  $R^2 = .04$ ,  $F$  inc. (1, 126) = 6.53,  $p < .05$ . Addition of level of formal registered nurse education in step 2 resulted in a significant increment in  $R^2$ . In step 3, with cumulative months of registered nurse experience added to level of formal registered nurse education and the four levels of feedback in the equation, step 3 was not significant, step  $R^2 = 0$ ,  $F$  inc. (1, 125) = .03,  $p > .05$ . In step 3, client feedback, peer feedback, supervisor's feedback, and level of formal registered nurse education were all significant predictors of SSSE. However, addition of cumulative months of registered nurse experience in step 3 did not improve  $r^2$ . In summary, feedback explained 31% of the variance in specialty-specific self-efficacy. Adding level of formal education explained an additional 4% of variance. Finally, adding work experience explained did not explain any additional variance for a cumulative total of 35% for the overall model,  $R^2 = .35$ ,  $F$  (1, 125) = .03,  $p > .05$ .

The fourth analysis explored perceived advancement potential (PAP). In step 1, with the four levels of feedback (representing social persuasion) in the equation, step 1 was significant,  $R^2 = .24$ ,  $F(4, 128) = 9.90$ ,  $p < .05$ . The results indicated that self, peer, and supervisor's feedback all had significant effects on perceived advancement potential. Only client's feedback did not have an effect on perceived advancement potential. In step 2, with level of formal registered nurse education added to the four levels of feedback in the equation, step 2 was not significant,  $R^2 = 0$ ,  $F_{inc.}(1, 127) = 1.21$ ,  $p > .05$ . Addition of level of formal registered nurse education in step 2 did not improve  $R^2$ . In step 3, with cumulative months of registered nurse experience added to level of formal registered nurse education and the four levels of feedback in the equation, step 3 was not significant,  $R^2 = .01$ ,  $F_{inc.}(1, 126) = 1.27$ ,  $p > .05$ . Self feedback, peer's feedback and supervisor's feedback were all significant predictors of PAP. However, addition of cumulative months of registered nurse experience in step 3 did not improve  $R^2$ . In summary, feedback explained 24% of the variance in perceived advancement potential. Adding



level of formal education explained an additional 1% of variance. Finally, adding work experience explained an additional 1% of variance for a cumulative total of 26% for the overall model,  $\underline{R}^2 = .26$ ,  $\underline{F} (1, 126) = 1.27$ ,  $\underline{p} > .05$ .

## CHAPTER FOUR

### DISCUSSION

This study was designed to examine the effects of social persuasion (via four types of feedback which are self, client, peer, and supervisory), level of formal nursing education, and work experience, on three different types of self-efficacy (general, work, and specialty-specific), as well as perceived advancement potential, within an in-patient acute care nursing setting.

Hypothesis 1, which predicted a positive relationship between feedback and perceived general self-efficacy (GSE), was partially supported by the results. Although peer and supervisor's feedback were non-significant predictors, both self and client's feedback were significant predictors for GSE. As for peer and supervisor's feedback being non-significant predictors, it might be due to pre-established personal self-efficacy at the time that this study was conducted. Bandura (1997) states that personal biases serve to stabilize an individual's pre-existing self-efficacy beliefs. Furthermore, Bandura (1997), and Boardman and Robert (2000) reported that repeated successes in an

individual's performance serves to strengthen his or her self-efficacy perceptions further. Subsequently, an individual's GSE may not be easily swayed by outside sources such as peer or supervisor's feedback. In assuming that successful performance on the job allows an employee to remain employed, this study's demographics also support this rationale since the sample population averaged over 11 years in the current RN classification. Peer or supervisor's feedback might produce an effect on an individual's self-efficacy beliefs at an earlier stage in the formative career years but may not have an effect on GSE in the later stages of a person's career.

Although intuitive that self feedback would predict the level of a person's GSE (Bandura, 1997), it was enlightening to find that client's positive feedback was also a significant predictor of GSE. Consistent with the well-established concepts of motivation (Gagne et al., 2003) and positive reinforcement, a client's positive response(s) would provide immediate feedback to reinforce the behavior(s) of the nurse which will further strengthen GSE. Furthermore, perhaps this contextual feedback can serve to additionally strengthen GSE due to the emotional

and/or affective connections established as the nurse-patient relationship deepens over the duration of a patient's hospital stay.

In regard to work self-efficacy (WSE), client, peer, and supervisor's feedback were non-significant predictors. Only self feedback was a significant predictor for WSE. Because the participants were high in work experience, they may have already arrived at their optimal WSE belief and it might have stabilized at this point in their career (Bandura, 1997). Supportive evidence for this assertion was provided by the reported mean score of 2.04 for WSE on a six-point scale with the lower figures indicating high WSE. The participants' self-efficacy beliefs might have fluctuated during periods of change in job tasks and/or during organization change(s). However, unless the changes resulted in significant job tasks alterations, the participants' self-efficacy beliefs would probably remain stable. In turn, the participants would be less likely to be influenced by external feedback sources such as from client, peer or supervisor. As for self feedback being a significant predictor, the results of this study can contribute additional support to past findings (Bandura,

1997; McDonald & Siegall, 1992; Schwoerer & May, 1996; Staples, Hulland & Higgins, 1999) that a person's WSE is influenced by their own self-perception of how they are performing on the job.

For specialty-specific self-efficacy (SSSE), the only non-significant predictor was self feedback. The significant predictors were client, peer and supervisor's feedback. This finding is in direct contrast to WSE findings. The participants were decidedly more dependent on external sources of feedback to gauge their SSSE level. Reasons for this finding might be due to the characteristics of the sample population and their work environment. Out of the four categories of home units, the majority of the participants in this study were RNs working in the critical care areas (52%). This is a very challenging area to work in and if the tasks were performed poorly and untimely, the resulting negative outcome(s) could be of a dire consequence, not excluding death. Hence, RNs working in the critical care areas are constantly looking for feedback to validate how they are performing, regardless of how confident they are, because any mistake in their performance could lead to detrimental outcomes.

Hypothesis 2 examined the concept of mastery experiences, which were represented by two contextual examples. They included formal education and work experience. Although education and work experience are both mastery experiences, they are independent of one another. In essence, they are two aspects of the same larger construct. The non-significant and significant findings for hypothesis 2a and 2b are intertwined and will be discussed together in the following sections.

Hypothesis 2a, which predicted a positive relationship between formal education and perceived self-efficacy, was partially supported by the results. Specifically, the findings were non-significant for education and its effects on WSE. Formal education, however, was a significant predictor for both GSE and for SSSE. The non-significant findings for WSE may be reflective of Bandura's finding that accumulated work experience will make education less important (Bandura, 1997). In regard to formal education building GSE, there have been past studies that have provided support for this concept (Bandura, 1997; Eden & Aviram, 1993; Garcia et al., 1997; Lin et al., 2002). Lastly, it was interesting to note that formal education

was not a significant finding for WSE, yet it is a significant predictor for SSSE. One explanation for this finding is probably due to the expanded curriculum for bachelor and advanced-degree students. Instead of learning the basic ailments and subsequent recommended treatments, these nurses are also trained in critical thinking skills. For example, in addition to their basic training, these students are also trained to detect and understand the underlying pathophysiology of medical conditions. Some advanced-degree students are also qualified to prescribe treatments, which normally falls within a physician's scope of practice. Similar to this study's finding, Tucker and McCarthy (2002) also reported enhanced self-efficacy for participants trained in a service-learning project.

Hypothesis 2b, which predicted a positive relationship between work experience and perceived self-efficacy, was partially supported by the results. Although work experience was a non-significant predictor for GSE and SSSE, it was a significant predictor for WSE. This finding is a direct contrast to hypothesis 2a. Looking back to hypothesis 2a, it was noted that education played a part in building GSE and SSSE but that is not the case for work

experience. In regard to the finding of work experience being a significant predictor for WSE, work experience is often positively correlated to an individual's WSE based on the actual amount of work experience that an employee has accrued (Bandura, 1997; Lin et al., 2002; Prieto & Myers, 2000; Yeung & Watkins, 2000). In essence, as long as the employee is performing similar job tasks, work experience is automatically and continually accrued and this serves to increase an individual's WSE through work experience. In interpreting this result, it appears that the longer a person works at the job, the higher that individual's WSE becomes.

In conclusion, it appears that the more education a person has attained, the higher the levels of GSE and SSSE. This might be due to the fact that specialty RNs are required to be trained in theory as well as in the clinical settings prior to working on their own. In contrast, as long as an individual is working in any setting, general work experience accumulates automatically and serves to enhance that individual's WSE.

Hypothesis 3 predicted that between the three main conceptual variables, work experience will be the most



influential factor, followed by formal education, with social persuasion (in the form of positive feedback) being the least influential among these three factors. The results did not support this hypothesis. It was discovered that feedback was the most powerful predictor followed by education and then work experience. One possible reason of why the results panned out this way is probably due to shared variance in the analysis that was credited to the predictors that entered into the model first, which were feedback, education, and then work experience.

Finally, for perceived advancement potential, the findings were non-significant for education and work experience. It could be speculated that these non-significant findings are directly tied to the promotional decisions of organizational management staff regardless of level of education attained or work experience accumulated (Bandura, 1997). Predictably, it was discovered that feedback was the only significant predictor. Specifically, self, peer and supervisor's feedback were all significant predictors with client's feedback being the only non-significant predictor. In regard to client's feedback, a client generally would not have a major say in promotion

opportunities but can have a huge say so in demotion activities.

A confident worker will often display his or her confidence through work performance and subsequently will expect to be promoted accordingly (Bandura, 1997). Another factor that affects possible promotional opportunities is input from peer's evaluation since supervisors will often ask for input from an individual's work mates before making a promotional decision. Lastly, it is not surprising that supervisors' feedback was found to be a significant predictor because supervisors will have a critical role in determining whether or not an employee is promoted.

#### Limitations

In looking back on this study, some improvements could have been made. There might have been an internal reliability issue since there were only three questions for each of the four feedback categories as well as for each of the three specialty work areas. The study might have benefited from including additional questions for the feedback and specialty-specific concepts to consistently produce alpha values of .75 or higher for these groups of

questions. There might have been an external validity issue as well. Questionnaire packets could have been constructed specifically for the different specialty areas and handed out to the participants accordingly. By having a generic packet and asking participants to filter out which questions to answer on their own served to co-mingle specialty-specific data, which decreased the confidence in which results of this study can be generalized to the different nursing specialties.

#### Implications for Future Research

In review of the current study, for future research implications, it might be helpful to categorize the units into three distinct modules instead of four. These modules would be general care units, well maternal-child care units, and critical care units. Following along this line of thinking, it might also be fruitful to recruit a proportionate amount of participants from each module to assist with generalizations at the end of the study.

To avoid data co-mingling, three distinctive questionnaires, each specific to a designated module, should be created and distributed accordingly. Within these

questionnaires, there should be an adequate number of questions for the four types of feedback and the three types of specialty-specific nursing self-efficacy to consistently produce alpha coefficient values of .70 or higher. If possible, a pilot study should be conducted at a different site to test these questions for reliability and validity.

In addition, it would also be useful to conduct a similar study with a defined, specified range of work experience. It would be most interesting, for example, to examine the differential effects of feedback sources on individuals who are at different stages of their career, specific to educational level and work experience.

Lastly, after carefully reviewing the results for the current research, it appears that feedback, as a predictor for the different types of self-efficacy, deserves a more intense examination in future research. It might be useful to further operationally define the concept of feedback, conduct another study, and see if the findings that emerge are similar to the findings of this study. In addition, it would be interesting to see which feedback category has the

most influence on detrimental career activities instead of perceived advancement potential within an organization.

### Recommendations

As stated in the introduction of this study, human capital is one of the most important resources of any organization. Hence, if an organization were to survive and succeed, it should strive to employ as many self-efficacious employees as possible. However, it is not likely that all employees within an organization already possess enhanced self-efficacy. Therefore, with the knowledge that various types of feedback serving as powerful factors in enhancing self-efficacy, organizations should tap into this knowledge and use it to build their employees' self-efficacy. According to the findings in this study, an individual's self-efficacy is enhanced by three primary sources. They include client's feedback, peer's feedback, and supervisor's feedback. In an effort to build an employee's self-efficacy, an organization's management staff should strive to recognize employees by sharing positive client's feedback with their employees, provide opportunities for training and encouragement from an

employee's peers, and all supervisory staff should strive to provide positive feedback for all employees that they come in contact with in order to enhance their employees' self-efficacy.

### Conclusion

In conclusion, the current study does provide a beginning point for future studies for the concept of self-efficacy in the field of Nursing. Since it is an evolving field and relies heavily on continual job development, revision of medical techniques, and subsequent employee re-training, additional studies on self-efficacy in nursing could be very useful in recruiting new nurses and retaining working nurses, which will help alleviate the ongoing national nursing shortage.

APPENDIX A  
RESEARCH QUESTIONNAIRE



*Directions: For all participants, please read all statements numbered 1 through 34 and then circle the response that describes you best. For the last part of this questionnaire, starting with question number 35, please only answer questions that apply to your specialty areas.*

### Research Questionnaire

*Please respond to questions 1 through 8 in terms of your perceptions of yourself in general (i.e. personal life, family, etc.).*

**1. I will be able to achieve most of the goals that I have set for myself.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly disagree

**2. When facing difficult tasks, I am certain that I will accomplish them.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly disagree

**3. In general, I think that I can obtain outcomes that are important to me.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly disagree

**4. I believe I can succeed at most any endeavor to which I set my mind.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly disagree

**5. I will be able to successfully overcome many challenges.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly disagree

**6. I am confident that I can perform effectively on many different tasks.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly disagree



**7. Compared to other people, I can do most tasks very well.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly disagree

**8. Even when things are tough, I can perform quite well.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly disagree

*Please respond to questions 9 through 18 with your own perception of how you feel about these items as related to your current job.*

**9. I have confidence in my ability to do my job.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**10. There are some tasks required by my job that I cannot do well.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**11. When my performance is poor, it is due to my lack of ability.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**12. I doubt my ability to do my job.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**13. I have all the skills needed to perform my job very well.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**14. Most people in my line of work can do this job better than I can.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**15. I am an expert at my job.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**16. My future in this job is limited because of my lack of skills.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**17. I am very proud of my job skills and abilities.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**18. I feel threatened when others watch me work.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**19. My future career with this organization looks bright.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**20. My future career with this organization looks less bright than it was a few years ago.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**21. My chances for promotion are good.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**22. I will be promoted to a higher position sometime during my career with this organization.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**23. In comparing my work performance to my peers' work performance, I am confident that I consistently perform as well or better than my peers.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**24. My clients often say that I have given adequate comfort measures such as fluids, medications, nutrition, etc. while caring for them.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**25. My peers do not mind covering my patient assignments when I go on break because they know that I have met all of my patients' immediate needs before I leave for a break.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**26. My immediate supervisors (Assistant Nurse Manager and/or (Interim) Nurse Manager) often provide me with positive feedback in the form of a pat on the back, verbal kudos, or tangible rewards (drinks, snacks, or meals) for a job well-done.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**27. My clients consistently tell me that I have, for the most part, met most of their emotional and psychosocial needs while caring for them.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**28. When I assess my own work, I can tell that I have completed my daily assignments satisfactorily. Examples of these daily assignments can include administering patient medications, monitoring prescribed intravenous fluids, and operate patient monitoring equipment properly.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**29. My clients frequently say that I have addressed all their concerns and given them adequate explanations for their treatment plans.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**30. When my patients' charts are reviewed by my peers, I rarely have to go back and fill in missing information.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**31. When I make suggestions regarding work improvement processes, my immediate supervisors (Assistant Nurse Manager and/or (Interim) Nurse Manager) consistently take my suggestion(s) into consideration.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**32. Oncoming peers rarely have to ask for additional information about my patient(s) because I consistently provide them with complete patient information during my reports.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**33. My past formal required evaluations (in the form of initial, six-month, and annual evaluations) given to me by my Nurse Manager or Interim Nurse Manager, for the most part, are of a positive nature.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**34. When I compare my own work performance to the essential job duties, as described in the Registered Nurse job description, I am confident that I consistently meet or exceed the minimum performance standards.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly Disagree

*For statements 35 through 43, please only reply to the statements that pertain to your specialty areas. Please disregard statements pertaining to other specialty areas and put an "X" across those statements.*

**General care areas. Examples are Detention Care Unit, General Medicine Unit, General Surgery Unit, Pediatrics Unit, Surgical Specialties Unit, and Surgical Spine Unit.**

**35. Once ordered by a physician, I am not always successful in setting up and utilizing specialty beds as dictated by the condition of my patient(s) unless I have help from one of my co-workers.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**36. I can consistently perform a bedside blood sugar check on all my patient(s) accurately and follow through with the results accordingly.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**37. In applying a working knowledge of wound management principles, I am able to perform all the essential elements in completing a dressing change as well as being able to properly document this procedure.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**Well maternal/child areas. Examples are Birthing Center, Newborn Nursery, and Obstetrics Unit.**

**38. I am able to assist in promoting latching and bonding in newly delivered mothers and documenting observations accurately and appropriately.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**39. Although I am familiar with the basic knowledge of breastfeeding and its benefits to mother and infant, I am not always able to teach newly delivered mothers these concepts to benefit both newly delivered mothers and infants.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**40. I am able to assist newly delivered mothers with infant care breastfeeding techniques and documenting observations accurately and appropriately.**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**Critical care areas for infants, children, and adults. Examples are Adult Critical Care Unit, Emergency Department, Neonatal Intensive Care Unit, Operating Room, Pediatrics Critical Care Unit, Post Anesthesia Care Unit, and Progressive Care Unit.**

**41. In regard to verified abnormal laboratory values that may lead to a negative outcome for my patient(s), I am able to consistently intervene in a timely manner to ensure the best possible outcome for my patient(s).**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**42. I am consistently able to recognize life-threatening arrhythmias accurately and intervene appropriately to ensure the best possible outcome for my patient(s).**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

**43. Sometimes I struggle with the operation of the Codemaster machine in performing functions such as cardioverting, pacing, and defibrillating as dictated by the current condition of my patient(s).**

1	2	3	4	5	6
Strongly agree	Agree	Agree Somewhat	Disagree somewhat	Disagree	Strongly disagree

*Please fold all forms completed up until this point into thirds and place them in the envelope provided. Seal this envelope and drop it off in the locked box labeled "Education Drop Box" located outside room A1031 (also known as the Staffing Office break room or the registry file room), within the Nursing Office suite located at A1035.*

Table 1. Means, Standard Deviations, and Bivariate Correlations of Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Self FB	1.73	.50	-									
2. Client's FB	1.85	.64	.51	-								
3. Peer's FB	1.88	.62	.63	.45	-							
4. Supervisor's FB	2.42	.87	.22	.29	.18	-						
5. Level of Education	2.00	1.03	-.10	-.07	-.02	.04	-					
6. Months of Work Experience	141.79	106.43	.24	.03	-.16	.16	.05	-				
7. General S-E	1.62	.47	.47	.52	.38	.25	-.20	-.14	-			
8. Work S-E	2.04	.63	.64	.43	.46	.16	-.14	-.29	.48	-		
9. Specific S-E	2.17	.75	.44	.45	.43	.31	-.21	-.03	.40	.45	-	
10. Advancement	2.63	.98	.02	.21	.18	.43	-.05	.18	.31	.15	.28	-



Table 2. Regression Results for General Self-Efficacy

IVs	B	Standard error	Standardized beta coefficients
Step 1 (feedback)			
Self	.23	.10	.24*
Client's	.28	.07	.34*
Peer's	.04	.08	.06
Supervisor's	.05	.04	.08
Step 2			
Self feedback	.21	.09	.22*
Client's feedback	.28	.07	.33*
Peer's feedback	.05	.08	.07
Supervisor's feedback	.06	.04	.10
Education	-.07	.03	-.15*
Step 3			
Self feedback	.18	.10	.19
Client's feedback	.29	.07	.35*
Peer's feedback	.05	.08	.06
Supervisor's feedback	.07	.04	.12
Education	-.07	.03	-.15*
Work Experience	.00	.00	-.10

Note:  $r^2 = .33$  for step 1;  $r^2$  change = .02 for step 2;  $r^2$  change = .01 for step 3.  $N = 128$ . \* $p < .05$ .

Table 3. Regression Results for Work Self-Efficacy

IVs	B	Standard error	Standardized beta coefficients
Step 1 (feedback)			
Self	.67	.12	.53*
Client's	.14	.09	.13
Peer's	.08	.09	.07
Supervisor's	-.01	.05	-.01
Step 2			
Self feedback	.66	.12	.52*
Client's feedback	.14	.09	.12
Peer's feedback	.08	.09	.08
Supervisor's feedback	-.00	.05	-.00
Education	-.05	.04	-.08
Step 3			
Self feedback	.59	.12	.46*
Client's feedback	.17	.09	.15
Peer's feedback	.07	.09	.07
Supervisor's feedback	.02	.05	.03
Education	-.05	.04	-.08
Work Experience	-.00	.00	-.17*

Note:  $r^2 = .42$  for step 1;  $r^2 = .01$  for step 2;  $r^2$  change = .03 for step 3.  $N = 128$ . \* $p < .05$ .

Table 4. Regression Results for Specialty-Specific Self-Efficacy

IVs	B	Standard error	Standardized beta coefficients
Step 1 (feedback)			
Self	.25	.15	.17
Client's	.30	.12	.23*
Peer's	.25	.12	.19*
Supervisor's	.15	.07	.17*
Step 2			
Self feedback	.22	.15	.14
Client's feedback	.29	.11	.22*
Peer's feedback	.26	.12	.21*
Supervisor's feedback	.17	.07	.18*
Education	-.13	.05	-.19*
Step 3			
Self feedback	.22	.16	.15
Client's feedback	.28	.12	.22*
Peer's feedback	.26	.12	.21*
Supervisor's feedback	.16	.07	.18*
Education	-.13	.05	-.19*
Work Experience	.00	.00	.01

Note:  $r^2 = .31$  for step 1;  $r^2$  change = .03 for step 2;  $r^2$  change = .00 for step 3.  $N = 127$ . \* $p < .05$ .

Table 5. Regression Results for Perceived Advancement Potential

IVs	B	Standard error	Standardized beta coefficients
Step 1 (feedback)			
Self	-.56	.21	-.28*
Client's	.23	.16	.13
Peer's	.37	.17	.22*
Supervisor's	.50	.10	.41*
Step 2			
Self feedback	-.58	.21	-.29*
Client's feedback	.22	.16	.13
Peer's feedback	.38	.17	.23*
Supervisor's feedback	.51	.10	.41*
Education	-.08	.08	-.09
Step 3			
Self feedback	-.52	.22	-.26*
Client's feedback	.20	.16	.11
Peer's feedback	.39	.17	.23*
Supervisor's feedback	.48	.10	.40*
Education	-.08	.08	-.09
Work Experience	.00	.00	.09

Note:  $r^2 = .24$  for step 1;  $r^2$  change = .01 for step 2;  $r^2$  change = .01 for step 3.  $N = 128$ . \* $p < .05$ .

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